>> REPORT

>> RESPONSE TO PUBLIC SUBMISSIONS

>> IMPACT OF PROJECT CONSTRUCTION WORKFORCE ON ACCOMMODATION IN TOWNSVILLE-THURINGOWA REGION

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1 INTRODUCTION

This report has been prepared in response to submissions made in response to the Environment Impact Statement for the proposed Integrated Townsville Ocean Terminal (TOT) project in relation to the availability of short-term accommodation for the project's construction workforce.

1.1 METHODOLOGY

To address the issues raised, the Consultants have undertaken the following:

- Updated rental market data since the original Economic Impact Assessment report was prepared (2007 figures);
- Estimated the construction workforce over the project stages and those that are recruited externally;
- Assessed the quantities of housing needed to accommodate the temporary construction workforce generated by the project;
- Assessed the supply of short-term accommodation;
- Evaluate Demand and Supply based on this assessment; and
- Reviewed possible Workforce Accommodation Strategies.

The following data sources were utilised in this research:

- Australian Bureau of statistics Tourism Accommodation;
- Australian Bureau of statistics Census of Population and Housing;
- REIQ;
- Stakeholder Consultation – General Manager of South Bank Mr Paul Burke;
- DEEWR; and
- DLGP.

2 RENTAL MARKET UPDATE

In section 4.9.3 pp. 55-85 of Transpac Consulting's *EIA: TOT Project Report*, the demand for rental accommodation in the Townsville-Thuringowa region was assessed. It was concluded, based on increasing rental accommodation prices and tight vacancy rates, that housing demand in the region is exceeding supply.

Recent figures released by the REIQ for the year 2007 show that although there has been some slight improvement, overall the rental market remains tight [Table 1].

TABLE 1: REIQ VACANCY RATES* FOR TOWNSVILLE-THURINGOWA REGION

	Sept Qtr 06	Dec Qtr 06	Sept Qtr 07	Dec Qtr 07
House	1.0%	2.4%	1.9%	2.0%
Unit/Townhouse	1.6%	1.8%	2.8%	2.6%

**REIQ Vacancy rate data is for private rentals only, including those managed by Real Estate agents.*

Table 2 shows the number of new bonds lodged for two bedroom Units and three bedroom Houses. Over the year from the December quarter 2006 to December quarter 2007, new bonds created for two bedroom Units increased by 18.9%. The number of new bonds created in the December quarter 2007 for three bedroom Houses, however, were lower to those lodged for the December quarter 2006 in Townsville (-6.3%).

TABLE 2: NEW BONDS CREATED (DECEMBER QUARTER 2007)

	4810	4811	4812	4814	4819	Townsville
			3 Bedroom House			
DEC QTR 2005	55	19	62	200	12	348
% of Townsville	15.8%	5.5%	17.8%	57.5%	3.4%	100.0%
DEC QTR 2006	65	24	72	199	8	368
% of Townsville	17.7%	6.5%	19.6%	54.1%	2.2%	100.0%
% Change (2005/2006)	**18.2%**	**26.3%**	**16.1%**	**-0.5%**	**-33.3%**	**5.7%**
DEC QTR 2007	61	18	68	181	17	345
% of Townsville	17.7%	5.2%	19.7%	52.5%	4.9%	100.0%
% Change (2006/2007)	**-6.2%**	**-25.0%**	**-5.6%**	**-9.0%**	**112.5%**	**-6.3%**
% Change (2005/2007)	**10.9%**	**-5.3%**	**9.7%**	**-9.5%**	**41.7%**	**-0.9%**
			2 Bedroom Unit			
DEC QTR 2005	244	11	177	71	14	517
% of Townsville	47.2%	2.1%	34.2%	13.7%	2.7%	100.0%
DEC QTR 2006	258	5	153	71	11	498
% of Townsville	51.8%	1.0%	30.7%	14.3%	2.2%	100.0%
% Change (2005/2006)	**5.7%**	**-54.5%**	**-13.6%**	**0.0%**	**-21.4%**	**-3.7%**
DEC QTR 2007	344	9	161	62	16	592
% of Townsville	58.1%	1.5%	27.2%	10.5%	2.7%	100.0%
% Change (2006/2007)	**33.3%**	**80.0%**	**5.2%**	**-12.7%**	**45.5%**	**18.9%**
% Change (2005/2007)	**41.0%**	**-18.2%**	**-9.0%**	**-12.7%**	**14.3%**	**14.5%**

3 ASSESSMENT OF FUTURE HOUSING DEMAND CREATED BY CONSTRUCTION WORKFORCE

3.1 EMPLOYMENT IMPACTS FROM CONSTRUCTION

Section 8.5 Impacts on Regional Labour Market in Transpac Consulting's *EIA: TOT Project Report* assessed the local labour market particularly its capacity to meet the labour demands generated by the construction of the TOT. It was concluded that whilst the Townsville-Thuringowa region has the capacity to supply skilled tradespersons, due to several other competing projects and a national shortage of skilled labour, there is a high probability that the construction phase of the TOT will generate inward migration of workers to the region.

The construction of the cruise terminal and wharf (including the development of the Breakwater Cove precinct *sans* dwellings) is expected to be completed in three years, and has an estimated expenditure total of $209.35m. Table 3 details the proposed construction stages and estimated expenditure amounts, which were relevant at the time of the original EIS.

TABLE 3: PROPOSED CONSTUCTION STAGES

Construction Stage	Expenditure ($m)	Time Span
Access roads, breakwaters, bunds and dewatering	$47.6	10 months (May 2008-March 2009)
Construction of Terminal berth Pocket and building	$46.2	16 months (January 2009-May 2010)
Excavation, revetments of Breakwater Precinct	$113.8	24 months (March 2009-March 2011)
Strand breakwater Bridge	$1.75	5 months (December to April 2009)
Total	**$209.35**	**3 years (2008-2011)**

Based on these expenditures the economic impacts of the construction stage were calculated and have been reproduced from the original EIA Report below [Tables 4 and 5].

TABLE 4: ESTIMATED ECONOMIC IMPACTS OF THE CONSTRUCTION OF THE CRUISE TERMINAL AND WHARF ETC (2008 DOLLARS)

	Direct effects	Indirect Effects	Induced	Total Impacts
Output	47,600,012	16,713,406	13,553,793	77,867,207
Value added	22,747,518	7,237,696	7,264,514	37,249,729
Labour income	11,315,872	3,958,301	3,164,687	18,438,860
Employment*	308.2	87.3	78.5	474

* Number of jobs (full-time equivalent)

TABLE 5: ESTIMATED ECONOMIC IMPACTS OF THE CONSTRUCTION OF THE CRUISE TERMINAL AND WHARF ETC (2009 DOLLARS)

	Direct effects	Indirect Effects	Induced	Total Impacts
Output	161,749,968	70,738,778	60,718,650	293,207,394
Value added	73,954,010	31,126,419	32,543,767	137,624,193
Labour income	51,487,372	16,938,285	14,177,252	82,602,910
Employment*	739.7	359	340	1,438.70

* Number of jobs (full-time equivalent)

Tables 4 and 5 show that in addition to the 1,048 persons directly employed in the construction related sector, a further 446 are employed indirectly in support industries within the Northern Region. As well, consumer spending out of resultant wages and salaries earned generates further employment for 419 persons.

3.2 TEMPORARY MIGRANT CONSTRUCTION WORKFORCE

Appendix A of the original *EIA: TOT Project Report* (Tables A1 through to A24) showed the distributional effects on industry sectors for the Northern Statistical Division, as estimated through Input-Output Analysis. These tables show the sector-by-sector impacts for employment, income output and value add per year.

Of particular interest are Tables A1 and A5 (re-produced in the Appendix A of this report), which show the distributional industry employment impacts for the construction phase. These output tables show that the 'ripple' effect of the construction activity is diverse [Tables A1 to A5]. The industry sectors of particular interest, in terms of the local market not having the capacity to absorb the total employment created, are:

- Other mining;
- Other construction; and

- Trade.

According to the Department of Education, Employment and Workplace Relations the number of vacancies on Australian JobSearch (DEEWR's online employment website) for the occupational group *Labourers, Factor and Machine Workers* represented the highest group of job vacancies comprising one-fifth of all vacancies for mid-February 2008. The number of vacancies for the occupation group *Building and Construction* was recorded at 5,442 for Australia (5.8% of total job vacancies). Queensland represented 38.1% of these vacancies (DEEWR, 2008).

[Vacancies on Australian JobSearch have been allocated into occupational groupings developed by DEEWR. The data refers to the number of 'positions available' rather than the number of 'vacancy advertisement' by employers, as many advertisements are for multiple positions.]

Table 6 shows the total employment created for these sectors only, as these jobs are less likely to be filled by the local workforce alone. In assessing how many construction jobs will be filled by migrants, we have been consistent with migration patterns over the past decade (an average of 50.3%). In addition, to provide a high impact scenario of migrant construction labour force, a migration percentage of 63.4% has been applied which represents the 2004 reported migration pattern (DLGPSR, 2006).

TABLE 6: ESTIMATED PROPORTION OF CONSTRUCTION JOBS RECRUITED EXTERNALLY

	All Construction Jobs	Construction Jobs recruited externally	
		50.3%*	**63.4%^**
Year 1	368.2	185.2	233.4
Year 2 & 3	979.9	492.9	621.3
Total	***1348.1***	***678.1***	***854.7***

*low impact scenario
^high impact scenario

3.3 SHORT-TERM HOUSING IMPACTS

As it can bee seen from Table 6, of the total jobs created in the construction related sector (1348.1), between 678.1 to 854.7 jobs may be filled by migrant workers. The largest part of the housing demand created will be for *temporary* construction workers during the construction peak which will occur in years 2 and 3 of the development, where between 493 and 621 workers will need accommodation.

Table 7 provides estimates on the number of dwellings required for the migrant workforce. Calculations have been provided for two conservative scenarios:

1. Where each job recruited from outside the region represents one unit of housing demand; and
2. Where one unit of housing can accommodate up to 2.0 persons.

TABLE 7: ESTIMATED REQUIRED DWELLINGS AT 1.0 & 2.0 PERSONS PER DWELLING

	1.0 person/per dwelling		2.0 persons/per dwelling	
Year 1	185.2	233.4	92.6	116.7
Year 2 & 3	492.9	621.3	246.5	310.7
Total	***678.1***	***854.7***	***339.1***	***427.4***

At the peak of the construction period (years 2 and 3) somewhere between 246-311 and 493-621 dwellings will be required. Clearly, if the construction workforce can be placed in shared accommodation, the more manageable the impact on short-term housing can be.

4 AVAILABLE SHORT-TERM ACCOMMODATION

The following section assesses the availability of short-term accommodation. As such the Private Rental Market and Tourist Accommodation is assessed. Tourist Accommodation data includes Motels, Hotels and Serviced Apartments and Caravans. Where data is presented for the Northern Tourism Region, it encompasses the following localities/shires:

- Aitkenvale
- Burdekin (S)
- Charters Towers (C)
- City
- Cranbrook
- Currajong
- Dalrymple (S)
- Douglas
- Garbutt
- Gulliver
- Heatley
- Hermit Park
- Hinchinbrook (S)
- Hyde Park-Mysterton
- Kelso
- Kirwan
- Magnetic Island
- Mt Louisa-Mt St John-Bohle
- Mundingburra
- Murray
- North Ward-Castle Hill
- Oonoonba-Idalia-Cluden
- Pallarenda-Shelley Beach
- Palm Island (S)
- Pimlico
- Railway Estate
- Rosslea
- Rowes Bay-Belgian Gardens
- South Townsville
- Stuart-Roseneath
- Thuringowa (C) - Pt A Bal
- Thuringowa (C) - Pt B
- Townsville (C) - Pt B
- Vincent
- West End
- Wulguru

Source: ABS (2007)

4.1 PRIVATE RENTALS

The 2006 census showed that the Townsville-Thuringowa region had 14,656 private occupied rental dwellings (excluding those managed by the state housing authority). Further, of the 3,656 unoccupied dwellings (dwellings which are habitable but unoccupied on Census night), it was estimated that approximately 1,097 are rental properties (excluding those managed by the state house authority). [Note: It was assumed 30% of all unoccupied dwellings were private rentals, consistent with 2006 Census patterns].

Therefore, with an average rental vacancy rate for 2006 at 1.7% for Houses and 1.7% for Unit/Townhouses, 536 private rental dwellings were available in 2006 (of an approximate total rental stock of 15,753).

In addition, data available on known and anticipated future residential developments in and around the CBD confirms that the inner-city will continue to grow rapidly into the future (Refer to pp.109 -113 of Transpac Consulting's *EIA: TOT Project Report*).

The *EIA: TOT Project Report* reported that there are presently four residential developments under construction worth approximately a total of $242.25 million dollars. A further $1,296.7 billion dollars worth of proposed developments are to be constructed in the future in the Townsville CBD. Details of these developments are reproduced below.

> Developments under construction include a total of:
>
> - 18 one bedroom units;
> - 654 two bedroom units/apartments*; and
> - 29 three bedroom units/apartments.
>
> Proposed developments for construction include a total of:
>
> - 46 one bedroom units;
> - 1,853 two bedroom units/apartments/townhouses*;
> - 183 three bedroom units/apartments/townhouses; and
> - 2 four bedroom.
>
> *Where developments do not state number of bedrooms an assumption of 2 bedroom units has been made.
>
> [Source: Transpac Consulting *Economic Impact Assessment: TOT Project Report* (pp. 110-112)]

As can be seen there is a substantial volume of inner city residential stock being considered in Townsville. Some of this dwelling stock will add to the rental stock in Townsville, which will assist in alleviating some of the demand pressures.

4.2 HOTELS, MOTELS AND SERVICED APARTMENTS

As at the December quarter 2007, the Northern Tourism Region had a total 76 establishments. Townsville and Thuringowa represented 65.8% of all these establishments. There was a total 2,772 rooms, of which Townsville represented the majority of these (82.8%).

Demand for accommodation is seasonal, with the winter months experiencing higher occupancy rates [Table 8]. Over the four quarters, the Northern Tourism Region had an average room occupancy rate of 68.8%, while Townsville had a slightly higher rate of 71.9%. Therefore, over the year Townsville had on average 645 rooms unoccupied, while a further 220 were unoccupied throughout the remainder of the Northern Tourism Region.

TABLE 8: HOTELS, MOTELS AND SERVICED APARTMENTS 2007

	Establishments	Rooms	Bed spaces	Room occupancy rate				Bed occupancy rate			
	Dec Qtr 2007			March Qtr 2007	June Qtr 2007	Sept Qtr 2007	Dec Qtr 2007	March Qtr 2007	June Qtr 2007	Sept Qtr 2007	Dec Qtr 2007
	no.	no.	no.	%	%	%	%	%	%	%	%
Burdekin (S)	7	102	300	55.1	75.2	68.2	56.6	25.7	37.7	36.4	30.8
Charters Towers (C)	9	173	520	50.6	57.3	62.0	52.8	25.0	29.9	31.4	26.4
Dalrymple (S)	3	24	73	18.5	34.1	49.4	49.3	11.5	14.7	21.0	19.1
Hinchinbrook (S)	7	*	*	*	*	*	*	*	*	*	*
Thuringowa (C)	1	*	*	*	*	*	*	*	*	*	*
Townsville (C)	49	2,295	6,426	63.7	73.1	81.5	69.4	33.7	39.2	45.0	37.5
Northern (TR)	***76***	***2,772***	***7,868***	***60.9***	***70.5***	***77.7***	***66.2***	***31.5***	***37.1***	***42.0***	***35.4***

** Not available for publication but included in totals where applicable.*

4.3 CARAVANS

As at the December quarter 2007, the Northern Tourism Region had a total 20 establishments. Townsville and Thuringowa represented half of all these establishments. There was a total capacity for 2,291 sites, of which Townsville and Thuringowa represented over half of these (63.1%).

As mentioned previously, demand for tourist accommodation is seasonal, with the winter months experiencing higher occupancy rates [Table 9]. Over the four quarters the Northern Tourism Region had average room occupancy rate of 46.6% while Townsville had a slightly higher rate of 60.3% and Thuringowa a lower rate of 35.8%. Therefore, over the year Townsville and Thuringowa had on average 707.1 sites unoccupied while a further 516.3 were unoccupied throughout the remainder of the Northern Tourism Region.

TABLE 9: CARAVANS 2007

	Establishments	On-site vans	Other powered sites	Unpowered sites	Cabins, flats, units and villas	Total capacity	Sites occupied by long-term guests	Other sites permanently reserved	Site occupancy rate			
	Dec Qtr 2007	Dec Qtr 2007	Dec Qtr 2007	Dec Qtr 2007	Dec Qtr 2007	Dec Qtr 2007	Dec Qtr 2007	Dec Qtr 2007	March Qtr 2007	June Qtr 2007	Sept Qtr 2007	Dec Qtr 2007
	no.	no.	no.	no.	no.	no.	no.	no.	%	%	%	%
Burdekin (S)	4	3	203	49	40	295	34	0	22.5	50.3	*	43.8
Charters Towers (C)	2	*	*	*	*	*	*	*	*	*	*	*
Dalrymple (S)	1	*	*	*	*	*	*	*	*	*	*	*
Hinchinbrook (S)	3	0	231	24	26	281	21	10	*	*	80.2	32.8
Thuringowa (C)	3	12	329	172	30	543	92	7	22.9	43.7	47.2	29.3
Townsville (C)	7	85	546	106	166	903	194	1	48.2	60.2	69.3	63.4
Northern (TR)	***20***	***108***	***1,481***	***396***	***306***	***2,291***	***366***	***18***	***31.6***	***49.6***	***60.5***	***44.6***

** Not available for publication but included in totals where applicable.*

5 HOUSING DEMAND AND SUPPLY ANALYSIS

This report thus far has estimated the short-term housing demand generated by the migrant construction workforce required over the construction period of the TOT project. Further, an evaluation of available short-term accomodation was conducted. The findings of this analysis are discussed below.

5.1 SHORT-TERM HOUSING DEMAND

The rental housing market analysis completed in the original EIS found that the private market in the Townsville – Thuringowa region has been tight. An update of this data has still found the private rental market to be tight, with vacancy rates reported below 3%. It was concluded in the original EIA that due to competing projects and a national shortage of skilled workforce, there is a high likelihood that many construction related jobs will need to be filled by migrant workers.

This assessment for the supplementary EIS sought to quantify the amount of jobs that are construction related only from the estimated total employment impacts (determined by the industry distributional effects provided in the Input–Output analysis) and what proportion of these construction jobs are recruited externally (providing a low and high scenario). It was estimated that over the three year constrution period an external workforce of between 678.1 and 854.7 would be required, with years two and three representing the peak of construction (between 492.9 and 621.3 migrant workers).

The number of housing units required for the wokforce were estimated for two scenarios, firstly, where one job required one unit of housing (single accomodation) and secondly, two jobs required one unit of housing (shared accommodation). Table 10 shows the number of unit dwellings required over the different construction stages to accommodate the temporary migrant workforce.

TABLE 10: ESTIMATED REQUIRED DWELLINGS AT 1.0 & 2.0 PERSONS PER DWELLING

	1.0 person/per dwelling		2.0 persons/per dwelling	
Year 1	185.2	233.4	92.6	116.7
Year 2 & 3	492.9	621.3	246.5	310.7
Total	***678.1***	***854.7***	***339.1***	***427.4***

At the peak of the construction period (year two and three) somewhere between 246-311 and 493-621 dwellings will be required.

5.2 SHORT-TERM HOUSING SUPPLY

Supply of short-term accommodation was assessed for both the Private Rental Market and Tourist Accommodation which included Hotels, Motels and Serviced Apartments and Caravans. In particular the number of unoccupied dwellings/sites were quantified for the year 2006.

The findings of this analysis are summarised in Table 11 below.

TABLE 11: VACANT SHORT-TERM ACCOMMODATION SUPPLY

	Private Rentals	Hotels, Motels & Serviced Apartments	Caravans	Total Stock
Townsville-Thuringowa	536	645	707	***1,888***
Remainder of Northern (TR)	n/a	220	516	***736***
Total	***536***	***865***	***1,223***	***2,624***

5.3 HOUSING STRATEGY

As it can be seen, for the year 2006 there were 1,888 units of vacant short-term accommodation in the Townsville-Thuringowa region alone. Therefore, whilst the private rental market is relatively tight, the short-term housing provided by tourist-related accommodation adds substantially to the overall unoccupied housing stock.

At very peak and high migration scenario, up to 621 dwellings may be required to accommodate out-of-town workers on the TOT project. This does not take into account the possiblilty of shared accommodation amongst the migrant workers. Caravans and Hotels, Motels and Service Apartments will primarily be sourced as accommodation for these workers.

Personal communication with the General Manager of South Bank, Mr Paul Burke, as part of Stakeholder consultations (3rd April, 2007), found that the development stage of the project will positively impact the accommodation market. Further, it was stated by Mr Paul Burke that *'without this development occupancy would be low, particularly with recent property developments occuring nearby'.*

The most obvious economic impacts from inward migration to the region will be felt in the 'Accommodation and Cafes and Restaurants' industry. Whilst it has been identified that during 2006 there were 1,888 units of vacant accommodation (accounting for seasonal variation), it is important that a housing strategy be considered to manage the potential impacts of migrant workers on local accommodation.

Notably these impacts will be the cumulative impacts on short-term accommodation which relate to demand generated by other new developments under construction at around the same time as the TOT project.

Accommodation strategies adopted or porposed by other large scale developments (e.g *Gladstone Pacific Nickel Housing Strategy*) include:

- Stimilating constructon of new dwellings including houses, townhouses, units, permanent villages for short-term accommodation, motels and hotels;

- Coordinated leasing of existing rental properties;
- Promotion of utilising accommodation options in the greater regional area (i.e Northern TR); and
- Development of a workers village in the region.

For the TOT project, stimulating construction of new dwellings is not deemed necessary as there is a substantial volume of inner city residential stock being developed in Townsville and the short-term accommodation sector offers adequate levels of provisioning to meet anticipated peak demands.

Associated with this focus on the opportunities for the short-term accommodation sector is the need to avoide the private rental market where possible so as to minise adverse impacts caused by housing shortgages.

It has been demonstrated in this report that there is a considerable supply of short-term tourist-related accommodation. Securing a proportion of both Caravans and Motels, Hotels and Serviced Apartments for the workforce is seen as the best method of achieving the housing requirements for the TOT project. Therefore, as there is capacity in the region to accommodate these workers, a workers village would not be needed.

At the worst case scenario where full occupancy is reached in all short-term accommodation, consideration can then be turned to accommodation options in the greater regional area, namely the Northern Tourism Region. This final option would require the provision of transport beween the location of the accommodation establishment and the construction, to minimise the impact of additional traffic on local roads. However, given recent historical patterns of vacancy rates, the prospect of this scenario emerging is extremely limited.

6 CONCLUSION

The TOT project is likely to give rise to migrant workers locating in the Townsville region. While the private rental market is tight, and is expected to remain tight into the foreseeable future, there is sufficient short-term tourist-related accommodation within the region to meet anticipated peak demands from the TOT construction.

>> REFERENCES

Australian Bureau of Statistics (2007), *Census of Population and Housing – Townsville-Thuringowa (Urban Centre/Locality) Local Government Area- Quickstats.*

Australian Bureau of Statistics (2007), *Tourism Region Maps and Concordance Files Australia, 2006- catalogue 9503.055.00.*

Australian Bureau of Statistics (2008), *Tourist Accommodation, Small Area Data, Queensland-Electronic Delivery, December 2007- catalogue 8635.3.55.001.*

Department of Education, Employment and Workplace Relations (2008), *Vacancy Report.*

Department of Local Government, Planning, Sport and Recreation (2006), *Population growth – highlights and trends the Townsville – Thuringowa Region 2005.*

Personal Communication (2007), with General Manager of South Bank, Mr Paul Burke, on 3rd April, 2007.

REIQ (2006), *Queensland Property and Lifestyle, Property Sales Data September Quarter 2006* –Summer Edition.

REIQ (2007), *Queensland Property and Lifestyle, Property Sales Data December Quarter 2006* – Autumn Edition.

REIQ (2008), *Queensland Property and Lifestyle, Property Sales Data December Quarter 200*7– Autumn Edition.

Transpac Consulting (2007), *Economic Impact Assessment: Townsville Ocean Terminal Project.*

>> APPENDIX A

TABLE A1: CONSTRUCTION IMPACTS ON NSD INDUSTRY SECTORS [EMPLOYMENT IMPACTS 2008]

	Industry	Direct*	Indirect*	Induced*	Total*
1	Sheep	0	0	0	0
2	Grains	0	0	0	0
3	Beef Cattle	0	0	0.3	0.3
4	Dairy cattle and pigs	0	0	0	0
5	Other agriculture	0	1.8	1.8	3.7
6	Sugar cane	0	0.2	1.8	2
7	Forestry and fishing	0	0.1	0.2	0.3
8	Coal and oil and gas	0	0.2	0.1	0.3
9	Non-ferrous metal ores	0	0.1	0	0.1
10	Other mining	0	2.6	0.1	2.6
11	Food manufacturing	0	0.2	1.4	1.6
12	Textiles and clothing and footwear	0	0.1	0.3	0.4
13	Wood and paper manufacturing	0	2.3	1.1	3.4
14	Chemicals and petrol and coal	0	0.4	0.2	0.6
15	Non-metallic mineral products	0	4.8	0.1	4.8
16	Metals and metal products	0	0.4	0	0.4
17	Machinery and equipment	0	1.1	0.1	1.3
18	Miscellaneous manufacturing	0	0.3	0.3	0.7
19	Electricity and gas and water	0	0.7	1.2	1.8
20	Residential building construction	0	0.1	0.3	0.4
21	Other construction	308.2	0.2	0.1	308.5
22	Trade	0	27.2	29.9	57.1
23	Accommodation and cafes and restaurants	0	2.4	5.9	8.2
24	Road transport	0	6.6	1.8	8.4
25	Rail and pipeline transport	0	2.1	0.8	2.9
26	Other transport	0	2	1	3
27	Communication services	0	1.1	1.2	2.3
28	Finance and RE and business services	0	27.7	9.6	37.3
29	Ownership of dwellings	0	0	0	0
30	Government admin and defence	0	1.5	0.7	2.2
31	Education	0	0.4	3.1	3.4
32	Health and community services	0	0.2	7.7	7.9
33	Cultural and recreation services	0	0.3	3.5	3.8
34	Personal and other services	0	0.3	4	4.3
35	Imports	0	0	0	0
25,001	Foreign Trade	0	0	0	0
28,001	Domestic Trade	0	0	0	0
	Total	**308.2**	**87.3**	**78.5**	**474**

TABLE A5: CONSTRUCTION IMPACTS ON NSD INDUSTRY SECTORS [EMPLOYMENT IMPACTS 2009]

	Industry	Direct*	Indirect*	Induced*	Total*
1	Sheep	0	0	0	0
2	Grains	0	0	0	0
3	Beef Cattle	0	0.2	1.2	1.4
4	Dairy cattle and pigs	0	0	0	0
5	Other agriculture	0	2.9	7.9	10.9
6	Sugar cane	0	1.4	7.8	9.2
7	Forestry and fishing	0	0.3	0.8	1.1
8	Coal and oil and gas	0	0.5	0.3	0.8
9	Non-ferrous metal ores	0	2.5	0	2.6
10	Other mining	439.6	8.5	0.3	448.4
11	Food manufacturing	0	1.1	6.1	7.2
12	Textiles and clothing and footwear	0	0.2	1.5	1.7
13	Wood and paper manufacturing	0	4.9	4.6	9.5
14	Chemicals and petrol and coal	0	4.1	0.9	5
15	Non-metallic mineral products	0	5.3	0.3	5.6
16	Metals and metal products	0	0.5	0.1	0.6
17	Machinery and equipment	0	18.9	0.6	19.5
18	Miscellaneous manufacturing	0	3.4	1.5	4.9
19	Electricity and gas and water	0	2.1	5	7.2
20	Residential building construction	0	0.3	1.4	1.7
21	Other construction	300.1	1.4	0.4	301.8
22	Trade	0	100	129.7	229.7
23	Accommodation and cafes and restaurants	0	22	25.4	47.3
24	Road transport	0	31.4	7.8	39.2
25	Rail and pipeline transport	0	4.7	3.3	8
26	Other transport	0	15.7	4.5	20.2
27	Communication services	0	6.6	5.1	11.7
28	Finance and RE and business services	0	103.7	41.5	145.2
29	Ownership of dwellings	0	0	0	0
30	Government admin and defence	0	10.1	3	13.1
31	Education	0	2.3	13.3	15.6
32	Health and community services	0	0.7	33.3	34
33	Cultural and recreation services	0	1.7	15.2	16.9
34	Personal and other services	0	1.7	17.3	19
35	Imports	0	0	0	0
25,001	Foreign Trade	0	0	0	0
28,001	Domestic Trade	0	0	0	0
	Total	**739.7**	**359**	**340**	**1,438.70**