



## **Liverpool Plains Heavy Haulage Contributions Plan 2023**

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# 1. Introduction & Summary Schedules

## 1.1 Overview of Plan

The road network within the Liverpool Plains Shire (the Shire) comprises two distinctive parts from an operational and funding perspective.

1. The first is the State Road network that traverses the Shire, comprising the New England Highway and the Kamilaroi Highway. The maintenance of these State Roads is 100% funded either directly or indirectly by the NSW Roads and Maritime Service (RMS).
2. The remaining "local road network" is the responsibility of Liverpool Plains Shire Council (Council). Some grant funding is provided by State and Federal Governments for road maintenance and upgrading of the local road network in accordance with the prevailing government priorities, however the responsibility for maintenance of this road network is borne overwhelmingly by the rate payers of the Shire.

Roads have a design life after which they need reconstruction. Heavy vehicles can significantly reduce the life of a road. The heavy vehicles have a disproportionately greater impact on the life of roads compared to other light vehicles, notwithstanding the greater numbers of the latter.

Highways and main roads that are part of the State Road network are generally designed and constructed to accommodate heavy vehicles and the damage associated with heavy trucks is recouped through registration and general taxation. Roads within the local road network conversely, often have a lower design standard and are more susceptible to wear and tear associated with heavy vehicles. This results in the need for more frequent reconstruction work.

The majority of heavy haulage vehicles that impact on the local road network are associated with the seasonal haulage of agricultural produce and the haulage of materials that are quarried and/or processed for road and building construction, such as sand, road base, crushed aggregate and asphalt. Some of these products are used for the production of concrete, which has a secondary trip component from concrete batching plants to development sites, albeit in smaller trucks.

It must be acknowledged that the transportation of extracted materials generally has a much higher weight per axle than agricultural produce and thus a higher impact on the design life of roads.

This contribution plan is primarily focus on recouping the cost of the impact on local roads by haulage of extractive materials such as gravel, sand, rock, minerals etc.

The imposition of a contribution for non-extractive materials may be appropriate in some cases, although there are a number of complexities, such as:

- The inability to levy contributions on general agricultural production due to such a land use being permissible under the Local Environmental Plan without consent.
- The difficulty in some instances of ascertain heavy haulage routes.
- The variability of product weights that are hauled.

This plan sets out a reasonable estimate of the cost per tonne of material hauled that should be paid to Council for the cost of road reconstruction, necessary as a result of the pavement damage to the local road network. This approach is based on:

- The average cost of road reconstruction due to typical heavy haulage vehicles on a tonne per kilometre rate.
- The travel distance on the local road network between the source of the material hauled and the destination and/or the connection point with a State Road. In cases where there are multiple haulage routes an estimate of the tonnage for each route needs to be made.

This plan has been prepared in accordance with the requirements of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and *Environmental Planning and Assessment Regulation 2001* (EP&A Regulation). In preparing the plan Council has had regard to the latest practice notes issued by the NSW Department of Planning in accordance with clause 211 of the EP&A Regulation.

## 1.2 Summary

Table 1.2 Contribution Rate

Development Type	Contribution Rate
<p>Extractive Industries and/or processed quarried material, mines or other material or substance conveyed by heavy haulage vehicles.</p> <p>Other Heavy Haulage traffic generating developments</p>	<p>\$0.13 per tonne per kilometre</p>
<p>Contributions towards Plan Preparation &amp; Administration</p>	<p>\$0.020 per tonne per kilometre</p>

Council will collect monetary contributions from heavy haulage developments and apply the contributions toward the replacement of the local road network.

Potential roads that will be the subject of works partly or fully funded under this plan are the roads that the Council has responsibility for, which includes all the roads within the Shire except the State Roads shown in *Figure 1*.

Development that is likely to occasion significant heavy vehicle movements may be approved in any location throughout the Shire.

As a result, it is not possible for Council to specify in this plan which sections of the roads shown in *Figure 1* will be upgraded or maintained using contributions collected under this plan. It is also notable that all the roads in the network are at a different stage of their design life. It is intended that works programs and application of funds collected under this plan will be determined as part of Council's annual Integrated Planning & Reporting process.





## 1.3 Calculating a contribution under this plan

Contributions in this plan are levied for:

- For the cost of reconstructing parts of the local road network
- The cost of preparing and administering this plan

The formulas for calculating a contribution under this plan are shown in Section 3.1.2 of this plan.

### 1.3.1 Worked examples of contributions calculated

The following worked example is used to illustrate the calculation of contributions under this plan.

<b>Exampe No 1 - Quarry extracting 20,000 of road base per Quarter</b>	
Tonnes of extracted material hauled	20,000
Average cost of road reconstruction per tonne per km	\$0.13
Haulage distance on local roads (Km)	5
<b>Contribution</b>	<b>\$13,120.04</b>

Where there a multiple routes this on local road this example will have to be repeated for those additional routes.

Rates are regularly adjusted for inflation in accordance with the provisions of Section 2.12 of this plan.

Applicants should enquire at the Council for information on the current indexed contribution rate.



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## 1.4 Overview of development contributions

### 1.4.1 What are development contributions?

Development contributions are contributions made by those undertaking development approved under the EP&A Act toward the provision of public services and public amenities. Development contributions are assessed under Division 7.1 of Part 7 of the EP&A Act.

Contributions may be in the form of the dedication of land free of cost or the payment of a monetary contribution. The contributions required under this plan do not provide for the dedication of land and is exclusively for the reconstruction of parts of the local road network and the cost of administering the plan.

There are different classes of development contributions provided for under the EP&A Act:

- special infrastructure contributions
- local infrastructure contributions, which may be either Section 7.11 contributions or Section 7.12 fixed rate levies
- Contributions included in voluntary planning agreements, and
- Contributions towards the provision of affordable housing

This plan is principally concerned with the imposition of conditions of consents requiring development contributions for local infrastructure under Section 7.11 of the EP&A Act.

### 1.4.2 Contributions must be authorised by a contributions plan

The EP&A Act establishes that a council can require, through imposition of a condition or conditions on a development consent, development contributions if:

- there is a contributions plan applying to the development that is in force and that authorises the contribution; and
- the contribution is imposed in accordance with the provision of such a plan.

Alternatively, or in addition to the levying of Section 7.11 contributions, a council may negotiate a voluntary planning agreement with a developer for the provision of local infrastructure.

Council may be prepared to negotiate planning agreements with relevant parties for the provision of local infrastructure in relation to major developments. Such agreements may address the substitution of, or be in addition to, the Section 7.11 contributions required under this plan. Any draft planning agreement shall be subject to any provisions of or Ministerial directions made under the EP&A Act or EP&A Regulation relating to planning agreements.

### **1.4.3 Section 7.11 Contributions must be reasonable**

Section 7.11 of the EP&A Act authorises a consent authority responsible for determining a development application to grant consent to the proposed development subject to a condition requiring the payment of a monetary contribution or the dedication of land free of cost or a combination of them towards the provision of public amenities and public services (public facilities) to meet the development.

The power to levy a Section 7.11 contribution relies on there being a clear relationship (or 'nexus') between the development being levied and the need for the public amenity or service for which the levy is required.

A condition may only be imposed under Section 7.11 towards the future provision of public facilities:

- if the proposed development will or is likely to require the provision of, or increase the demand for public facilities within the local government area; and
- to require a reasonable dedication or monetary contribution for the provision, extension or augmentation of the public facilities concerned.

A condition may be imposed under Section 7.11 towards the recoupment of the cost of public facilities previously provided if:

- the consent authority has, at any time, provided public facilities within the local government area in preparation for or to facilitate the carrying out of development in the area, and
- development for which development consent is sought will, if carried out, benefit from the provision of those public facilities.

## 2. Administration and operation of this plan

### 2.1 Definitions

In this plan, the following words and phrases have the following meanings:

**Consumer Price Index** means the consumer Price Index (all Group Index) for Sydney as published by the Australian Statistician.

**Council** means Liverpool Plains Shire Council.

**EP&A Act** means the *Environmental Planning and Assessment Act 1979*.

**EP&A Regulation** means the *Environmental Planning and Assessment Regulation 2000*

**Extractive Industries** means the winning or removal of extractive materials (otherwise than from a mine) by methods such as excavating, dredging, tunnelling or quarrying, including the storing, stockpiling or processing of extractive materials by methods such as recycling, washing, crushing, sawing or separating, but does not include turf farming. For the purpose of this plan, extractive industry also includes mines and the processing and/or refining of extractive materials.

**LGA** means local government area of Liverpool Plains Shire.

**Local Road Network** means the road network within the Shire excluding State Highways.

**Mine** means any place (including any excavation) where an operation is carried out for mining of any mineral by any method and any place on which any mining related work is carried out, but does not include a place used only for extractive industry.

**Planning Agreement** means a voluntary planning agreement referred to in section 7.4 of the EP&A Act.

**Quarry or quarried material, quarried product** means an extractive industry or material obtained from an extractive industry.

**Shire** means the Liverpool Plains Shire

**Work in Kind** means the undertaking of a work or provision of a facility by an applicant which is already nominated in the works schedule of a contributions plan.

## **2.2 Name of Plan**

This contributions plan is called the Liverpool Plains Heavy Haulage Contributions Plan 2023.

## **2.3 Purpose of this plan**

The primary purpose of this plan is to authorise the Council, when granting consent to an application to carry out development to which this plan applies, to require a direct contribution to be made towards the reconstruction of parts of the local road network used or likely to be used by heavy haulage vehicles generated by new development.

Other purposes of the plan are:

- to provide the framework for the efficient and equitable determination, collection and management of development contributions toward the reconstruction of parts of the local road network that are impacted by heavy vehicles.
- to determine the cost of the reduced life of road infrastructure attributable to proposed developments in order to determine a reasonable contribution by those development towards the reconstruction of infrastructure that is required to meet that development;
- to ensure that the existing community is not unreasonably burdened by the provision of public infrastructure required as a result of extractive industry development in the area or other development that relies on the heavy haulage of goods by road;
- to enable the Council to be both publicly and financially accountable in its assessment and administration of the plan; and
- to ensure Council's management of development contributions complies with relevant legislation and practice notes, and achieves best practice in plan format and management.

## **2.4 Commencement of this plan**

This Plan came into effect on the date that public notice of the plan's approval by Council was given pursuant to clause 31(4) of the EP&A Regulation.

This plan applies to all development applications determined.

## **2.5 Land to which this Plan applies**

This Plan applies to all land within the Liverpool Plain Shire.

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## **2.6 Development to which this Plan applies**

Any development that, in the Council's opinion, is likely to result in a reduction if the life of road pavements within the local road network due to heavy haulage vehicles shall be required to make a contribution under this plan or Council's Section 7.12 Plan.

## **2.7 Development exempted from contributions under this plan**

The following developments or components of developments are exempted from the requirement to make a contribution under this plan:

- Extractive industries with an average annual approved output of up to and including 5,000 cubic metres of material or product (to minimise the impact on the economic viability of smaller operations and to recognise the smaller and localised haulage associated with these developments).
- Other developments within an average annual approved total haulage of up to and including 8,000 tonnes of material, product or payloads (or equivalent) (applying the same justification as above).
- Development located in Business and Industrial Zones within the Shire under the provisions of the current Local Environmental Plan. This makes allowance for the location of these developments on road networks with pavement design and constructed with a higher life standard. Furthermore, the large volume, various types and unpredictable loadings of vehicles generated by both development within zoned commercial and industrial areas, and vehicles operation within these areas, make collection of data for efficient and equitable determination of contributions uncertain.
- Developments that involve the delivery of services by Council.

## **2.8 Relationship to other plans**

There are no previous heavy haulage or road contribution plans in force prior to the making of this plan.

## **2.9 Monetary contributions may be required as a condition of consent**

This plan authorises the Council, when determining a development application relating to development to which this plan applies, to impose a condition under Section 7.11 of the EP&A Act requiring the payment of a monetary contribution to the Council towards the reconstruction of roads infrastructure to meet the demands of the development.

## **2.10 Consideration of previous contributions, offers of material public benefit etc**

This clause describes Council's policy in implementing:

**Section 7.11(5) of the EP&A Act** (which is concerned with developers making offers to the Council of land or material public benefits as part of settling a Section 7.11 contribution condition); and

**Section 7.11(6) of the EP&A Act** (which is concerned with the consent authority considering previous contributions made by developers in calculating a Section 7.11 contributions).

This plan authorises contributions toward the upkeep of the road network to be made on "pay as you go/pay as you use" basis that is directly linked to the reduced life of road pavement associated with heavy haulage vehicles. Council (and not any developer) is the responsible authority for the local road network.

As a result, it will likely be inappropriate for the Council to accept any offers of land or material public benefit from a developer in exchange for a reduction in the monetary contributions imposed in a development consent.

There may however be some circumstances where a developer has, prior to the lodgement of a development application involving heavy haulage development, provided to Council land, money or other material public benefit.

In order for Council to consider the previous benefits made by the applicant, details must be submitted at the time of the development application.

A reduction in the contribution requirement under this plan may be considered where it can be demonstrated by the applicant that:

- The benefit was not required to be provided under a condition of consent or under a planning agreement entered into with Council; and
- The land, money or other material public benefit previously provided either continues to provide an ongoing benefit to the community, or offsets some of the need for the road works identified in this plan.

## **2.11 Roadworks may be required to be undertaken in addition to contributions required under this plan**

The Liverpool Plains Shire road network has been constructed and is maintained by Council as necessary to ensure an acceptable standard of service. It is possible that these roads may or may not be able to accommodate additional heavy vehicle loading generated by heavy haulage development at their current standard. New roads, or upgrades to sections of the existing road network may be required to accommodate the additional heavy vehicle loading.

Unformed, natural material roads may also be required to be sealed in order to accommodate the extra heavy vehicles.

Where a development requires capital works to the road network to be undertaken, the requirement will be by way of a condition imposed on the development consent under section 4.17 of the EP&A Act.

Such development will also be subject to a condition requiring payment of road maintenance contributions under this plan.

## 2.12 Indexation of contribution rates under this plan

The purpose of this clause is to ensure that the monetary contribution rates imposed at the time of development consent are adjusted to reflect the increased cost of road reconstruction that applies at the time of payment.

The Council may, without the necessity of preparing a new or amending contributions plan, make changes to the monetary direct contribution rates set out in this plan to reflect quarterly changes to the Consumer Price Index.

The contribution rates will be indexed as follows:

$$\frac{\$C_A \times \text{Current CPI}}{\text{Base CPI}}$$

Where:

**\$C<sub>A</sub>** is the contribution rate at the time of adoption of the plan expressed in dollars

**Current CPI** is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Statistician at the time of the review of the contribution rate

**Base CPI** is the Consumer Price Index (All Groups Index) for Sydney as published by the Australian Statistician at the date of adoption of this plan, which is 128.6 (Sept 2022).

*Note:* The contribution rate will not be less than the contribution rate specified at the date of the adoption of this plan.

## 2.13 Indexation of contributions required by a condition imposed under this plan

The purpose of this clause is to confirm that the contribution rate applicable at the time of payment under an existing development consent shall be the indexed rate that would apply as if a new consent was to be issued, i.e. the current rate will be that which is indexed in accordance with clause 2.12.

## **2.14 Timing of payment of monetary contributions required under this plan**

A contribution shall be paid on a quarterly basis at the applicable indexed rate based on the tonnage hauled for that period. Payments shall be made with a "haulage return" that discloses information including information including applicable quarter, quantities of material, tonnage rate, contribution payment and the like and be certified by a company officer.

Where there has been no heavy haulage a nil return is required to be submitted.

The standard conditions of consent applicable to proposed quarries are provided in **Appendix 2**.

## **2.15 Reconciliation of Returns**

Council shall require an annual audit to be submitted by an independent auditor to provide a reconciliation between sales and the contributions that have been paid and the returns lodged with Environment Protection Authority or other relevant State Government Agencies

Council shall also require a quantitative/volumetric survey of the site to be undertaken prior to the commencement of operations.

Council may require subsequent surveys to be undertaken to volume of material extracted. The volume/weight conversion rates specified in this plan in **Appendix 3**, or some other conversion rate acceptable to Council, shall be applied to obtain the mass of material extracted. This shall be reconciled with quarterly and annual returns. Where the survey, if required, indicates that more material has been extracted than indicated by the returns, the applicant/operator shall pay a contribution in respect of the outstanding amount.

## **2.16 Pooling of funds**

Council's ability to undertake road reconstruction, rehabilitation or renewal in sufficiently large sections to achieve a reasonable economy of scale is very limited where it is based on contributions from each development being spent in isolation. To provide a strategy for the orderly delivery of the infrastructure, this plan authorises monetary contributions paid under this or any other contributions plan approved by the council to be pooled and applied progressively for those purposes.

The priorities for the expenditure of pooled monetary contributions under this plan are the priorities for works as set out in Council's annual Operational Plan.



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## **2.17 The Goods and Services Tax (GST)**

At the time this plan was made the position of the Australian Taxation Office was that the payment of development contributions made under the EP&A Act is exempt from the Goods and Services Tax (GST).

Items in the works schedule of this plan have been calculated without any GST component.

Should this position change, GST will be added to the contributions rate.

## **2.18 Accountability and access to information**

Council is required to comply with a range of financial accountability and public access to information requirements in relation to local infrastructure contributions. These are included in Division 4 Part 9 of the EP&A Regulation and include:

- maintenance of, and public access to, a contributions register;
- maintenance of, and public access to, accounting records for contributions receipts and expenditure;
- annual financial reporting of contributions; and
- public access to contributions plans and supporting documents.

These records are available for inspection free of charge at the Council's administration office.

## **2.19 Review of contributions plan**

This plan with supporting information will be subject to regular review by Council, so as to:

- monitor development trends and income received by the plan;
- ensure that contributions rates reflect actual costs incurred by the plan.

Contribution rates may be revised by a review of the plan and adjustment to the assumptions within the plan. Any material change in the plan, with the exception of limited adjustments permitted under clause 207 of the EP&A Regulation, will require the plan to be amended, including public exhibition of the amendments and consideration of any public submissions received. It is proposed to review this plan after five years of operation.

### 3. Relationship between expected development & demand for infrastructure

#### 3.1 Heavy Haulage Contribution Overview

In most cases it is difficult to make a precise assessment of the impact of heavy haulage vehicles on the local road network arising from proposed developments such as quarries, because the destination and travel route of heavy haulage vehicles varies depending on a wide range of factors. The purchase of quarried materials by third parties also can make determining the precise impact on the local road network problematic.

Council could as a condition of consent require the travel routes for every heavy haulage truck movement to be logged and use the information to calculate the precise cost of the road pavement damage and commensurate reconstruction needs attributable to those movements. For accuracy this would need to be accompanied by a requirement that each quarry development had a weighbridge to determine the weight of each loaded truck. It is considered an unnecessarily onerous approach to calculating a reasonable contribution that should be reimbursed to Council to fund reconstruction work.

A more reasonable approach is to estimate the likely cost of pavement damage caused by a typical heavy haulage vehicle (per tonne per kilometres) and multiplying this cost with the trip length on the local road network of a tonne of hauled material.

This plan makes the assumption that the primary vehicles that will be used for heavy haulage is a truck and dog (6 axle – 48.5t) with an impact of 290 ESA per 1,000 tonnes of freight shifted. This will be the basis for calculating the cost of the reduced life of local roads unless it can be substantiated that a different truck type and configuration will be used. In such cases an alternative cost can be calculated.

**Appendix 1** provides the methodology and the calculation of the cost of the pavement damage by a truck used to transport quarried products on the local road network. This cost is \$0.13 per tonne per kilometre.

## 3.2 Calculation of development contributions

### 3.1.2 Contribution towards Road Reconstruction

Council will require a contribution toward the reconstruction of the local road network based on the following calculation on a quarterly basis.

<b>Total Contribution for road reconstruction</b>	=	Replacement cost of pavement damage by assumed heavy haulage vehicle (\$ per tonne/per kilometres)	X	Total tonnes	X	Trip length on Local Road Network
	=	\$0.13	X	Total tonnes	X	Trip length on Local Road Network

The following considerations in the use of the above table need to be noted:

- The \$0.13 replacement cost of pavement damage (per tonne per kilometre) by the assumed heavy haulage vehicle can be reviewed, where it can be established that the truck specifications are significantly different from the assumed heavy haulage vehicle.
- Where there are identifiable multiple trip routes there will be further application of this table to those trips.

### 3.1.2 Contribution towards Plan Preparation & Administration

Council will levy an amount equivalent to 1.5 percent of the assessed cost per tonne per kilometre of material hauled for the cost of plan preparation and administration.

This component will make a reasonable provision for the:

- costs expended by the Council for the preparation of the plan
- anticipated costs of staff time to implement the plan, process and account for contributions and monitor and amend the plan.

The following calculations provide the basis for determining the contribution towards plan preparation and administration:

Contribution component for plan preparation and administration	=	Contribution rate	X	1.50%
	=	\$0.13	X	0.15
	=	\$0.020 per tonne		

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## Appendix 1 - Road Costs of Heavy Haulage

### Pavement Damage from Heavy Haulage

#### Introduction

The purpose of this section is to formulate the road reconstruction cost per tonne per kilometre associated with the heavy haulage of material along Liverpool Plains Shire Council's local road networks.

#### Methodology

The aim of the methodology used is to determine the ratio of the cost to replace the asset to the design traffic loading. This will give a replacement cost per equivalent standard axle (ESA). This ratio will form the basis of further calculations to determine loss of life in dollars per single quarry haulage vehicle.

#### Procedure

**Step 1:** determine design ESA of a local road

**Step 2:** estimate cost to reconstruct of 1 kilometre of local road.

**Step 3:** calculate Cost of reconstruction per ESA per km

$$\$ / ESA / km = \frac{\text{Step 2}}{\text{Step 1}}$$

**Step 4:** Calculate the weight per axle assuming that the typical heavy haulage vehicle will be used a Truck & Dog (6 axle -48.5 T) configuration in accordance with the *Truck Impact Chart* produced by the *Australian Trucking Association*.

Where it can be substantiated that a different truck configuration will be used this formula can be amended with the relevant specifications from *Truck Impact Chart* produced by the *Australian Trucking Association* or in accordance with the *Austroads Guidelines*.


















**Step 5:** calculate \$/tonne/km (assumed 4.27 tonnes per axle)

### Vehicle Description

The Truck Impact Chart produced by the Australian Trucking Association has been used to determine the specifications of the assumed standard heavy haulage truck that has been used to calculate the impact on roads and the contribution towards road reconstruction.

Where it can be demonstrated that a different truck configuration will be used, a recalculation of the impact on roads and the required contribution towards road reconstruction can be considered.

AUSTRALIAN TRUCKING ASSOCIATION Truck Impact Chart 12 September 2016

AUSTRALIAN TRUCKING ASSOCIATION    Truck Impact Chart    12 September 2016																	
	Configuration Code (ATA TAP)	GCM (tonnes)	Payload (tonnes)	Calculated ESA's 4 <sup>th</sup> Power			No Trips per 1000 tonnes	ESA's per 1000 tonnes	Norm Fuel / 100 kilometres	Fuel Required per 1000k load	Driver Requirement	Overall Length (metres)	EAM (metres)	Emissions / 1000 tonnes	Convoy Length at 60 km/h (kilometres)	Convoy Length at 100 km/h (kilometres)	
				Load Status													
				0%	50%	100%											
	Two Axle Rigid GML	R11	15.0	7.00	0.42	1.18	3.00	143	490	23	65780	340%	<12.5		167%	8.94	13.71
	Two Axle Rigid Euro4	R11	15.5	7.63	0.43	1.34	3.57	132	529	23	60720	314%	<12.5		154%	8.25	12.65
	Three Axle Rigid GML	R12	22.5	13.12	0.51	1.27	3.58	77	316	28	43120	183%	<12.5		109%	4.82	7.38
	Three Axle Rigid Euro4	R12	23.0	13.69	0.53	1.46	4.16	74	347	28	41440	176%	<12.5		105%	4.63	7.1
	Four Axle Rigid GML	R22	27.5	15.50	0.36	1.30	4.13	65	292	32	41600	155%	<12.5		105%	4.07	6.23
	Five Axle Rigid GML	R23	31.0	17.62	0.35	1.19	3.44	57	217	35	39900	136%	< 12.5		101%	3.57	5.47
	Six Axle Artic GML	A123	43.8	24.04	1.68	2.59	5.54	42	304	47	39480	100%	19.0	10.00	100%	2.9	4.3
	Six Axle Artic HML	A123	46.0	27.04	1.68	2.59	5.54	37	268	50	37000	88%			94%	2.56	3.79
	Truck & Dog (6 Axle - 45.5T Vic)	R12T12	45.5	30.00	1.64	2.49	6.31	34	271	49	33320	81%		12.50	84%	2.35	3.48
	Truck & Dog (6 Axle - 48.5T NSW)	R12T12	48.5	33.00	1.64	2.64	7.70	31	290	49	30380	74%	19.0	15.50	77%	2.14	3.18
	Truck & Dog (7 Axle)	R12T22	50.5	33.60	1.64	2.45	6.15	30	234	51	30600	71%		17.50	78%	2.07	3.07
	Truck & Dog (20M - PBS)	R12T22	56.0	38.60	1.65	2.74	8.29	26	259	53	27560	62%	20.0	17.33	70%	1.82	2.69
	Truck & Dog (20M PBS)	R12T23	57.5	40.10	1.65	2.74	8.29	25	249	55	27500	60%		18.33	70%	1.75	2.59
	19M B double GML	B1222	56.0	36.35	1.67	2.88	8.29	26	279	53	29680	67%	19.0	17.33	75%	1.94	2.87
	19M B double CML/HML	B1222	57.5	37.85	1.67	2.88	8.29	27	269	55	29700	64%			75%	1.87	2.77
	B double GML	B1233	63.0	38.64	1.69	2.80	6.91	26	224	62	32240	62%	26.0	21.00	82%	1.98	2.85
	B double HML	B1233	68.5	44.34	1.69	2.80	6.91	23	198	65	29900	55%			76%	1.75	2.52
	B triple GML	B12333	83.0	52.35	1.71	3.07	8.29	20	200	68	27200	48%	35.0	23.33	69%	1.7	2.37
	B triple HML	B12333	91.0	60.35	1.71	3.07	8.29	17	170	72	24480	40%			62%	1.45	2.02
	AB triple GML	A123T2B33	99.5	64.00	1.84	3.52	10.36	16	196	75	24000	38%	36.5/42.5 (modular)	26.83	61%	1.48	2.02
	AB triple HML	A123T2B33	106.0	72.50	1.84	3.52	10.36	14	171	79	22120	33%			56%	1.3	1.77
	Type 1 R/train - GML	A123T23	79.5	48.73	1.72	3.25	8.98	21	225	68	28560	50%	36.5	22.17	72%	1.82	2.52
	Type 1 R/train - HML	A123T23	85.5	54.73	1.72	3.25	8.98	19	204	72	27360	45%			69%	1.65	2.28
	Type 2 R/train - GML	A123T23T23	116.0	73.42	1.76	3.91	12.42	14	199	80	22400	33%	53.5	34.33	57%	1.45	1.92
	Type 2 R/train - HML	A123T23T23	125.0	82.42	1.76	3.91	12.42	13	185	83	21580	31%			55%	1.35	1.78
	BAB Quad - GML	B1233T2B33	119.5	78.42	1.73	3.68	11.74	13	176	81	21060	31%	51.5	35.50	53%	1.32	1.76
	BAB Quad - HML	B1233T2B33	130.5	89.42	1.73	3.68	11.74	12	162	85	20400	29%			52%	1.22	1.62

For further information contact ATA on 02 6253 6900

The B-triple, AB-triple, &amp; the BAB-Quad are based on modular vehicle units as agreed by ATA General Council.

**EAM (Extreme Axle Measurement)**

Is the minimum dimensional requirement in regard to Axle Spacing Mass Schedule (ASMS) requirements for the stated Gross Combination Mass. The formula varies depending on the gross mass of the vehicle and whether the vehicle is a road train. In addition to EAM, internal axle groups must also comply to the appropriate ASMS.

\* The data in this table is provided for general information and does not take into account your specific circumstances. You should obtain professional engineering advice before taking action.

Australian Trucking Association  
and Barkwood Consulting P/L

September 2016

Truck Impact Chart - Modular

## Application of Methodology

**Step 1 & 2:** The following Table illustrates the typical cost of reconstructing one kilometre of road within the local road network.

Road Component	Units	Rate Indexed to 2022	depth m	Width m	length m	Reconstruction Cost per Km
Formation	cu.m	\$ 7.90	0.5	15	1,000	\$ 59,250
Sub-base	cu.m	\$ 75.53	0.275	10	1,000	\$ 207,708
Base	cu.m	\$ 75.53	0.175	10	1,000	\$ 132,178
Seal	sq.m	\$ 5.92		9	1,000	\$ 53,280
<b>Total Cost of Reconstruction of 1 km of Sealed Rural Road</b>						<b>\$ 452,415</b>

**Step 3** The following table illustrates the reconstruction cost per equivalent standard axle (ESA).

Design Life of local roads in ESAs a	Reconstruction Cost	
	per Km b	per ESA per km b/a
1,000,000	<b>\$ 452,415.00</b>	\$ 0.45

**Step 4 & 5:** The following Table indicated the weight per axle for the heavy haulage vehicle assumed by this Plan and the contribution required towards the reconstruction of the local road network per tonne of material hauled.

Reconstruction Cost \$ per ESA per km a	Truck & Dog (6 axle - 48.5 T) as per Truck Impact Chart		Contribution towards Reconstruction \$ per tonne per km a/c
	ESA per 1,000 tonnes b	Tonnes per ESA 1000/a c	
\$ 0.45	290	3.45	<b>\$ 0.13</b>



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## Appendix 2 - Standard Conditions of Consent

### Deferred Commencement Conditions

A quantitative/volumetric survey of the site shall be undertaken by a practicing registered surveyor at the cost of the applicant/operator prior to the commencement of any site works or excavations. The survey shall be undertaken and submitted to the requirements and satisfaction of Council. An electronic copy of the survey data shall be provided in a format that can be used with subsequently surveys to determine the volume of material extracted.

### Other Conditions

1. A contribution shall be paid in accordance with the Liverpool Plain Heavy Haulage Contributions Plan current at the time of payment on a quarterly basis within one month of the end of the quarter. The quarters shall comprise 1 January - 31 March, 1 April - 30 June, 1 July - 30 September, 1 October - 31 December unless otherwise notified by Council. NOTE: At the time of the consent this requires a payment of **<insert rate applicable at time of consent>** per tonne of material hauled from the site. This rate is subject to indexing in accordance with clause 2.12 of the *Liverpool Plains Heavy Haulage Contributions Plan 2023*
2. A "remittance form" as issued by Council shall be submitted to Council for each quarter either accompanying the required payment or as a "nil" return. The information required includes applicable quarter, quantities of material, tonnage rate, contribution payment and the like and be certified by a company officer.
3. A quantitative/volumetric survey shall be undertaken by a practicing registered of the surveyor prior to the commencement of the quarry and stockpiles on an annual basis and submitted to Council that provides an estimate of material removed from the site. The annual cycle shall be the financial year unless otherwise notified Council.
4. An annual audit (based on the financial year unless otherwise notified by Council) of quarry sales by volume and weight shall be undertaken by an independent auditor and submitted to Council on an annual basis. This audit shall provide:
  - i) An annual and cumulative reconciliation between sales by volume and weight and the returns lodged with Environment Protection Authority and other Government Agencies.
  - ii) An annual and cumulative reconciliation between the sales by volume and weight and the Quantitative/volumetric survey of the site undertaken from time to time.
  - iii) An annual and cumulative reconciliation between the sales by volume and weight and the contributions that were payable under the *Liverpool Plains Shire Heavy Haulage Contributions Plan* to demonstrate compliance with the terms of the Consent.

- iv) Confirmation that the correct contributions have been paid based on the reconciliations and any the outstanding amount payable based on the audit.
  - v) The annual audit shall be provided in a form specified by Council.
5. Quantitative/volumetric surveys of the site shall be undertaken periodically by a practicing registered surveyor at the cost of the applicant/operator upon written request by Council. The surveyor shall use the methodology supplied by Council to determine the weight of the extracted material and reconcile such with quarterly and annual returns. Where the survey indicates that more material has been extracted than indicated by returns, the applicant/operator shall pay a contribution in respect of the outstanding amount.

## Appendix 3 - Volume - Weight Conversions

Adopted volume to weight conversions for quarry materials.

Road base - basalt	1.75 tonnes/metre <sup>3</sup>
Aggregate - basalt	1.50 tonnes/metre <sup>3</sup>
Road Base - chert	1.70 tonnes/metre <sup>3</sup>
Sand - siliceous	1.50 tonnes/metre <sup>3</sup>
Sand - indurated	1.80 tonnes/metre <sup>3</sup>

