Environment Effects Report
Tamar Valley Dairy
1 River Street, Invermay

Prepared for: Guaraci Matteo
Tamar Valley Dairy Pty Ltd

Prepared by: Douglas Tangney
April 2011
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Authorised by: Andrew Turner  
Date: 04 April 2011
Executive Summary

Tamar Valley Dairy (TVD) proposed to construct and operate a yoghurt manufacturing facility on 1 River Street Invermay, near the Launceston CBD.

TVD currently operate an identical facility in Montague Street, Invermay and requires a larger modern premise to facilitate growing demand for TVD yoghurt.

The factory will have a milk processing capacity of 60,000 L per 8 hour day, producing 34 tonnes of yoghurt per day using milk from National Foods in Burnie and locally sourced flavours.

The proposed activity will be a level 2 activity as defined in Schedule 2 of the Environmental Management and Pollution Control Act 1994. The environmental aspects of the proposal will be assessed by the Board of the Tasmanian Environment Protection Authority (EPA) and regulated by the EPA Division of the Department of Primary Industries, Parks, Water and Environment.

This Environmental Effects Report (EER) has been prepared according to the Board of the Environment Protection Authority’s (EPA) Environmental Effects Report Guidelines for Dairy Relocation to 1 River Street, Invermay Tamar Valley Pty Ltd (September 2010).

1 River Street is currently comprised of on two titles (FR 136579/2 and FR 136819/1). In order to accommodate the proposed factory, the aforementioned titles will be consolidated and re-subdivide into two lots.

The proposed site is located within an existing industrial area and no sensitive land uses are within 500 m (approximately).

The operation, if approved, will be regulated by the EPA Division under the conditions of a Environment Protection Notice (EPN).

There will be no impact on flora of national or state significance as no species listed by either the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 or the Tasmanian Threatened Species Protection Act 1995 were recorded in the project area or are thought likely to occur.

A small population of Rubus fruticosus (Blackberry - a declared weed under Tasmania’s Weed Management Act 1999) and agricultural broad leaf weeds (including turnip weed, dandelion, thistle and fog grass) were observed on proposed Lot 2.

No Aboriginal Heritage sites were located on the proposed project area and the potential for Aboriginal Heritage sites to exist is very low.

Liquid waste generated through production and washdown will be discharged to sewer system, managed by Ben Lomond Water and regulated via a Trade Waste Agreement (TWA). Ben Lomond Water accepts liquid waste from the existing factory, which is typically high volume with low pollutant load.

Site stormwater from the roof and landscaped car park will collect in an onsite separator prior to entering the Tamar River.

Noise levels from the proposed activity are aligned with accepted emissions from an industrial area and unlikely to cause environmental nuisance or harm to the surrounding area. Noise sources will be housed in specially clad buildings to further reduce noise emissions.

The specific commitments contained in this EER demonstrate that appropriate operational and management measures will be in place to minimise the risk of any potential emissions and to minimise the risk of causing any environmental nuisance or harm.
The EER demonstrates that the proposal will comply with Tasmanian policies and legislation.

There are no apparent socio-economic disadvantages with the proposal. The local community will benefit from the increased employment opportunities and local wages expenditure.
1. Introduction & Background

Tamar Valley Dairy (TVD) manufactures yoghurt in Montague Street, Invermay and proposes to construct and relocate production to a modern premise at 1 River Street Invermay. A modern premise is required to increase production to meet interstate supplier demand.

The proposed site in River Street is located within the Riverside Industrial precinct surrounded by other light industrial premises and vacant land.

The yoghurt factory will be classified as a Level 2a Activity under the Environmental Management and Pollution Control Act 1994 (EMPCA). The new premise will produce 170 tonnes of yoghurt per week.

1 River Street is part of the Launceston Flood Plain, immediately North of the confluence of the North Esk and South Esk Rivers. 1 River Street is currently in two titles:
- C.T. 136819-1 at 5122 m²
- C.T. 136579-2 at 9026 m²

The two titles will be consolidated and re-subdivided into two lots in accordance with planning provision L00189 - P01 - 9, once all approvals have been obtained.

The site is currently vacant, with no established drainage lines.

In accordance with EMPCA, this Environmental Effects Report (EER) is prepared to document the potential environmental effects from the manufacturing process to allow the Board of the Environment Protection Authority (EPA) to make an informed decision about the proposed yoghurt manufacturing facility, including the proposed environmental management practices.

The purpose of this document is to provide the Launceston City Council, the Board of the Environment Protection Authority and the general public with the following information:
- Relevant details of the proposal
- Potential impacts and risks
- Management measures to mitigate any identified environmental risks
- Evidence that the proposal complies with legislative and regulatory requirements

TVD submitted an EER to the EPA in November 2010, however this EER was returned to TVD with comments.

This March 2011 EER is the formal application to the EPA and replaces the November 2010 submission.

The ‘docking channel’ referred to in the November 2010 EER, does not form part of the TVD proposal, this EER or future operations of the proposed factory.
1.1 Project Information & References

The following information and references were used to develop this EER:

- Environmental Effects Report, Dairy Relocation to 1 River Street Invermay, Tamar Valley Dairy Pty Ltd. Unpublished, no reference date or version number¹
- Environmental Effects Report Guidelines for Dairy Relocation to 1 River Street Invermay, Tamar Valley Dairy Pty Ltd. Environment Protection Authority Tasmania. September 2010
- Proposed Subdivision and Level 2 Activity: River Street Invermay, Tamar Valley Dairy Supporting Submission. October 2010, Lester Franks
- Duttmer K (2010) Comments - draft EER 9 September 2010

1.2 Legislative Framework

Tasmania has a suite of legislation that is collectively known as the Resource Management and Planning System.

The legislation incorporates a common set of objectives based on sustainable development. The key components of this system that this project may activate are:

- Environmental Management and Pollution Control Act 1994
- Land Use Planning and Approvals Act 1993
- Resource Management and Planning Appeal Tribunal Act 1993
- State Policies and Projects Act 1993
- Threatened Species Protection Act 1995
- Historic Cultural Heritage Act 1995
- Aboriginal Relics Act 1975

1.3 Proponent Information

1.3.1 Company Profile

TVD is a family operated company employing Tasmanians and specialising in the production of probiotic yoghurts and cultured milk drinks. Wholly Tasmanian owned and operated, the company supports local industries and relies on Tasmanian grown produce for ingredients.

TVD is the only Tasmanian company exporting yoghurt to mainland Australia.

Since establishment in 1996, TVD has grown to become one of the market leaders in yoghurt production, supplying the major supermarket chains (Woolworths and Coles) and the independent supermarkets. The company's long term plans are to become national market leaders in the probiotic market.

TVD currently operate in Montague Street Invermay, however TVD have recently secured supplier contracts in a number of mainland markets and require a larger, more modern premise to fulfill these contracts.

¹ This document was provided to the EPA by TVD in November 2010.
1.3.2 Key Personnel

Name: Mr Guaraci (Archie) Matteo  
Position: Managing Director  
Company: Tamar Valley Dairy Pty Ltd  
A.C.N.  060 294 144  
Email: gmatteo@tamarvalleydairy.com.au  
Postal Address: 27 Montague Street Invermay, Launceston, Tasmania 7248  
Telephone: 03 6334 7220  
Mobile: 0418 511 258  
Fax: 03 6334 7981

2. Project Description

2.1 General Description

Archie Matteo and TVD propose to relocate an existing yoghurt production factory to 1 River Street in Invermay. The relocation is required to construct a larger modern premise, to fulfil supplier contracts.

A consolidation and subdivision of two titles is also proposed to accommodate the proposed factory on 1 River Street.

TVD will utilise existing supplier contracts with National Dairy Foods in Burnie and the existing employee base. The new factory will provide an opportunity for additional employees.

The factory will produce 34 tonnes of yogurt per day, with no substantial seasonal variation in production. The increase in production will be achieved by using storage silos for milk and large cool stores to store finished products.

The construction timeframe for the new facility is 6 months following the receipt of all approvals. Production is anticipated to commence in the new financial year.

2.2 Site Selection

TVD have been gradually increasing production since inception and as the business became successful. The current site in Montague Street has reached its operational capacity prompting a move to a more suitable site and allows TVD to fulfil supplier requirements.

TVD have been actively investigating an appropriate site for the relocation of the factory for over two years.

Sites from Elizabeth Town to Turners Beach have been assessed, with feasibility analysis concluding the sites are deemed not appropriate as they do not meet strict selection criteria.
Broadly, the site selection criteria for TVD are:

- The site is greater > 1 ha to accommodate the factory, parking and site access.
- The site has access to gas, water and sewer of sufficient capacity to meets TVD’s requirements.
- The site is located sufficient distance from sensitive receptors.
- The site is located within an industrial setting and appropriately zoned (subject to planning approval).
- The site is located close to the Tamar Valley to enable the company to continue trading as Tamar Valley Dairy. This is the key requirement which primarily excluded sites outside from Elizabeth Town to Turners Beach.

TVD did look closely at a site in Westbury, however following consultation with Ben Lomond Water, TVD were unable to discharge liquid waste to the sewerage system, as the existing treatment facility did not have sufficient capacity. In addition, a number of production staff indicated they would not travel to Westbury each day for work due to the distance.

This is the preferred location as it has all the attributes required for the operation of the factory. TVD will upgrade the sewer and gas connection to suit specific factory requirements.

Launceston has always been the preferred location for the new factory as it is close to existing suppliers and the Tamar Valley. Potential sites at Connector Park and Killifardy were investigated, but issues around zoning for a Level 2 activity and proximity to sensitive receptors were the primary reasons these sites were not progressed, as these issues could not be overcome.

1 River Street will enable TVD to maintain existing staff, which are unlikely to travel to a factory outside of Launceston. The flat, vacant site enables the factory to be easily constructed and the surrounding road network facilitates B double access to and from the site.

While 1 River Street is within the flood zone, TVD’s existing site in Montague Street is also in the flood zone and TVD are comfortable with the risks associated with operating a business in such a zone. Flood modelling indicates the factory will not be impacted by a 1 in 100 year flood due to the finished floor level.

### 2.3 Main Features of the Proposed Factory

The proposed development will have the following features:

- The total area of 1 River Street is 14,148 m².
- The floor area of the factory will be 4,572 m² including manufacturing area, cool stores, packaging area, plant/workshop area and administration area.
- Two milk tankers will deliver milk to the site each week (approximate).
- Two semi trailers will pick up manufactured product from the site each week.
- Two semi trailers will deliver packaging and flavours each week.
- 63 car parks will be provided for staff, contractors and visitors.
- Traffic movements will utilize the existing B double approved route along Invermay Road > Forster Street > Murphy Street > River Road.
- The factory will process 60,000 L of milk per 8 hour day. Milk will be sourced from National Dairy Foods in Burnie.
• Normal operating hours are 0630 - 1830 Monday to Friday for the majority of staff. Two staff commence primary production at 0330. Occasional weekend work may be required to fulfil commercial requirements (on an ad-hoc basis).

• The main features of the factory will be:
  − Warehouse/dry store
  − Manufacturing area
  − Cool store
  − Boiler
  − Staff amenities/administration area

• The manufacturing area will consist of:
  − Ultra-filtration plant
  − Pasteurizing and Homogenizing plant
  − Cold Storage Milk Silos
  − Milk Separator
  − Incubation vats
  − Five packaging machines

2.4 Summary of the Production Process

Fresh milk is currently purchased from National Foods Dairy in Burnie and held in refrigerated silos on site at 2 degrees centigrade until required.

The milk is processed through an ultra-filtration plant to increase the solid content then it is pre-heated in 7,500 litre vats to 30 degrees centigrade. It is then enriched with milk powder (7 kg per 100 litres of milk) to raise the protein level and solid content (milk is naturally 85% water, 15% cream and other solids - yoghurt manufacture requires solid content of at least 20%).

Milk is homogenised at 65 degrees centigrade, which reduces the size of the fat molecules and removes their ability to float (i.e. the fat molecules remain suspended in the milk).

The milk is heated to 90 degrees centigrade and held at this temperature for five minutes allowing proteins to expand and bind the milk/protein together.

Milk is then cooled to 39 degrees centigrade and cultures (mixed commercial strain concentrated freeze dried bacteria) are added during transfer to incubation vats (3,500 L) where the milk is stored for twelve hours at 39 degrees centigrade. This allows the cultures to multiply and grow, transforming the natural sugar in the milk into lactic acid, which gives yoghurt its acidity.

Once the correct level of acidity is reached (pH 4.5) the product is run through a Tubular Heat Exchanger and cooled to 18 degrees centigrade before being transferred to storage vats prior to pumping into mixing vats.

Flavours are added into the mixing vats and the combinations of yoghurt and flavour are pumped into the filling hoppers and from there into the required package sizes.

Product is then stored in chillers ready for dispatch in refrigerated trucks.
2.5 Project Location and Site Plans
The proposed facility will be located in Invermay, close to the Launceston CBD. The new development will be located approximately 500 m from the existing factory.

Invermay is located north of the Launceston CBD, east of the Tamar River, as indicated in Appendix A. The proposed development will be located at 1 River Street in Invermay as shown in the Lot Plan provided in Appendix B.

1 River Street is currently comprised of on two titles (FR 136579/2 and FR 136819/1). In order to accommodate the proposed factory, the aforementioned titles will be consolidated and re-subdivide into two lots (as provided in Appendix B). The TVD factory is proposed for the future Lot 2.

1 River Street is located within an existing industrial area currently used by Southern Marine Shiplift, Veolia Environmental Services and Origin Energy. The location of these existing activities in relation to the proposed TVD facility, is provided in Appendix C.

Finalised design drawings of the proposed development including floor plans, site plans, vegetation plans and drainage plans are included in Appendix D.

The site is currently vacant with no buildings or structures, trees, vegetation, waterways or other watercourses.

2.6 Site Access
TVD have arranged for a site access to 1 River Street to be established via the undeveloped portion of River Street continuing to Lot 1.

Lot 2 will rely on a right of way access across the north-eastern portion of Lot 1.

3. Existing Environment

3.1 Land Owner & Title Information
The legal owner of the titles is Acacia Expeditions Pty Ltd and Leslie Walter Dick. The name on the titles is Veronica Griffiths.

The title document is held at the offices of Rae and Partners in Launceston.

There is an oral in principal agreement between TVD and Acacia Expeditions Pty Ltd and Leslie Walter Dick that Mr Dick will sell all necessary land to TVD to facilitate the TVD development.

The proposed development will consolidate two existing parcels of land and subdivide to facilitate the development of the yoghurt factory.

3.2 Topography
The site is generally flat, with slight undulations consistent with the placement of fill material over the years.

The site is approximately 3.6 m AHD.

The Launceston City Council earthen levee bank borders the eastern part of the site and will not be disturbed during the construction or operation of the factory.

2 Courtesy of Mark O’Brien, Principal, Camerons. 26 November 2010 (pers comm)
3.3 Geology

The local geology is referred to as ‘QHIV’ and refers to the following:

*Estuarine deposits of clayey silt, silt, sand and subordinate gravel, suprastuarine swamp and laterally derived alluvial deposits, unmapped man-made deposits including silt dredgings; in environments inferred to lie above frequent tidal influence.*

Site observations in and around the site indicate the geological mapping to be correct.

3.4 Soils

**General**

The site has been historically filled by the former owner(s) with soil and general inert rubble. The depth of fill material is approximately 3 m above the ‘natural’ ground level of 0.0 m AHD and the current ground level has been recently surveyed at 3.6 m AHD.

Due to the unsecured access, the site has also been subject to some fly tipping of concrete and small amounts of steel. The owner has diligently removed this illegal material to the local municipal landfill. The fly tipping did not result in any soil contamination.

**Coastal Acid Sulphate Soils (ASS)**

ASS have been recently investigated by the State Government\(^3\) and the site is classified as high probability of having ASS in the upper 1 m AHD. The classification refers to the ‘risk’ associated from geological maps. The ‘risk’ does not clarify if ASS is actually present on the site, the extent to which ASS exists, its severity, magnitude or vertical distribution.

The location of the ASS (nominally upper 1 m AHD) is likely to be at least 2.6 m below current ground level, due to the 3.6 m of fill brought on site. The depth of the ASS is outside the ‘zone’ where soil will be intercepted and excavated during the installation of site services and structural piles. Further filling prior to construction will raise the ground level to 4.0 m.

ASS runoff can adversely impact the environment if the risks are not properly managed. At this particular site, the runoff could impact on the Tamar River, particularly fish and aquatic vegetation and generally reduce the water quality for users of the Tamar River. It is widely accepted water quality in the Tamar River is poor due to historical uncontrolled inputs, with further information provided in Section 3.8.2 below.

ASS runoff has the potential mobilise heavy metals present in the soil and the metals cause further environmental nuisance or harm to aquatic environments, riparian vegetation and reducing overall aesthetics. ASS run off can also damage infrastructure and reticulated services (e.g. pipes, foundations etc) reducing integrity and may cause secondary environmental harm if the pipes leak (e.g. sewerage).

Despite the risks associated with ASS at the site, there have been relatively few documented environmental issues from disturbing ASS in the Invermay area. Large developments in the vicinity of the site associated with the Launceston Levees have not identified any ASS at minus 2 m AHD. No ASS runoff has been observed from stockpiles observed during construction and no discoloured water with ‘ASS sheen’ has been observed in excavation pits.

3.5 Land Capability

Land Capability classification and mapping of the Tamar Basin, completed by the State Government\(^4\), has classified the site as Class 6.

Class 6 land is described as:

*Land marginally suitable for grazing because of severe limitations. This land has low levels of production, high risk of erosion, low natural fertility or other limitations that severely restrict agricultural use.*

3.6 Land Use

The dominant land use immediately adjacent to 1 River Street is industrial to east, south and north. The Tamar River is adjacent to the western boundary of the site. The Launceston City Council sediment detention ponds are located immediately north of 1 River Street.

Examples of industrial uses around the site include Origin Energy, Veolia Waste Management and Southern Marine Shiplift.

A summary of sensitive land uses is provided in Table 4 below:

**Table 4: Land use around 1 River Street**

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Straight Line Distance from Site</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>East 0.45 km</td>
<td>-</td>
</tr>
<tr>
<td>Residential</td>
<td>West 0.46 km</td>
<td>Across Tamar River</td>
</tr>
<tr>
<td>Invermay Primary School</td>
<td>East 0.83 km</td>
<td>Across the East Tamar Highway</td>
</tr>
<tr>
<td>Australian Maritime College</td>
<td>North East 2.7 km</td>
<td>-</td>
</tr>
<tr>
<td>University of Tasmania</td>
<td>North East 2.8 km</td>
<td>-</td>
</tr>
<tr>
<td>York Park</td>
<td>East 1.4 km</td>
<td>-</td>
</tr>
<tr>
<td>Launceston General Hospital</td>
<td>South East 3.23 km</td>
<td>-</td>
</tr>
</tbody>
</table>

3.7 Flood Risk

Lester Franks have investigated the flood risk issue and prepared a supporting document included in Appendix E (refer Page 15 onwards).

The proposed use and development is not contrary to the purpose of the Invermay/Inveresk Flood Inundation Area. The proposal will facilitate a non-residential development at the site.

The 1 in 100 year flood level has been predicated to affect sites below 3.25 metres Australian Height Datum (AHD). Flood modelling undertaken by Lester Franks using site survey data indicates that the site will remain unaffected by a 1 in 100 year flood event as the current level of the site is 3.6 m AHD and the site will have a finished floor level of 4.2 m AHD.

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Further, Tamar Valley Dairy already operates their existing yoghurt factory within the Flood Inundation Area, in Montagu Street. This proposal is therefore a relocation of an existing industry within the same precinct.

### 3.8 Drainage and Estuarine Water Quality

#### 3.8.1 Drainage

The existing topography establishes a drainage line to the Tamar River, which then flows north to Bass Strait.

No constructed drains, stormwater, wetland or estuaries are known to exist on site.

#### 3.8.2 Water Quality

No specific water quality investigations have been completed near 1 River Street, however Edgar et al (1999)\(^5\) documented water quality in the Tamar with the following conclusions:

- The Tamar is classified as ‘Class A - Critical Cultural Significance’
- The estuary is moderately impacted from urban and agricultural run off, sewerage and industrial discharges and indirect impacts from mine drainage.
- Water quality is poor with elevated levels of heavy metals, coliforms and nutrient levels, consistent with known historical discharges.
- Historical inputs have contaminated the river sediments and introduced marine pests to further reduce marine, aesthetic and recreational values.

### 3.9 Groundwater

Little information exists regarding groundwater productivity and chemistry around 1 River Street and the Launceston CBD.

A search of the Mineral Resources Tasmania TIGER database\(^6\) did not identify any groundwater bores within 3 km of 1 River Street.

### 3.10 Conservation Areas

The Tamar River Conservation Area (TRCA) is bounded by St Leonards in the south and the Batman Bridge in the north (approximately). The map provided in Appendix F identifies the proposed development is outside the TRCA.

No RAMSAR sites are located within the TRCA or near 1 River Street.

### 3.11 Marine Reserves

The site does not form an entire or part Marine Reserve under the *Nature Conservation Act 2002*.

### 3.12 Botanical Values

Bushways Pty Ltd (Bushways) completed a flora/Fauna survey in January 2011. The letter report summarising the site investigation is included in Appendix G.

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\(^5\) Edgar, G.J., Barrett, N.S. and Graddon, D.J. 1999, *A classification of Tasmanian estuaries and assessment of their conservation significance using ecological and physical attributes, population and land use*, Tasmanian Aquaculture and Fisheries Institute, University of Tasmania, Tasmania.

Bushways identified a small population of *Calystegia sepium* (Great bindweed) on the proposed lot 2, adjacent to the boundary with the Crown Esplanade. The population is present in a distinct patch approximately 16 x 12 m with 40% coverage in this patch.

The *Calystegia sepium* is listed as Rare under the Threatened Species Protection Act 1995.

A small population of *Rubus fruticosus* (Blackberry – a declared weed under Tasmania’s *Weed Management Act 1999*) and agricultural broad leaf weeds (including turnip weed, dandelion, thistle and fog grass) were observed on proposed Lot 2.

Landowners are obliged to manage declared weeds according to their statutory management plans, which are to be implemented under specific requirements for Zone A and Zone B municipalities.

Launceston is a Zone B municipality where Blackberry is widespread and containment is the most appropriate management objective.

No threatened fauna habitat was observed on the site.

### 3.13 Aboriginal Heritage

An Aboriginal heritage survey of the area has not been undertaken because the area has been subjected to significant landscape modification/filling and highly disturbed by past land uses.

TVD submitted a Tasmanian Aboriginal Site Index (TASI) Access Form to Aboriginal Heritage Tasmania (AHT) on 12 January 2011 to identify the likelihood of sites of Confirmed or Potential Aboriginal Significance (PAS) on or near the site. The TASI submission is contained in Appendix H.

AHT responded on 31 January 2011 and advised there are no Aboriginal heritage sites recorded within or near the property. AHT concluded that the area has been highly disturbed and the site has a low probability of Aboriginal heritage being present.

AHT have no requirement for further more intensive Aboriginal heritage investigations and have no objection to the project proceeding.

### 3.14 European Heritage

An European heritage survey of the area has not been undertaken because the area has been subjected to significant landscape modification and filling from the Tamar River dredging over many decades and has also been highly disturbed by past land uses.

No European heritage values were identified in records held in The Tasmanian Heritage Register or Australian Heritage Register (search conducted 30 November 2011) 1 River Street. A site specific investigation was deemed unnecessary based on these results.

### 3.15 Noise

Detailed noise modelling at the 1 River Street site has not been undertaken as it was deemed unnecessary due to the industrial nature of the site and surrounding land uses.

Measurements of ambient noise levels from the existing operation in Montague Street and 1 River Street were collected by TVD on 12 January 2011 using a Top Tronic Decibel sound reader (model T8209 serial number 06061300114). A summary of these results is discussed below.
Existing Operation in Montague Site

A summary of the measurements obtained from the current facility are contained in Table 4 below and the full report, including a floor plan identifying survey locations, is provided in Appendix I.

The ‘Reading (dBA)’ in Table 4 refers to the range of noise emissions measured during the survey in each location.

Emissions from the current operation are deemed to be an appropriate guide for noise emissions at 1 River Street as the existing manufacturing equipment will be relocated to 1 River Street.

Noise measurements beyond the boundary of the existing site were unable to be obtained, as the site is surrounded by other light industrial land uses.

Table 4: Noise Survey from Existing Operation in Montague Street, Invermay

<table>
<thead>
<tr>
<th>Time</th>
<th>Site</th>
<th>Description</th>
<th>Reading (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>Packaging 1</td>
<td>Near tape machine</td>
<td>78-86</td>
</tr>
<tr>
<td>10:15</td>
<td>Packaging 2</td>
<td>Packaging</td>
<td>82-85</td>
</tr>
<tr>
<td>10:25</td>
<td>Packaging 3</td>
<td>Not running</td>
<td>72-81</td>
</tr>
<tr>
<td>10:30</td>
<td>Warehouse</td>
<td>Electric forklift operating</td>
<td>72-81</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Site</th>
<th>Description</th>
<th>Reading (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:50</td>
<td>Centre of room</td>
<td>During processing</td>
<td>78-95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Site</th>
<th>Description</th>
<th>Reading (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:45</td>
<td>Outside North</td>
<td>5 m from building</td>
<td>78-82</td>
</tr>
<tr>
<td>10:55</td>
<td>Outside North</td>
<td>10 m from building</td>
<td>78-82</td>
</tr>
<tr>
<td>11:00</td>
<td>Outside North</td>
<td>15 m from building (cars on Montague Road)</td>
<td>78-85</td>
</tr>
<tr>
<td>11:10</td>
<td>Outside South</td>
<td>5 m from building</td>
<td>78-82</td>
</tr>
<tr>
<td>11:15</td>
<td>Outside South</td>
<td>10 m from building</td>
<td>78-82</td>
</tr>
<tr>
<td>11:20</td>
<td>Outside South</td>
<td>15 m from building (cars on Montague Road)</td>
<td>78-82</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Site</th>
<th>Description</th>
<th>Reading (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:35</td>
<td>Boiler Room</td>
<td>Boiler operating</td>
<td>80-90</td>
</tr>
</tbody>
</table>

* The production process requires the boiler to be operating from 0400-1800 Monday - Friday.
1 River Street

Measurements of existing ambient noise levels from 4 locations on 1 River Street were obtained on 12 January 2011 by TVD. The measurements were obtained to gain an appreciation of the existing noise emissions from the surrounding industrial operations on River Street.

Background noise levels ranged from 65-72 dBA in the early afternoon. It was noted that there was lack of vehicle movements from the surrounding industrial sites during the survey, as such the background noise levels are slightly lower than would be normally expected.

3.16 Visual

The site is deemed to have low visual amenity and value to the community due to the historical filling undertaken on the site and its location within an established industrial area.

No large or visually prominent vegetation, trees or other natural features are located on site. No sites of high or cultural, scientific, aesthetic, architectural or historic significance are known to occur within 500 m of the site.

The Launceston City Council stormwater/silt management ponds immediately adjacent to the site, are likely to reduce the overall amenity of the surrounding area.

3.17 Social and Economic Values

It is anticipated the proposed development at 1 River Street will result in a number of social and economic values including but not limited to:

- Improvement in the land use at 1 River Street Invermay, to an adequately designed and landscaped industrial building consistent with the character of the local area.
- Consolidation of TVD yogurt production in the Tamar Valley and continued employment of 58 persons.
- Consolidation of supplier relationships with National Dairy Foods and local/mainland retail outlets.
- Provision of on-going job opportunities for the local community in both production and administrative roles.

The proposed development is likely to reduce:

- Illegal dumping (or ‘fly tipping’) of municipal waste on the site as access is currently uncontrolled.
- Uncontrolled discharges of sediments to the TRCA.
- The need for TVD to relocate outside of the Launceston Local Government Area to find a suitable site.

3.18 Network Utilities

1 River Street is located close to the existing sewer, stormwater, water and gas networks, all of which are of suitable size and quality for the proposed factory.

Preliminary investigations by TVD with utility owners indicate TVD can feasibly connect to the existing network. The public consultation section below provides further detail on discussions with network owners.
4. Environmental Impacts and Management

4.1 Topography

**Impact**

The proposed development will involve infilling the site (using sub base gravel) to a finished floor level of 4.2 m AHD (The existing level of the site is consistently 3.6 m AHD).

The sub base gravel will facilitate the construction of the post tensioned concrete slab forming the base of the factory.

**Management**

Infilling has been designed to the absolute minimum to comply with all relevant local and State government guidelines including flood risk inundation investigations and construction requirements.

Landscaping of disturbed areas will assist in reducing adverse impacts on local topography.

**Commitment**

*Commitment 1:* Impacts on site topography will be kept to the absolute minimum to achieve the proposed development and landscaping will rehabilitate affected areas.

4.2 Soils

**Impact**

ASS in any environment has the potential to cause adverse nuisance and harm to the surrounding environment, reduce the amenity of an environment and adversely impact underground infrastructure.

The construction methodology has been developed to only disturb the fill material (0.0 m AHD to 3.6 m AHD) during the installation of the structural elements and services on site.

1. **Structural Elements**

The project engineers have stated the factory will be constructed using wooden piles, driven into the ground, and then a post tensioned slab laid over the piles. A letter from the project engineers detailing the piling installation is provided in Appendix J and summarised below.

Pre construction piling tests by the project engineers and contractor on the site, indicate only 0.125 m$^3$ of fill will be disturbed from each piling location (0.5 m x 0.5 m x 0.5 m depth (or 3.1 m AHD) to facilitate the installation of each pile.

Prior to installing each wooden pile, a steel rod will be inserted into the pile location by an excavator, to a depth of 1.0 m AHD, to confirm no obstructions exist and the pile has a clear installation path.

If an obstruction is identified, the pile location will be shifted, with a construction tolerance of 1.5 m from the preferred location.
Once the installation path is confirmed, the wooden pile is lifted into location and driven into the soil using a 30 tonne excavator to 0 m AHD, then pushed into the ground using the 2.5 tonne pile driving unit. Ground conditions suggest the piles will terminate at approximately minus 15 m AHD depth (minimum) or until the desired load rating is achieved.

This methodology does not require soil at depth to be excavated, brought to the surface and exposed to oxygen leading to conditions where acid may be generated, causing potential environmental nuisance or harm to the surrounding environment.

Soil is displaced downwards and horizontally around the rod and wooden pile and retained at depth with little or no pathway for oxygen.

The *Tasmanian Acid Sulfate Soil Management Guidelines*, section 2, state:

*If the project will excavate 100 m$^3$ of soil or sediment, or will involve the dumping or filling of land with more than 500 m$^3$ of soil to a depth of greater than 0.5 m, then proceed with requirements of the guideline, otherwise no further consideration of ASS is required.*

The construction methodology, as proven in field tests and confirmed by qualified engineers, will disturb approximately 37.5 - 43.7 m$^3$ of material (approximately 300-350 piles x 0.125 m$^3$ per pile). As such, the volume of soil disturbed during installation of the piles is less than 100 m$^3$ contained in the guideline. As such further risk assessments, sampling and ASS management plans are unnecessary and have not been undertaken by TVD.

The soil excavated during installation of the piles will be spread over the site upon completion of all 300 piles.

2. **Services**

Services required for the factory (sewer, water, power) will be installed at a maximum depth of 2.2 m AHD. The excavation depth is within the zone of fill material (nominally 0.0-3.6 m AHD).

The excavation trench has little risk of intercepting ASS, as the ASS has been risk assessed to be at 0.0 m to 1.0 m AHD\(^7\).

**Management**

As no specific impacts have been identified, no specific management strategies have been developed.

Erosion and sediment controls will be established prior to works commencing and maintained as appropriate throughout the project to control sediment laden water and prevent uncontrolled discharges into the Tamar River.

**Commitment**

*Commitment 2:* Excavate soils down to maximum of 3.1 m AHD for the installation of structural piles.

*Commitment 3:* Excavate site soils down to a maximum depth of 2.2 m AHD for the installation of services.

\(^7\) [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au) using the coastal acid sulphate soils layer.
**Commitment 4:** No soil is to be removed from the construction site unless the soil has been appropriately sampled, analysed, classified and authorised.

### 4.3 Botanical Values

**Impact**

The construction and operation of the factory has the potential to adversely impact on the *Calystegia sepium* if construction materials and vehicles destroy the existing population or destroy potential habitat on proposed Lot 2.

The landscaping plan, particularly the plant species used, have potential to introduce invasive plants encouraging 'shading' or overcrowding and generally reducing the growing conditions suitable for the *Calystegia sepium*.

The *Rubus fruticosus* and other broad leaf weeds could establish on the remainder of the property or adjacent properties, if they are not removed and disposed of appropriately. Potential exists for plant and equipment to become carriers of *Rubus fruticosus* seeds, if appropriate washdown protocols are not established, implemented and maintained throughout the construction period.

**Management**

Management of the *Calystegia sepium* will be achieved by

- Establishing a temporary protective fence around the population, prior to construction and maintain the protective fence for the duration of construction. The fence prevents construction vehicles, plant and equipment from destroying the established population.

- Removing weeds (by hand) around the *Calystegia sepium* to maintain appropriate growing conditions. Ongoing weed control will also be needed.

- Encourage ongoing growth of the *Calystegia sepium* through considered landscaping discouraging overcrowding and unnecessary ‘shading’.

Management of *Rubus fruticosus* will be achieved by

- Remove existing *Rubus fruticosus* plants and dispose of appropriately.

- Implement washdown procedures in accordance with appropriate Zone B requirements.

Management of other weeds (turnip weed, dandelion, thistle and fog grass) will be achieved by:

- Hand weeding.

- Using herbicide sprays (Roundup Bioactive or Weedmaster Duo) where appropriate.

**Commitment**

*Commitment 5:* Establishing a temporary protective fence around the *Calystegia sepium* population, prior to construction.

*Commitment 6:* Remove known weeds (by hand) around the *Calystegia sepium* to maintain appropriate growing conditions.

*Commitment 7:* Remove existing *Rubus fruticosus* plants and dispose of appropriately.

*Commitment 8:* Implement washdown procedures in accordance with appropriate Zone B requirements to prevent *Rubus fruticosus* spreading.

*Commitment 9:* Use herbicide sprays and hand weeding to manage turnip weed, dandelion, thistle and fog grass.
4.4 Aboriginal and European Heritage

Impact

No Aboriginal or European Heritage values are known to exist on the site, however TVD recognise all Aboriginal and European heritage sites are non renewable and have high cultural significance for today’s community as they reinforce the communities connection with the local environment.

Management

As no specific Aboriginal or European heritage values have been identified on site, no specific management measures are required.

Commitment

Commitment 10: In the unlikely event any Aboriginal or European cultural material is identified during construction, all activity within 10 m of the artefact(s) will cease immediately and the appropriate heritage authority notified. TVD will then take guidance from the relevant authority.

4.5 Drainage and Water quality

Impact

The potential impacts can be split into the following phases:

1. During Construction

Soil disturbed during construction has the potential to adversely impact the Tamar River if run off from disturbed soil is not managed appropriately with erosion and sediment controls.

Due to the flat gradient of the site, any impacts from sediment laden water are expected to be minor.

2. Factory Operating

Impacts on drainage and water quality will be significantly reduced following the commissioning of the factory as all site surfaces will be landscaped with either concrete (e.g. car parks, perimeter access and loading docks) with site gardens rehabilitated, topsoiled and planted with native species to reduce the potential for uncontrolled discharges.

Site stormwater generated from the roof and exterior of site buildings will accumulate in a gross pollutants trap (GPT) then discharge into the Tamar River.

In the highly unlikely event milk is spilt during delivery, all milk will drain to the GPT and an alarm will sound notifying site operators of a spill incident. The GPT will contain spilt milk and prevent a discharge in the Tamar River then allow TVD to address the spill and clean up where necessary.

Milk is only delivered during daylight hours after 0830, when appropriate site personnel are on site and can respond appropriately.

Management

In accordance with Section 31 of the State Policy on Water Quality Management 1997 strategies should be implemented to prevent the pollution of waterways during land disturbance at both the construction and operational phase of the development.
The site is relatively flat, providing little opportunity to generate runoff, however it is recognised disturbed soil could generate runoff during rainfall events.

1. During Construction

A construction management plan (CMP) developed by TVD will be implemented prior to construction to prevent unnecessary discharges to the Tamar River. The CMP is included in Appendix K.

The CMP has been developed in consultation with Soil and Water Management on Large Building and Construction Sites (Fact Sheet 1, December 2008 NRM South) with the following features:

- A perimeter silt fence:
  - A ‘sure gro silt stop’ (or similar) silt fabric attached to 1.5 m star pickets using zip ties at 3 m spacing (or closer if required).
  - The silt fence will terminate 150 mm below ground to capture runoff and prevent ‘under cutting’ or ‘out flanking’.
  - Where lengths of silt fabric join, they will overlap by 2 m.

- Protection of Stormwater Connections:
  - Around the site stormwater sump 3 ‘sure gro filter socks’ (or similar) filled with scoria and sand will be secured in place to prevent untreated runoff entering the stormwater network and discharging into the Tamar River.
  - Where individual filter socks join, a minimum 300 mm overlap will occur.
  - If any material is stockpiled, a 400 mm (width) by 100 mm (depth) strip drain (nominal but subject to change dependent on site conditions) will be established around the stockpile to capture runoff.

- All controls will be maintained appropriately during construction and repairs carried out where required.

The CMP will be modified to incorporate changes in site activities which cannot be fully realised until construction commences.

All sedimentation controls will be removed following the completion of construction once all disturbed surfaces have stabilised and sufficiently revegetated.

2. During Normal Operations

Site stormwater from the exterior of the site i.e. roof drainage and car park, will be directed into an onsite gross pollutants trap to treat stormwater prior to it entering the Tamar River. Site drainage controls will be established during construction and are detailed in the Site Drainage and Services Plan - 12110-A10-A contained in Appendix L.

The main features of the drainage controls are:

- 300 mm PVC site stormwater pipes.
- Grated stormwater pits.
- Humes GPT on the western extent of the site receiving and treating site stormwater.
- Humes ‘King Flood’ gate where site stormwater enters the Tamar River to prevent high or king tides inundating the interceptor and releasing a ‘slug’ of pollutants (if any).

The interceptor and GPT will be maintained on an ‘as needed’ basis by TVD.
Commitment

Commitment 11: Implement and maintain the CMP during construction.

Commitment 12: Install an alarmed interceptor trap according to manufacturer’s instructions prior to commissioning and maintain as appropriate during normal site operations.

Commitment 13: Install a Humes ‘King Flood’ gate where site stormwater enters the Tamar River.

4.6 Visual

Impact
Construction of the factory will result in significant changes to the current visual landscape.

The factory will increase the visual appeal to surrounding site users and the Trevallyn suburb, through a properly designed and constructed building consistent with the character of the area. Construction and landscaping will establish native trees, bushes and grasses to complement the factory.

It is acknowledged potential exists for some short term negative visual impacts, caused by construction, to the Trevallyn residential area, users of the Trevallyn walking track and users of the Tamar River, although the construction is expected to be largely unnoticed by these parties as the crown esplanade contains a row of large trees (~ 4 m high) which will act as a visual shield.

Management
The design and landscaping of the factory will be seen against the backdrop of the existing industrial precinct with the design consistent with the character of the surrounding industrial area. Particular attention has been given to the exterior colours and cladding on the western side of the factory as this will be visible from the Trevallyn residential area.

Commitment
Commitment 14: Disturbed areas will be landscaped and rehabilitated as soon as practicable.

4.7 Noise

Impact
A noise survey of the existing factory in Montague Street was conducted on the 11th of January 2011. A series of spot readings were made internally and externally using a Top Tronic Decibel sound reader Model No T8209.

The results vary from 72 to 95 dB(A) within the factory. The external measurements, made at varying distances in front of the existing factory are between 78 and 85 dBA. The higher readings are mostly due to cars and other traffic on the road in front of the existing factory, as observed during the noise survey.

It was not possible to take external measurements behind the existing factory or on the side boundaries due to the close proximity of neighbouring buildings.
The boiler will be operated from approximately 0400 each day as it is a key component of the production cycle. While the noise emitted from the boiler is not considered to cause environmental nuisance or harm, the continuous low humming may lead to environmental nuisance or harm over time.

During normal operations, forklifts will be used for loading and unloading of product from delivery vehicles. The forklift is fitted with a reversing ‘beeper’ for health and safety reasons and over time, this could cause environmental nuisance and harm.

The new site is also located within an existing commercial/industrial area with noise sources from B double trucks, forklifts and static overhead gantry cranes.

Spot measurement of existing ambient noise levels at 1 River Street was made on 12 January 2011. The noise measurements varied between 65-72 dB(A), similar to the levels measured outside the existing factory in Montague Street.

Management
As no impacts have been identified, no specific management strategies have been developed because:

- There are no residences, schools, hospitals or other noise sensitive activities within 350 m of 1 River Street.
- The processing equipment from the existing factory will be relocated to the new factory resulting in similar, if not identical, noise emissions.
- The processing equipment, boiler and compressors will be located inside specially clad structures, to reduce noise emissions and only operated when absolutely required.
- The likely sources of noise will be located on the eastern site of the factory within, adjacent to the existing industrial area. A site layout plan is included in Appendix M identifying the location of the noise sources.
- During loading and unloading, trucks will park adjacent to the loading bay. Before product is loaded/unloaded and for hygiene reasons, a curtain is drawn from both sides of the loading bay to the rear of the truck. This curtain seals the loading bay to prevent vermin entering the loading bay and the factory and the curtain reduces the potential for noise attenuation to the surrounding environment.
- During milk delivery site speed will be strictly controlled (likely to be < 15 km / h) as such, engine breaking will not be required. During milk transmission to the silos, the trucks will only be idling.

As the factory is a food manufacturing premises, windows and doors are kept closed to prevent vermin entering the food manufacturing or processing areas, in accordance with strict health code regulations. This will assist the reduction of noise emissions to surrounding site users.

Commitment
Commitment 15: Clad boiler room and compressors to prevent noise emissions.

Commitment 16: Keep loading bay curtain and doors closed during loading and unloading.
4.8 Air Quality

Impact

There is some potential for impact on local air quality from dust and airborne particulates generated during construction and earthworks. This risk is greatest during periods of high winds, dry conditions and earthworks.

The gas fired boiler will generate an air discharge of approximately 0.235 m³ CO₂ or 9% of emissions. This assumes for every 1m³ of natural gas TVD will have 13.5m³ of emissions which typically will be 9% CO₂ and 20.9% O₂. These emissions are not expected to reduce local air quality or adversely impact on surrounding site users.

Nitrogen oxides emissions have the potential to cause respiratory problems (e.g. asthma) and may contribute to reducing visibility (e.g. haze). Nitrogen oxides is a greenhouse gas and can contribute to climate change, although the operation of the boiler at TVD will be insignificant.

The manufacturing of yoghurt is a very clean operation with little or no detectable odours. All products are manufactured and stored at temperatures to maintain the integrity of the product suitable for commercial sale.

No ‘sweet’ odours are generated which have the potential to be offensive, objectionable or extend beyond the boundary of the factory in the long term.

TVD have not received any odour complaints from the existing facility in Montague Street since manufacturing commenced over 10 years ago.

Management

During construction appropriate measures will be implemented to prevent particulate discharges. The construction methodology has been developed which minimises the volume of soil disturbed as the structural posts will be pile driven. The site is already flat, no levelling will be required to facilitate the concrete slab or asphalt for the car park.

Dust will be managed during construction by watering the site to prevent dust discharges and suspending pile driving during periods of high winds. Vehicle speed on the site will be limited to 8 km/h to reduce emissions.

The gas fired boiler will be installed and operated in accordance with Workplace Standards Legislation, primarily the Gas Act 2000. The boiler will be commissioned by an appropriately qualified person and an Acceptance of a Complex Gas Installation Type B Appliance certificate will be sought from Workplace Standards Tasmania prior to use.

Ablaze Engineering 9or similar) will routinely maintain the boiler and all associated fittings to ensure the boiler operates effectively and efficiently to reduce the potential for environmental nuisance or harm to employees and surrounding site users.

Commitment

Commitment 17: Implement dust suppression strategies during construction when the site experiences high winds.

Commitment 18: Maintain the boiler appropriately to ensure optimal operating efficiency to reduce potential for environmental nuisance and harm.
4.9 Liquid Waste

*Impact*

TVD will generate liquid waste from the following sources:

- Staff amenities (toilets, wash basins, common areas, etc)
- Vat
- Cleaning and wash down operations inside the factory
- Residual milk from the storage silos

No waste milk is discharged to the sewer. All milk is tested by TVD and National Foods when the tanker arrives and prior to TVD accepting the milk.

The tests are undertaken to ensure the milk is appropriate for use in yoghurt. If tests indicate the milk is not appropriate, TVD reject the milk delivery before milk is pumped into the storage silo and the tanker returns to the National Food base in Burnie.

TVD rinse all manufacturing equipment daily prior to use, in accordance with food health and safety guidelines (FHS). This rinse water will be discharged to the sewer via an internal strip drain inside the manufacturing area.

The manufacturing equipment is cleaned with hot water containing caustic soda. Where FHS regulations permit, this hot wash water is recycled and used for the rinse wash the following day, to reduce the volume of water discharged to sewer.

Manufacturing equipment is washed for a second time with cold water to remove residual caustic soda. This cold wash water is discharged to the sewer (in accordance with FHS regulations) and any subsequent washes are recycled and used for the following day.

The anticipated water consumption for the site is 60,000 L per week, with approximately 15,000 L recycled for secondary use (where permitted).

TVD have negotiated a Trade Waste Agreement (TWA) with Ben Lomond Water (BLW) to discharge all liquid waste generated on site to the sewerage network. TVD estimate 15,000 L will be discharged daily. No liquid waste generated inside the factory will discharge to the Tamar River.

The Water and Sewer Industry (General) Regulations 2009, Schedule 3, contains Local and General Acceptance Criteria for the discharge of liquid waste to the Ben Lomond maintained sewer network. The criteria are contained in Table 5.

Also included in Table 5 is the average contaminant discharge from the existing TVD operation. The monitoring data was collected by TVD in conjunction with BLW to gain an appreciation of the pollutant load and assist BLW develop appropriate TWA conditions.

Despite the increase in the quantity of yoghurt produced, the manufacturing process is the same. As such, TVD are confident the pollutant composition of the liquid waste will not change.
TVD have completed consultation with Scott James of BLW and BLW have confirmed they will accept all liquid waste generated by TVD. The composition of the liquid effluent is below the Acceptance Criteria and can be sufficiently treated by the Ti Tree Bend Wastewater Treatment Plant. BLW accept that the liquid waste is high volume but low contaminant concentration and low risk of adversely affecting the sewerage infrastructure or compromising Ti Tree Bend discharge license criteria.

**Management**

No specific management measures are deemed appropriate as all wastes can be adequately discharged to the sewer for appropriate treatment and there will be no discharge of factory waste to the Tamar River.

BLW have indicated the Trade Waste Agreement (TWA) with TVD will contain an appropriate sampling regime to ensure the quality of the waste entering the BLW network complies with the TWA and will not harm sewer infrastructure.

BLW have indicated they will monitor discharges from TVD into the sewerage network.

**Commitment**

Commitment 19: Any spills will be cleaned up as appropriate and, if required, TVD will notify Workplace Standards Tasmania (WST), Environment Protection Authority (EPA) and Launceston City Council. BLW will be notified if spills enter their network.

4.10 Solid Waste

**Impact**

Solid waste generated by TVD includes cardboard, packaging material, plastics and other miscellaneous items. These items have the potential to become unsightly in large volumes, attract and become a nuisance to neighbours if windblown and not disposed of appropriately.

No waste generated by manufacturing operations is defined as controlled wastes under National Environment Protection (Movement of Controlled Waste between States and Territories) Measure as varied December 2004.

**Management**

All solid waste will be collected and stored on site appropriately where it does not become a nuisance to site users or surrounding properties.

---

8 Water and Sewer Industry (General) Regulations 2009, Schedule 3.
Commitment

Commitment 20: Separate all solid waste as it is generated and recycle as much as possible.

Commitment 21: Store solid waste in lidded waste bins.

Commitment 22: In the unlikely event that any hazardous solid waste materials require disposal, appropriate authorities will be notified and guidance sort to ensure suitable protocols are followed.

4.11 Marine Areas

Impact
TVD will have little or negligible no impact on Marine Areas. The greatest risk to the Marine Area will be during construction with the potential for sediment laden water to enter the Tamar River.

Section 4.5 addresses risks associated during construction.

4.12 Cleaning Chemicals

Impact
Chemicals will be stored inside the factory on the production equipment and in the staff amenities area. Typical chemicals permitted by food handling legislation include caustic soda, detergents and sanitisers.

A summary of the chemicals used by TVD is provided below in Table 6 and the Material Safety Data Sheets (MSDS) are included in Appendix N.

Table 6: Summary of Chemicals Used

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Common Name</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVOID</td>
<td>Sodium Hydroxide Solution</td>
<td>Heavy Duty Cleaner</td>
</tr>
<tr>
<td>SUPER STONEKLEEN</td>
<td>Nitric Acid</td>
<td>Heavy Duty Cleaner</td>
</tr>
<tr>
<td>OXINA ACTIVE</td>
<td>Hydrogen Peroxide and Peroxyacetic Acid Mixture</td>
<td>Sanitiser</td>
</tr>
</tbody>
</table>

The chemicals have the potential to cause significant harm to employees, manufacturing equipment and the environment if not properly handled, used and stored. Risks include fire, burns and respiratory issues in addition to adversely impacting the Tamar River through spills or uncontrolled discharges.

Management
All chemicals are kept in a lockable storage cabinet with sufficient bunding to prevent and contain spills and leaks.

Copies of Material Safety Data Sheets (MSDS) of all chemicals are kept near the chemical storage area and consulted if required.

Only trained staff are allowed to use chemicals. Use is required in accordance with all training and manufacturer’s instructions.

Suitable measuring and dispensing equipment is used to ensure appropriate volumes are used and to minimise spillage from overfilling.
All cleaning chemicals are stored in appropriately labelled containers to ensure the contents can be easily identified.

All cleaning is undertaken in accordance with Tamar Valley Dairy Food Safety Management System (FSMS) Document No FS1300 Good Manufacturing Practices for Cleaning and Sanitation Procedures. This document is attached in Appendix O.

In the event of an accidental spill, the production area manager is notified and on site spill kits are used to contain and clean up the spill. All contaminated cleaning products are disposed of appropriately, if necessary, in conjunction with appropriate authorities. As internal drainage is connected to the sewer, there will be no danger of accidental discharge to the Tamar River.

All milk silos are located within a perimeter bund (200 mm high) and the bund connected to the sewer to prevent any spillage into the perimeter stormwater system.

Commitment
Commitment 23: Store chemicals in a secure, bunded storage room.
Commitment 24: Maintain up to date copies of all relevant MSDS.

4.13 Traffic

Impact
The relocation of TVD is expected to have little impact on existing traffic volumes in the area. The existing road network around the site is currently used by large vehicles associated with Veolia and Origin Energy.

There is no requirement to use street parking or unnecessarily obstruct River Road from other site users. Sufficient visitor and disabled parking will be accommodated on site.

Projected traffic movements associated with TVD per day are (assuming all employees drive a vehicle to work each day):

**Daily – Monday - Friday**
- 2 vehicles enter at 0300
- 20 vehicles enter at 0600
- 15 vehicles enter at 0700
- 10 vehicles enter at 0900
- 5 vehicles enter at 1000
- 2 vehicles exit at 1130
- 5 vehicles enter at 1200
- 6 vehicles enter at 1400
- 20 vehicles exit at 1430
- 15 vehicles exit at 1530
- 10 vehicles exit at 1730
- Remaining vehicles exit at 1830
**Weekly – Monday - Friday**

- Approximately 6 service deliveries will occur each week. Service deliveries are associated with milk delivery (2 x per week), finished product pick up (3 x per week) and delivery of packaging and flavours etc (2 x per week).

A number of employees live close to River Street and have indicated they will either walk to work or ride a bicycle (weather permitting) with car pooling accounting for 6 administration staff starting at 0900.

All traffic will use the existing road network comprising Invermay Road > Forster Street > Murphy Street > River Road. This road network is classified as suitable for ‘B Double’ vehicles, and as such is suitable for the Milk Truck delivery with no changes to the road network required to facilitate site access e.g. sight distances, road layout.

19 m semi trailers will deliver product to the site, entering from the NE corner of the site and driving to park on the western side of the factory. Trucks will then continue around to the eastern side of the factory before exiting the site again in the NE corner.

The site layout has sufficient onsite parking to accommodate 1 milk tanker and 1 semi trailer at a time and all staff parking (63 car spaces will be developed). A Parking and Traffic Plan is included in Appendix P.

TVD consulted LCC regarding potential traffic impacts from the proposed activity, on the nominated road network and its existing users.

LCC did not require a Traffic Impact Assessment (TIA) to be completed as they were satisfied the existing road network, including turning areas, sight distances and road layout, could safely accommodate the traffic movements associated with TVD while not adversely impacting on existing road users (H Galea of LCC and Archie Matteo of TVD pers comm).

In addition, the factory has sufficient storage to store finished products in large cool stores. This reduces the frequency of semi trailer movements to and from the site to those absolutely required.

**Management**

As no specific impacts have been identified, no specific management measures are deemed appropriate.

### 4.14 Sustainability and Climate Change

**Impact**

TVD have the potential to adversely impact and climate change through the consumption of power and water during normal factory operations, generation of liquid and solid waste during processing, consumption of diesel through of milk, finished product and raw materials and natural gas in the boiler.

TVD accept the consumption power, water and gas is unavoidable to ensure raw material and finished product are heated and cooled as required and water is a necessary requirement to the cleaning process to facilitate compliance with appropriate FHS regulations.

Carbon Dioxide emissions will be generated by the gas fired boiler, however they are expected to be relatively low and intermittent.
Management

TVD are committed to increasing the sustainability of their operations by incorporating the following features into the new site:

- Reducing water consumption to volumes absolutely necessary to satisfy FSH guidelines
- Reusing 25% of water for wash and rinse cycles of manufacturing equipment (where permitted)
- Using cold water for wash and rinse cycles to reduce energy dependence and consumption
- Separating and recycling all solid waste generated on site
- Using recyclable yoghurt containers to increase the sustainability of the product
- TVD will continue to donate damaged yoghurt containers (i.e. those unsuitable for retail sale) to local schools and kindergartens for paint containers and minimise the generation of solid waste
- Long life tube lighting and light bulbs will be used in manufacturing areas to reduce power consumption
- The building design and construction will utilise natural light in administration and amenity areas to reduce lighting and heating requirements in these areas.

The design of the factory has maximised the storage capacity for raw materials (i.e. milk and flavours) and finished product (i.e. flavoured yoghurt). This storage capacity reduces the transport requirements to and from the site and associated greenhouse gas emissions from semi trailer movements.

TVD only use reputable transport contractors who maintain transport vehicles to the highest standard to reduce greenhouse emissions.

4.15 Rehabilitation

Impact

The site will be disturbed during construction to facilitate the installation of the structural elements of the factory. This will result in short term disturbance of the site.

No significant flora or fauna will be disturbed as these features do not exist on site. The Great Bindiweed will be disturbed, with management methods provided above.

Management

Landscape Planting

Landscape planting will occur on 1,552m² or 13% of the site. The planting will be progressively undertaken to rehabilitate and stabilise disturbed areas and improve site aesthetics.

Species used for rehabilitation are summarised in Table 7 below and a rehabilitation plan provided in Appendix Q.
Table 7: Rehabilitation Species and Planting Locations

<table>
<thead>
<tr>
<th>Species</th>
<th>Size (h x d in meters)</th>
<th>Description</th>
<th>Location</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evergreen Alder</td>
<td>10 x 5</td>
<td>Evergreen Tree</td>
<td>South and West side of site</td>
<td>24</td>
</tr>
<tr>
<td>Pepermint Eucalyptus</td>
<td>6 x 4</td>
<td>Tree</td>
<td>South and West side of site</td>
<td>8</td>
</tr>
<tr>
<td>Phormium Storm Edition</td>
<td>1.2 0.6</td>
<td>Grass</td>
<td>Site coverage as appropriate</td>
<td>71</td>
</tr>
<tr>
<td>Phormium Jester &amp;</td>
<td>0.6 x 1.0</td>
<td>Grass</td>
<td>Site coverage as appropriate</td>
<td>74</td>
</tr>
<tr>
<td>Phormium Tri-Colour</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra longifolia,</td>
<td>0.3-0.6 x 0.4</td>
<td>Grass</td>
<td>Site coverage as appropriate</td>
<td>82</td>
</tr>
<tr>
<td>Dianella tasmanica,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diplarena moreae</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Commitment

Commitment 25: Undertake progressive rehabilitation of disturbed areas as necessary, including short term rehabilitation (e.g. mulch) if necessary.

Commitment 26: Implement rehabilitation planting and landscaping in a timely manner in accordance with the Landscaping Plan (unless otherwise notified).

4.16 Planning

TVD in association with Lester Franks have developed the planning approval document, suitable for submission to Launceston City Council. This document is attached in Appendix E.
## 5. Project Consultation

A summary of consultation completed by TVD is completed below in Table 6.

### Table 6: Summary of Consultation

<table>
<thead>
<tr>
<th>Key Issue</th>
<th>Primary Consultation Group</th>
<th>Outcome</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge of waste to sewer.</td>
<td>Ben Lomond Water - Scott James</td>
<td>BLW will accept discharge to sewer via a Trade Waste Agreement</td>
<td>In person and via email November - December 2010</td>
</tr>
<tr>
<td>Site compliance with AQIS Export Control (Milk and Milk Products) Orders, 2005, including Schedules 1, 3 and 4</td>
<td>Tasmania Diary Industry Authority - Don Sandman</td>
<td>TDIA do not get involved in the permitting stage or approval process of the TVD factory relocation. TVD have taken into consideration the relevant sections of referenced standards. TDIA will inspect the premise once commissioned and any outstanding items will be addressed.</td>
<td>Via email August 2010</td>
</tr>
<tr>
<td>Standards of the FSANZ Food Standards Code, including Standard 3.2.2 and 3.2.3.</td>
<td>Tasmania Diary Industry Authority - Don Sandman</td>
<td>TVD have sufficiently addressed all local planning requirements. LCC are satisfied with the engineering options for the flood mitigation and no Traffic Impact Assessment is required.</td>
<td>In person 2009-2010</td>
</tr>
<tr>
<td>General Planning issues including traffic and flood mitigation issues.</td>
<td>Launceston City Council</td>
<td>TVD have sufficiently addressed all local planning requirements. LCC are satisfied with the engineering options for the flood mitigation and no Traffic Impact Assessment is required.</td>
<td>In person 2009-2010</td>
</tr>
<tr>
<td>Connection to Tas Gas network</td>
<td>Tas Gas</td>
<td>Tas Gas can accommodate TVD on the existing gas network. Tas Gas have nominated the size and type of gas connection required to satisfy the TVD demand.</td>
<td>In person December 2010</td>
</tr>
<tr>
<td>Waste collection</td>
<td>Veolia</td>
<td>Veolia will continue to collect solid waste for TVD. Veolia are satisfied with the site access and have nominated suitably sized and secure solid waste collections bins.</td>
<td>In person December 2010</td>
</tr>
</tbody>
</table>
6. **Commitments**

Commitments made by TVD to minimise the magnitude and frequency of known environmental effects from the construction and operation of the TVD yoghurt factory are summarised in Table 8 below.

Commitments are numbered and a timeframe and responsible person is assigned to each commitment.

<table>
<thead>
<tr>
<th>No</th>
<th>Commitment</th>
<th>When</th>
<th>Responsible Person</th>
<th>EER Section Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Topography</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Impacts on site topography will be kept to the absolute minimum to achieve the proposed development and landscaping will rehabilitate affected areas.</td>
<td>At all times during construction</td>
<td>Construction Manager</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td><strong>Soils</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Excavate soils down to maximum of 3.1 m AHD for the installation of structural piles.</td>
<td>During construction</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Excavate site soils down to a maximum depth of 2.2 m AHD for the installation of services.</td>
<td>During construction</td>
<td>Construction Manager</td>
<td>4.2</td>
</tr>
<tr>
<td>4</td>
<td>No soil is to be removed from the construction site, unless the soil has been appropriately sampled, analysed, classified and authorised.</td>
<td>During construction</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Botanical Values</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Establishing a temporary protective fence around the <em>Calystegia sepium</em> population, prior to construction.</td>
<td>Prior to construction</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Remove weeds (by hand) around the <em>Calystegia sepium</em> to maintain appropriate growing conditions.</td>
<td>Prior to construction</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Remove existing <em>Rubus fruticosus</em> plants and dispose of appropriately.</td>
<td>During landscaping</td>
<td>TVD Managing Director</td>
<td>4.3</td>
</tr>
<tr>
<td>8</td>
<td>Implement appropriate washdown procedures in accordance with appropriate Zone B requirements.</td>
<td>Prior to construction</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Use herbicide sprays and hand weeding to manage turnip weed, dandelion, thistle and fog grass.</td>
<td>Prior to construction</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Aboriginal and European Heritage</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>In the unlikely event any Aboriginal or European cultural material is identified during construction, all activity within 10 m of the ‘find’ will cease immediately and the appropriate heritage authority notified. TVD will then take guidance from the relevant authority.</td>
<td>At all times</td>
<td>TVD Managing Director</td>
<td>4.4</td>
</tr>
<tr>
<td>No.</td>
<td>Task Description</td>
<td>Time Frame</td>
<td>Responsible Party</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>------------------------------------</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Implement and maintain the CMP during construction.</td>
<td>Prior to construction activities commencing</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Install an alarmed interceptor trap according to manufacturer’s instructions prior to commissioning and maintain as appropriate during normal site operations.</td>
<td>At the appropriate time during construction programme</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Install a Humes ‘King Flood’ gate where site stormwater enters the Tamar River.</td>
<td>When discharge pipe is installed</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Disturbed areas will be landscaped and rehabilitated as soon as practicable.</td>
<td>During construction as appropriate</td>
<td>TVD Managing Director and appropriate sub contractor</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Clad boiler room and compressors to prevent noise emissions.</td>
<td>At all times</td>
<td>TVD Managing Director</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Keep loading bay curtain and doors closed during loading and unloading.</td>
<td>At all times</td>
<td>Production Manager</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Implement dust suppression strategies during construction when the site experiences high winds.</td>
<td>During construction</td>
<td>Construction Manager</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Maintain the boiler to ensure optimal operating efficiency to reduce potential for environmental nuisance and harm.</td>
<td>At all times</td>
<td>TVD Managing Director</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Any spills will be cleaned up as appropriate and if required, TVD will notify Workplace Standards Tasmania (WST), Environment Protection Authority (EPA), Launceston City Council and where potential exists for spills to enter the BLW network, they will also be notified.</td>
<td>Immediately after event</td>
<td>TVD Managing Director</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Separate all waste as it is generated and recycle as much as possible.</td>
<td>On going</td>
<td>Staff</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Store solid waste in lidded waste bins.</td>
<td>At all times</td>
<td>Staff</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>In the unlikely event that any hazardous solid waste materials require disposal, appropriate authorities will be notified and guidance sort to ensure suitable protocols are followed.</td>
<td>As appropriate</td>
<td>TVD Managing Director</td>
<td></td>
</tr>
</tbody>
</table>
### Monitoring

Monitoring of liquid waste discharged to the sewer will be undertaken by TVD and BLW and controlled by conditions provided in the TWA (yet to be finalised).

It is likely the following parameters will be monitored:

- Volume of liquid waste discharged
- pH
- Biochemical Oxygen Demand
- Chemical Oxygen Demand
- Oil and Grease
- Suspended Solids
- And any other parameters nominated by BLW

BLW is likely to require TVD undertake composite sampling under flow conditions over a 5 day period to characterise the discharge. TVD will comply with any conditions contained in the BLW TWA.
8. Conclusion

8.1 General Summary

The following conclusions are made:

- This Environment Effects Report (EER) was developed with reference to Environmental Effects Report Guidelines for Dairy Relocation to 1 River Street Invermay, Tamar Valley Dairy Pty Ltd and issued by Director, Environment Protection Authority (EPA) September 2010.

- This EER has provided sufficient background information to allow the EPA and other interested stakeholders to make an informed decision about the potential environmental impacts of the proposed factory.

- The specific commitments contained in the EER demonstrate that appropriate operational and management measures will be in place to minimise any potential impacts and to minimise any risks to the environment and human health.

- The EER demonstrates that the proposal will be compliant with Tasmanian Policies, legislation and Regulations.

- The community will benefit from the socioeconomic advantages associated with the project.
Appendix A

Regional Location Plan
Appendix B

Lot Plan
Appendix C

General Location Plan
Appendix D

Engineering Drawings
Appendix E

Planning Report (Courtesy of Lester Franks)
Appendix F

Conservation Area Map
Appendix G

Bushways Flora/Fauna Report
Appendix H

TASI Submission and Search Results
Appendix I

Noise Survey
Appendix J

Construction Methodology Courtesy of Engineering Edge
Appendix K

Construction Management Plan
Appendix L

Site Services and Drainage Plan
Appendix M

Site Layout Plan
Appendix N

Material Safety Data Sheets
Appendix O

Tamar Valley Dairy Good Manufacturing Practice – FS1300
Appendix P

Parking and Traffic Plan
Appendix Q

Rehabilitation and Landscaping Plan