

14<sup>th</sup> June 2011

Mrs S Penaluna  
Devon County Council  
Development Management  
County Hall  
Topsham Road  
Exeter  
EX2 4QW

Our Ref: 402.00036.00350  
Your Ref: DCC/2975/2010

Dear Mrs Penaluna

**RE: NEW ENGLAND RESOURCE RECOVERY PARK – RESPONSE TO LVW'S FURTHER REVIEW OF TRANSPORT ISSUES**

We write in relation to your e-mail of 24<sup>th</sup> May 2011 in relation to the above, enclosing a further report prepared by LvW Highways on behalf of Sparkwell Parish Council, which comprises a review of the TA Addendum (TAA).

LvW Highways' report provides a detailed review of the data and analysis reported within the TAA, with the salient points in our view being:

- LvW considers that the new traffic data collected in July 2010 has been analysed incorrectly, in that light goods vehicles recorded in the base data have been considered as HGVs;
- LvW considers that omitting these measured flows from the HGV data results in predicted increases in HGV traffic (when taking account of development traffic) being higher than those reported in the TAA;
- LvW states that the TAA does not provide an analysis of impacts on Western Road in hourly terms through the main operating hours of the day; and
- LvW considers that the potential mitigation solution for Western Road, Option B, should be used, as opposed to Option C which is put forward and is the stated preference of the highway authority.

We provide our consideration of these issues raised in the sections below.

***Measurement of Base HGVs***

At paragraph 4.9 of its report, LvW correctly notes that the TA Addendum considered the development impacts against a baseline traffic flow comprising 'all goods vehicles'. This approach is one of several that could logically be used and this was chosen on the basis that it represented all commercial vehicles on the network, which SLR considers would be the broad basis from which any discernable impact would be derived.

We acknowledge that not all vehicles which fall under the LGV classification would be perceived as "heavy" to those being impacted by them, thereby potentially under-estimating the level of impact caused by additional HGV traffic. However, conversely, if this class was

omitted altogether from the HGV analysis then it would omit baseline traffic which includes vehicles such as Luton vans and pick-up trucks, which would be perceived as being "heavy", thereby potentially over-estimating the level of impact.

Ultimately, this is a perception issue, and a satisfactory compromise may be to assess the impact in Passenger Car Unit (PCU) terms, to take account of the various sizes of vehicles given that a very broad range of vehicles could be described as HGVs.

Under that approach, the physical size of vehicles is reflected by applying a factor to different types of vehicles to show them as a "car equivalent", or PCU. For example, a car is 1 PCU, with the largest articulated vehicle being 2.9 PCUs.

The attached calculation sheet shows the computation of all goods vehicles in PCU terms and then a subsequent calculation of the 12 hour impact caused by development traffic. The results of this are summarised in Table 1 below.

**Table 1**  
**Summary of 12 Hour Impact Analysis – All Goods Vehicles**

Survey Location	Analysis Including LGVs		Analysis Excluding LGVs	
	Veh	PCUs	Veh	PCUs
Site 1	9.4%	12.9%	28.0%	23.2%
Site 2	10.5%	13.6%	25.2%	21.5%
Site 3	8.5%	10.8%	17.7%	15.9%

Because this is a perception issue, the variety of results shown in Table 1 should be viewed with a level of intelligent consideration. In SLR's view, LGVs should be included in the analysis because to exclude them would be to over-emphasise the level of impact and, on balance, the analysis in PCU terms is more appropriate.

However, notwithstanding any of this, the overall analysis of impact on Western Road and the conclusions of the ES and TAA are not altered, regardless of which set of results from Table 1 is used, and this is explained later in this letter.

***Weekday Hourly Impact Assessment***

At paragraph 4.5 of its report, LvW contends that the use of Annual Average Daily Traffic (AADT) flows give an unrealistic impression of the effect of the development traffic during the normal working hours of a weekday. In paragraphs 4.19 to 4.29, it provides further calculations to show impacts on an hourly basis.

The calculations of hourly impacts provided by LvW omit LGVs within the baseline data which, as discussed above, SLR considers to provide an over-estimate of impact. The hourly profiling of development traffic which LvW provides in Table 4.3 is not consistent with the profiling provided within the ES. Furthermore, the impact has been shown for heavy vehicles only, and does not also show overall traffic increases which take account of the significant baseline light vehicle volumes. For these reasons, we cannot accept the analysis provided by LvW as an accurate assessment of the hourly impact caused by the development.

The most appropriate methodology of considering this impact is to consider total traffic and, again, the use of PCUs would be appropriate to factor in the heavy vehicle volume. The attached sheet shows the calculations of hourly impact in PCU terms, taking account of the corrected development traffic profile: the traffic increase would not be greater than 5% over any hour through the working day.

In paragraph 4.27 of its assessment, LvW states that every three minutes, 2 light vehicle would seek to travel westbound, being opposed by 3 HGVs travelling eastbound over the same period. This is a simplistic approach which again takes no account of the considerable light vehicle volume that is present on Western Road. In total terms and in the existing situation, in its busiest hour 539 vehicles are measured heading east at Site No 2, opposing 19 vehicles heading west. In other words, the one vehicle heading west every three minutes opposes 27 vehicles heading east over the same period.

The current narrowing and roadside parking on Western Road is such that two way traffic is not possible within the narrow section, whether it be car to car, HGV to HGV or a combination. Whilst accepting that there is an undoubted level of severance and intimidation caused by existing traffic on Western Road, the current arrangement does not lead to a significantly high number of recorded accidents, nor to a capacity situation that is unacceptable to the LHA or to the HA. A 5% increase in eastbound traffic volume would not have a material adverse affect on the existing situation.

### **Summary of Traffic Impact**

We note paragraph 4.28 of the LvW report which states that the *“main conclusion to be drawn from the review of traffic data, is that the percentage increase in HGV movements through the narrow section of Western Road will be much greater than suggested by SLR in their latest Addendum. Suitable mitigation of this increase is essential and should form part of the Section 106 Agreement.”*

This statement is key in that shows that even with the level of HGV impacts that it suggests, LvW does not consider that impact to be unacceptable, but that suitable mitigation measures should be provided. SLR agrees with this view: even if the impact were at the level purported by LvW, that level of impact would not be unacceptable and would not affect the conclusions of the EIA or TAA.

### **Mitigation Solutions, Western Road**

In Chapter 5 of its report, LvW reviewed the mitigation solution options A to D detailed in the TAA, concluding that the proposed Option C would not be suitable and stating that Option B should be given further serious consideration.

Paragraph 5.4 of the LvW provides 4 disadvantages of the proposed Option C, which are considered and responded to in Table 2 below.

**Table 2**  
**Comments against the Stated Disadvantages for Option C**

<b>LvW Stated Disadvantage</b>	<b>SLR Comment &amp; Response</b>
Loss of Residents and Post Office parking spaces on south side of Western Road	This was a stated disadvantage of the scheme when discussed with the LHA LHA advised that the moderate loss of parking spaces (up to 4 spaces lost) was not of concern
Additional noise and pollution caused by eastbound vehicles stopped at the narrowest section of Western Road	Again, another stated disadvantage of the scheme, however this could not be avoided under this solution. Vehicles would stop only on activation of the pedestrian crossing, and therefore the nuisance would only be over limited periods, and should be considered in the context of the existing situation, where vehicles run constantly through the narrow section at varying speed.
Potential worsening of pedestrian safety for walkers trying to negotiate the north side of Western Road in front of the Lee Mill Inn, when lorries are stopped at the pedestrian signals	The improvement option provides for a pedestrian footway in front of the Lee Mill Inn, where currently none exists requiring pedestrians accessing the pub to walk in the road. The introduction of the pedestrian crossing would encourage generally slower speeds for eastbound vehicles, thus improving the safety of the existing situation. If vehicles eastbound were stopped for the pedestrian crossing then this would of course reduce the hazard further.
Worsening of the situation for westbound traffic through the narrow section due to the increase in HGVs. The option provides no improvement in priority for these vehicles.	As detailed above the increase in vehicle volumes opposing westbound traffic is less than 5% in PCU terms and this would not materially worsen the existing situation. The capacity impacts on Western Road have been confirmed as acceptable by the LHA.

Whilst accepting that introduction of Option C would lead to some disadvantages, most notably the loss of some roadside parking, it is considered that these are overridden by the primary advantages of the scheme which are to:

- Introduce a pedestrian crossing of Western Road;
- Introduce a footway on the northern side of Western Road; and
- Reduce traffic speeds generally within the narrow section of Western Road.

LvW lists in paragraph 5.6 of its report a number of advantages if adopting the solution Option B. This solution is not the preference of the LHA, for the reasons of the stated disadvantages on Drawing TAA/2 of the TA Addendum. The advantages stated by LvW are considered and responded to in Table 3 below.

**Table 3**  
**Comments against the Stated Advantages for Option B**

LvW Stated Advantage	SLR Comment & Response
Traffic through the narrow section would be restricted to one way operation, controlled by signals, allowing construction of a continuous and widened footway along the north side of the road.	<p>The narrow section of road operates as one way in most cases in the current situation and with the introduction of narrowing of the road to accommodate the northern footway (all Options) this would be further enforced (ie, vehicles could not operate two-way through this section).</p> <p>As such a continuous footway on the northern side of Western Road is possible for both Options B and C. There would be no particular advantage in adopting Option B over Option C as they both achieve the same in this regard.</p>
Removal of the 'fear and intimidation' caused to pedestrians, cyclists and light vehicle westbound traffic along Western Road. Westbound traffic would be able to travel unopposed through the narrow section.	<p>Westbound traffic is a minor flow in comparison to eastbound traffic. There is no evidence base provided to demonstrate that there is currently a problem with the existing situation.</p> <p>Option B would improve the situation for westbound vehicles but at the expense of the much higher eastbound flow.</p> <p>Section 4.2.2 of the TAA (page 15) shows that eastbound traffic queues under Option B could amount to 50m, preventing access for eastbound vehicles to accesses to the west of the narrow section. Similarly such an arrangement would lead to confusion within the narrow section where vehicles would be seeking to park.</p>
Improved safety for pedestrians crossing to the Post Office as they will only have to allow for one direction of movement.	Both Options C and B would cater for a pedestrian crossing phase which would set traffic in both directions to red. This comment is irrelevant.
Slight reduction in pollution levels in the narrow section as vehicles will be travelling at a uniform speed.	<p>Option B would lead to the regular queuing of eastbound vehicles, where currently this is slow moving traffic for the majority of the time.</p> <p>The introduction of this queuing would lead to a greater pollution level overall than currently exists, or indeed would exist under Option C</p>

SLR considers that Option B would not be a solution which would work to a suitable level of operation and this is the view held by the LHA. The advantage of Option B is minor in that it would assist westbound vehicles, however this would be at the expense of eastbound traffic leading to a much greater vehicular delay overall.

**Conclusions**

You will note from the contents of this letter that SLR does not consider the amended calculations of HGV impact as provided by LvW to be appropriate to assess the overall level of impact generated by the proposed development.

However it should be noted that even if impact levels were to the magnitude purported by LvW, this would not alter the conclusions of the EIA or TAA, in that the impact of the

development is not considered unacceptable. This appears to be supported by the statement in paragraph 4.28 of the LvW report.

SLR does not consider that the proposed mitigation solution Option B is preferable to Option C, which has been put forward as part of the development proposals and is the preferred solution of the LHA. SLR considers that Option B would not be operationally feasible, and would lead to a higher level of vehicle delay than currently exists or would exist under Option C.

***Closure***

I trust that you will find the above and enclosed acceptable and self explanatory.

Naturally, should you wish to discuss any issue then please contact the writer.

Yours sincerely

**SLR Consulting Limited**



**Tom Green**

Technical Director

cc Will Ryan, SLR Consulting  
Howard Ellard, VWM

TEMPRO Rate: 1.115

12 Hour - Including LGVs

Site	Existing 2010 (Veh)					Existing 2014 (Veh)					Existing 2014 (PCUs)					Development (Veh)			Development (PCUs)			HGV Impact		
	Light Goods Vehicle	Buses	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Light Goods Vehicle	Buses	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Light Goods Vehicle	Buses	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Veh	PCUs	
<i>PCU Factor</i>											1	2.5	1.9	2.9					1.9	2.9				
Site 1																								
Eastbound	656	47	122	165	990	731	52	136	184	1104	731	131	258	534	1654	89	16	105	169.1	46.4	216	9.51%	13.03%	
Westbound	11	0	1	1	13	12	0	1	1	14	12	0	2	3	18	0	0	0	0	0	0	0	0	
Combined	667	47	123	166	1003	744	52	137	185	1118	744	131	261	537	1672	89	16	105	169.1	46.4	216	9.39%	12.89%	
Site 2																								
Eastbound	509	25	173	174	881	568	28	193	194	982	568	70	367	563	1566	89	16	105	169	46	216	10.69%	13.76%	
Westbound	16	0	1	1	18	18	0	1	1	20	18	0	2	3	23	0	0	0	0	0	0	0	0	
Combined	525	25	174	175	899	585	28	194	195	1002	585	70	369	566	1590	89	16	105	169	46	215.5	10.48%	13.56%	
Site 3																								
Eastbound	521	29	210	149	909	581	32	234	166	1014	581	81	445	482	1588	89	16	105	169.1	46.4	216	10.36%	13.57%	
Westbound	62	1	108	35	206	69	1	120	39	230	69	3	229	113	414	0	0	0	0	0	0	0	0	
Combined	583	30	318	184	1115	650	33	355	205	1243	650	84	674	595	2002	89	16	105	169.1	46.4	216	8.45%	10.76%	

New England Quarry  
 Western Road Impact  
 Goods Vehicles PCU Calculations

TEMPRO Rate: 1.115

12 Hour - Excluding LGVs

Site	Existing 2010 (Veh)					Existing 2014 (Veh)					Existing 2014 (PCUs)					Development (Veh)			Development (PCUs)			HGV Impact	
	Light Goods Vehicle	Buses	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Light Goods Vehicle	Buses	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Light Goods Vehicle	Buses	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Rigid Goods Vehicle	Artic Goods Vehicle	Total	Veh	PCUs
<i>PCU Factor</i>											1	2.5	1.9	2.9					1.9	2.9			
Site 1																							
Eastbound		47	122	165	334	0	52	136	184	372	0	131	258	534	923	89	16	105	169.1	46.4	216	28.19%	23.35%
Westbound		0	1	1	2	0	0	1	1	2	0	0	2	3	5	0	0	0	0	0	0	0	0
Combined	0	47	123	166	336	0	52	137	185	375	0	131	261	537	928	89	16	105	169.1	46.4	216	28.03%	23.21%
Site 2																							
Eastbound		25	173	174	372	0	28	193	194	415	0	70	367	563	999	89	16	105	169	46	216	25.31%	21.58%
Westbound		0	1	1	2	0	0	1	1	2	0	0	2	3	5	0	0	0	0	0	0	0	0
Combined	0	25	174	175	374	0	28	194	195	417	0	70	369	566	1004	89	16	105	169	46	215.5	25.18%	21.46%
Site 3																							
Eastbound		29	210	149	388	0	32	234	166	433	0	81	445	482	1008	89	16	105	169.1	46.4	216	24.27%	21.39%
Westbound		1	108	35	144	0	1	120	39	161	0	3	229	113	345	0	0	0	0	0	0	0	0
Combined	0	30	318	184	532	0	33	355	205	593	0	84	674	595	1352	89	16	105	169.1	46.4	216	17.70%	15.94%

New England Quarry  
 Hourly Impact PCUs  
 Site 2 - Western Road  
 Eastbound Flows

Growth factor 1.115

Hour Commencing	Baseline Traffic								Development Traffic					Increase
	m/c	Car	LGV	Buses	Rigid	Artic	Total	Total 2014	RCV	Bulker	Hook	Car	Total	
<i>PCU Factor</i>	<i>0.5</i>	<i>1</i>	<i>1</i>	<i>2.4</i>	<i>1.9</i>	<i>2.9</i>								
07:00	7	439	48	0	11	26	532	593	10	5	3	10	28	4.7%
08:00	2	441	53	2	21	41	560	625	14	5	3	0	21	3.4%
09:00	2	357	41	7	25	52	484	540	17	5	3	0	25	4.6%
10:00	1	363	40	7	23	41	475	530	15	5	3	0	23	4.3%
11:00	1.5	366	49	2	32	49	501	559	19	5	3	0	27	4.8%
12:00	1	366	49	5	30	29	481	536	9	5	3	0	17	3.1%
13:00	1.5	380	43	2	32	32	492	548	18	5	3	0	26	4.8%
14:00	2	407	46	2	30	52	541	603	21	5	3	0	29	4.8%
15:00	2	386	43	7	34	49	522	582	12	5	3	0	19	3.3%
16:00	3	443	44	5	42	52	589	657	3	5	3	0	10	1.6%