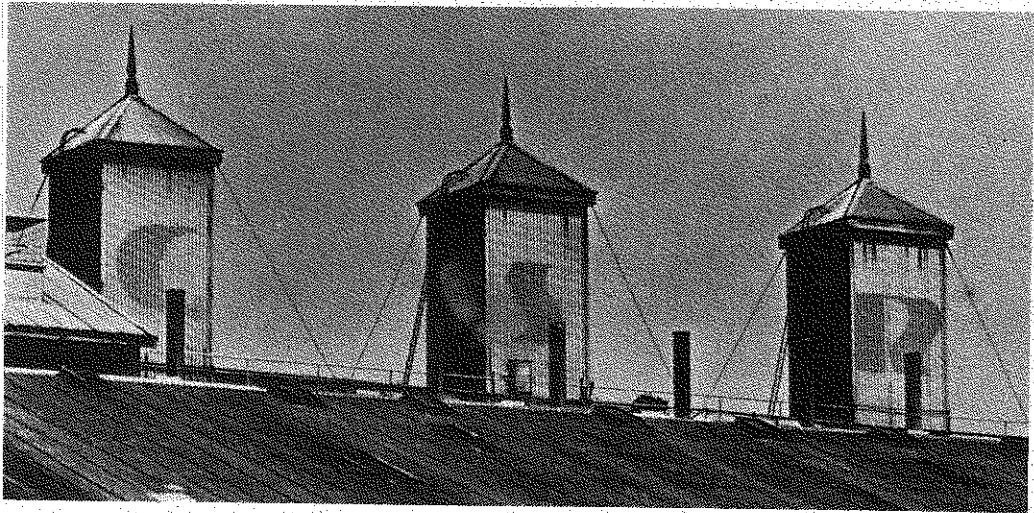


# INDUSTRIAL HEARTLAND



Gary Vines

Melbourne's Living Museum of the West

**INDUSTRIAL HEARTLAND: Introduction to the  
Western Region Industrial Heritage Study**

by Gary Vines

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Front cover illustration: *Colonial Sugar Refinery, Whitehall Street,  
Yarraville. This complex of buildings is a key element of the industrial  
landscape of the lower Yarra*

This cover is printed on re-cycled board

# **INDUSTRIAL HEARTLAND:**

**Introduction to the**

**Western Region**

**Industrial Heritage Study**

Gary Vines

1990

## **WESTERN REGION INDUSTRIAL HERITAGE STUDY**

This study has been written by **Gary Vines** of Melbourne's Living Museum of the West Inc. with assistance from **Andrew Ward** of Andrew Ward and Associates who provided specialist architectural comment on selected sites.

The study was funded by a grant from the **Regional Action Program** of the **Ministry for Planning and Environment, Victoria** and was overseen by a steering committee made up of representatives of the Ministry for Planning and Environment, Museum of Victoria, National Trust of Australia, Footscray Institute of Technology, Western Region Commission and the Royal Historical Society of Victoria.

### **ACKNOWLEDGEMENTS**

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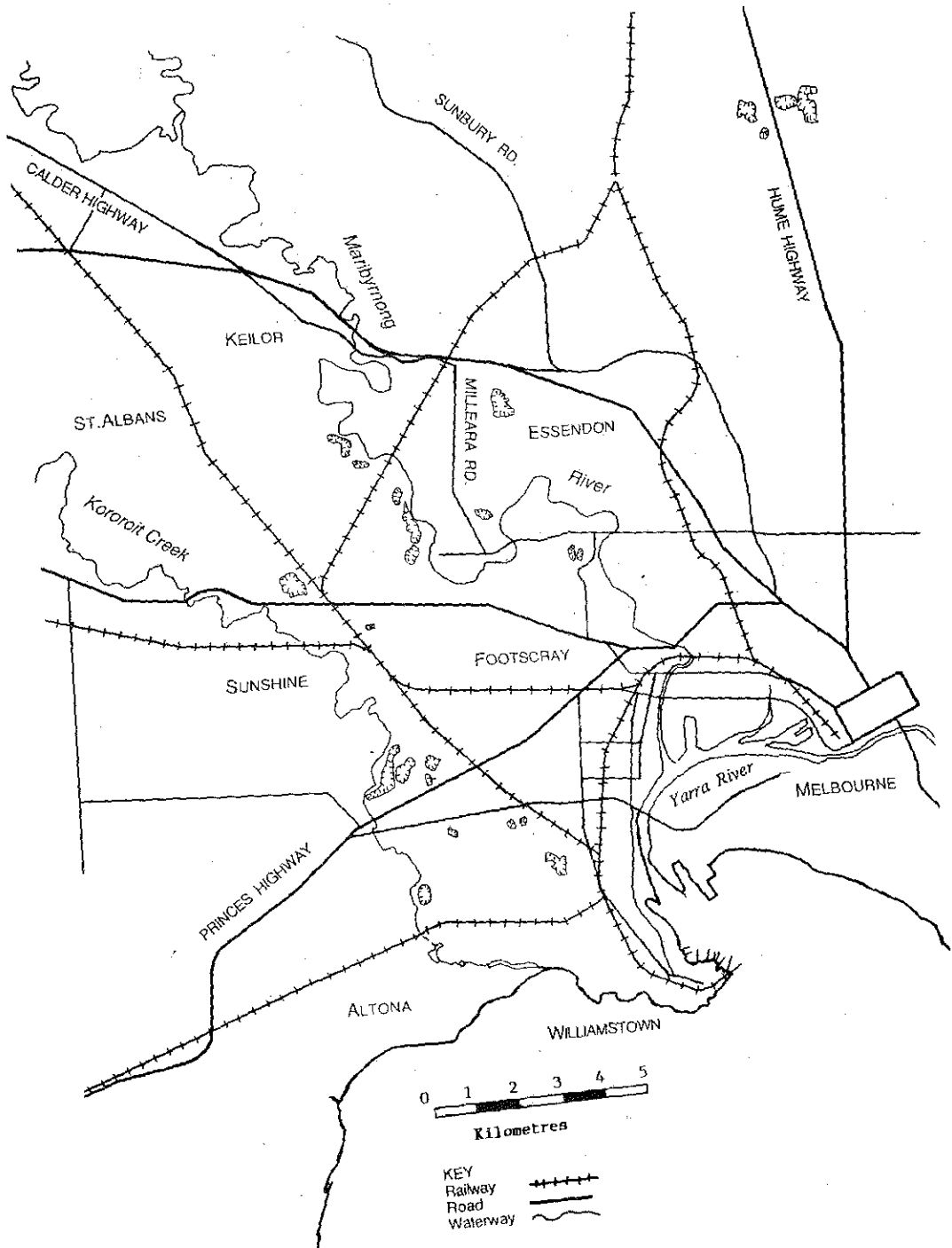
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## Preface

The purpose of this book is primarily to help people recognise significant historical sites and understand the importance of these places.

The book also has a contribution to make to tourism initiatives and education, particularly with the growing emphasis on the history of work in the new Australian Studies curriculum.

The modern pattern of industry and other land uses has, to a great extent, been inherited from earlier unplanned growth. By discovering the heritage of industry in our region we can better understand the forces which have created the present environment and, by this, learn how to better manage it for the future.

The focus of heritage has in the past been on grand mansions and public buildings such as Como, Parliament House and St. Patrick's Cathedral. The wealth that enabled such grand ideas and designs to be fulfilled in these buildings was generated predominantly by the industries of Melbourne, that from their inception, catered to a world market. This industrial economy also created and supported a large labour force and a prosperous urban middle class. without industry, Australia would probably have continued as a decentralised rural economy dominated by landholders - the squatters.

Industry in Australia was initiated and dominated by factories processing rural products. These industries included the boiling down works, woollscourers, meat preservers and tanners. They provided the foundation for the diversification of manufacturing which followed. Metal manufacturers developed to service them, banks grew to finance them, government expanded to administer them. And the fabric of the society as we know it today, was born.

# Historical Background to Industry in the West

## Melbourne's Industrial Heartland

Often seen as unpleasant, unattractive and even harmful in its pollution, the industry of Melbourne's Western Region has nevertheless made a major contribution to the landscape and prosperity of Melbourne. Smoke from chimneys, noise of machinery, heavy trucks and factory buildings give the Western Suburbs a distinctive environment. The industrial landscape of today is not just a recent phenomenon, it is a product of a long history of development which can be traced back to the earliest settlement in Melbourne and explained by environmental, historical, economic and personal factors.

When Aborigines were the only inhabitants of the region, hunting, "fire-stick farming", stone, wood and bone tool-making and weaving were the major industries. Fire-stick farming may have helped create the vast treeless plains of waist-high grass that spread out west of the Maribyrnong and were so attractive to the European settlers and their flocks of sheep.

The traces of the earliest European industries are sparse - the period from 1834, when the first Tasmanian settlers established themselves, to just before the gold-rushes in the 1850s was a time of slow development of a pastoral colony with few other industries being established. First Williamstown and then Footscray became centres for transport and commerce although they remained little more than villages. Their location owed a lot to the availability of high ground close to the natural harbours of Hobson's Bay and the lower reaches of the Yarra and Maribyrnong Rivers. Small local communities developed in rural areas to provide the basic needs of the predominantly pastoral economy. These early decades have left few remains beyond the outline of settlement, patterns of land use, transport routes, boundaries of properties and Government-surveyed reserves.

From the second twenty years, after the Port Phillip District separated from New South Wales to become a new more self-sufficient colony with its own manufacture base, a scatter of industrial sites remain. Many of these have been greatly altered in later years. The location of Melbourne's early industrial districts were established during this period. The Maribyrnong River became the focus of industries which used the products of the pastoral hinterland - meat and animal by-products. Manufacturing had its beginnings around the inner city where many firms remained until lack of space for expansion forced them out west. But this did not come for several decades.

It was the third twenty years, however, which produced the greatest development in industry of every type and is more completely represented, although still fragmentary. Many of the region's major industrial establishments had their beginnings in the later part of the 19th century. The small family businesses increasingly gave way to large public companies with complex, integrated manufacturing processes. In these factories all phases of



the operation were conducted on the one site, whether they were meat and by-products, metal manufacturing or chemical industries. New industrial zones were pioneered beyond the urban areas.

The early 20th century industries fare reasonably well in the surviving record. Being more adapted to modern industrial methods and alternative uses and affected by fewer waves of re-building, the factories built in the 1910s, 20s and 30s are more likely to remain in use even if the original use has changed. This was a period of consolidation with a more systematic and planned approach to commercial and industrial development. Economic factors, however, prevailed in the influence on the location of industry and the established patterns tended to be re-inforced.

The two world wars saw the region become the focal point for Australia's munitions industries, further enhancing it as a location for private industry as the inter-dependence of manufacturing processes increased, particularly in chemical production.

The region was given a major boost during the economic boom time of the 1950s and 60s. European immigration aided in this growth. The post World War II period was also one in which many old buildings were lost to re-development. The spread of suburbs made the old inner industrial zones more attractive for redevelopment and existing companies expanded or renewed their factories.

And today, at the end of the 1980s when it seems that the last of the early industrial buildings in the region might be lost, is there an emerging awareness of the importance of Melbourne's and the West's industrial heritage? While positive attempts have been made to preserve significant examples of the built environment, emphasis has been placed on the architecturally and aesthetically pleasing while the historically important industrial landscape has been forsaken to the developers.



View over Footscray and Yarraville from the West Gate Bridge

The beginning of the industries we are more familiar with in the Western Region co-incided with the first settlement by Europeans. John Batman's and John Pascoe Fawkner's parties established their grazing herds of sheep and cattle on land to the north and west of what became central Melbourne. The open grasslands on the basalt plains provided ideal natural pasture which only required a shepherd or fencing to make a productive farm.

The Aborigines may have used fire as a form of animal husbandry by creating and keeping open grasslands among the predominant woodland and forests of Victoria. Burning-off of the dry grass may also have encouraged new green shoots in small areas which attracted animals for the Aborigines to hunt. This "environmental husbandry" resulted in large areas of open grasslands of which European settlers quickly took advantage.

The settlers of the Port Phillip Association landed at various places at the head of Port Phillip Bay, but Point Gellibrand was soon recognized as the most comfortable and safe place for landing their sheep and supplies.

When Police Magistrate Lonsdale arrived in the Port Phillip District in 1836 he decided on the settlement on the Yarra as the proper place for the courts, military barracks and goals, but he landed his stores at Point Gellibrand because of the difficulty of getting his boats up the river. Lonsdale's decision set a precedent for the location of naval, civil and public works establishments in the Williamstown area. When Governor Bourke visited the area with the Chief Surveyor, Hoddle, he set out the streets and the positions of piers, customs reserves, etc. (HRV:101)

Williamstown, along with Port Melbourne, became the major place for unloading both the settlers and their belongings. The supplies to keep the colony going also came by sea through these two ports. Port Melbourne provided only an open beach for landing goods in small boats, but Williamstown had sheltered coves and a relatively deep harbour which was later improved by the addition of piers and wharfage. Smaller craft then relayed cargoes up the Yarra which was not navigable for heavy sea-going ships.

The first pier at Williamstown was constructed in 1839 near the present Gem Pier by convict labour, from bluestone quarried at Point Gellibrand. The reclamation of the foreshore in later years has obliterated all traces of this early pier as well as the convict jetty built near the timeball tower. Convicts also constructed the first wooden lighthouse. (Kerr in Lack & Ford 1986:14, Lovell 1989) The Harbour Master's office, and Boarding and Customs Offices were also established at Williamstown by 1840.

Williamstown was, however, handicapped by the lack of a fresh water supply and relied on water carts and wells before the connection of Yan Yean water in the late 1850s. The first well was dug by public subscription in 1840. Melbourne was located up a difficult-to-navigate river, but did have

fresh water. Had circumstances been otherwise, Williamstown may have been the capital of Victoria. (J.B. Were in Lack & Ford 1986:15).

The earliest industry associated with the new colony involved the provision of the domestic necessities of the new colonists. Initially these needs were met by importation from other Australian colonies from Britain. Primitive docks and substantial warehouses were built along Nelson Place and the census of 1841 indicates that local residents included blacksmiths, carpenters, merchants, watermen, pilots and customs officers.

The structures accommodating these trades differed little from the residences and other buildings of the period, being constructed in simple fashion of split timber, bark and whatever materials were brought with the settlers or could be found nearby. However, one visitor in 1841 was impressed by the magnitude and solidity of the warehouses in Williamstown. (Anderson in Lack & Ford 1986:16)

By 1841 Liardet had a pier and hotel at Port Melbourne and offered competition to Williamstown as a first call for immigrants. This was replaced in 1849 by a Government jetty for up to four ships. It was, however, still a poor facility for the hundreds of ships requiring wharfage during the gold rush period. (Uren 1983)

The local bluestone or basalt was initially quarried not for building stone but to provide the ships with ballast for their return voyage. Ballast grounds were located on Point Gellibrand (0079) \* and along Stony Creek (0047) which ran into the Yarra, a short distance from its entrance to Hobson's Bay. The natural outcrops along the shore and creek banks provided an easily-won stone, convenient for transport by barge to ships at anchor in the bay.

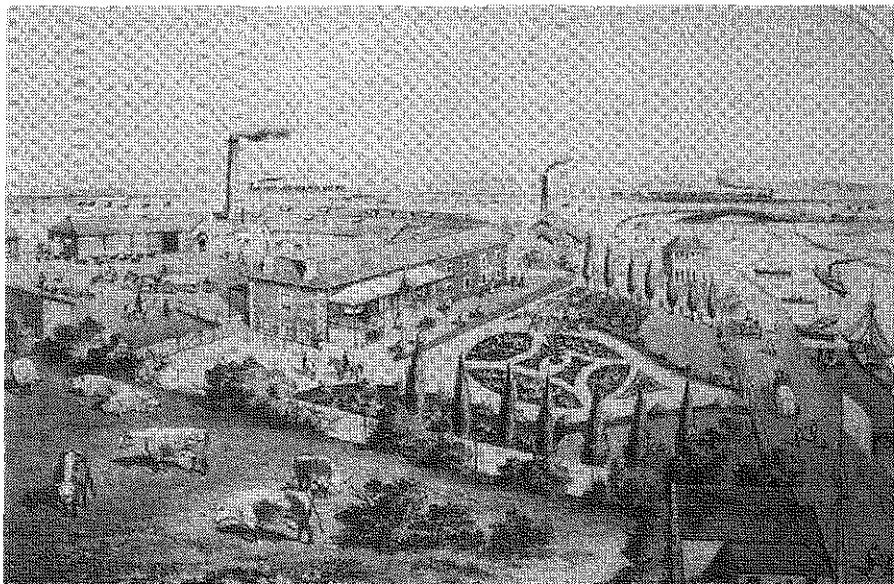
This same stone source provided material for the first piers and substantial buildings such as the time ball tower (0087), tide gauge (0089) and local residences. Evidence of the Gellibrand quarries can still be seen but those along Stony Creek have been obscured by further quarrying and filling. (\* numbers in brackets refer to surveyed sites.)

Quarrying was the first and most resilient industry in the region growing and declining with the changes of fortune of the Colony and changing demands for building and paving materials.

Apart from the patterns of the settlement, there is little evidence of industrial developments from the period before 1850 surviving. Butler suggests that the Albion Hotel of 1841 may survive, in part of the shops and residence at 151-3 Nelson Place. There is another possible survivor of the original scatter of hotels between the infant settlement of Port Phillip and the pastoral estates - Leahey's hotel of the 1850s now incorporated into a house at Hopetoun, near Bacchus Marsh. (Moore & Oomes:35)

Beyond the tiny settlement of Williamstown were the flat plains of native grassland, so attractive to the graziers. Surviving from this first period of European colonization are several homesteads: Point Cooke and Laverton (0269) are on the shores of Altona Bay. Langhorne, an overlander from

Sydney who also built the colony's first woolstore at Williamstown, built Laverton homestead in what was to become Altona. To the West, near Melton and Bacchus Marsh, Simon Staughton built Exford (0200), Strathulloch (0283), and Staughton Vale (0283) for his family. To the North, John Aitken, one of the original Port Phillip Association settlers, built his Mount Aitken Estate (0279). William Taylor established Overnewton in 1849 (0280), building a homestead which survives today among later additions.



Henderson's Piggery, from a painting by S. T. Gill, La Trobe Picture Collection.

Victoria's human population grew slowly at first with a few pastoralists taking up large tracts of land. The sheep population, however, grew so fast that in five years there were over 100,000 sheep and very little prospect of selling any, as a major export trade could not be established for want of a nearby market or a means of keeping the meat for the three month journey to Britain. (Peel:165)

Williamstown suffered from the collapse of immigration and sheep and wool export trade. The depression which developed in the 1840s provided the opportunity for a few landholders to acquire large tracts of grazing country at the expense of those who had gone under in the economic crisis. The Staughtons, Chirnsides, W.J.T. (Big) Clarke and William Pomeroy Greene were able to control vast pastoral estates taking up much of the land between the Brisbane Ranges and Port Phillip Bay. (Peel:59-61)

Clarke became the second largest property holder in the Port Phillip District, second only to the Crown, buying out the earlier squatters as they went bankrupt and exploiting a loophole in the 1841-2 pre-selection legislation which enabled him to lease 60,000 acres under the "Grass Rights" system. (Peel 33, Lack & Ford 1986:18-20).

The depression saw the development of industry in the boiling-down of sheep carcasses to produce tallow for export. (Tallow is a fatty substance produced chiefly from the suet of sheep and cattle and used in the manufacture of soap, candles, food and other products.) This extractive industry was the first manufacturing industry in the Port Phillip District and the first of many industries converting agricultural production into more valuable products. In the depressed economic circumstances of the 1840s sheep were worth more for tallow than for their wool or meat. Boiling-down works were established on the banks of rivers which provided a water supply, transport and a convenient drain.

By 1844 four boiling-down works in the Port Phillip District had processed 91,000 sheep and 3000 cattle. Many of these were located on the Saltwater River (Maribyrnong) and around Batman's Swamp in West Melbourne. First was Bolder and Ryrie, then Brock and Mollison. Watson and Wight, purchased 68 acres on the river at Flemington on a site destined to become infamous for the noxious industry and pollution carried out there. (Peel:35)

The Maribyrnong River was especially favoured as it formed the boundary of the western grasslands, was close to Melbourne, but far enough away to be out of sight and, depending on the wind, out of smell. Joseph Raleigh established his works in 1847 as a sideline to his involvement in exporting and shipping. He had previously established a wharf near Queen Street in Melbourne and a salting works at Yarraville on the river near Stoney Creek. (Elphinstone 1984). While no trace of the first two ventures remain, the Maribyrnong works was taken over, extended and later rebuilt by

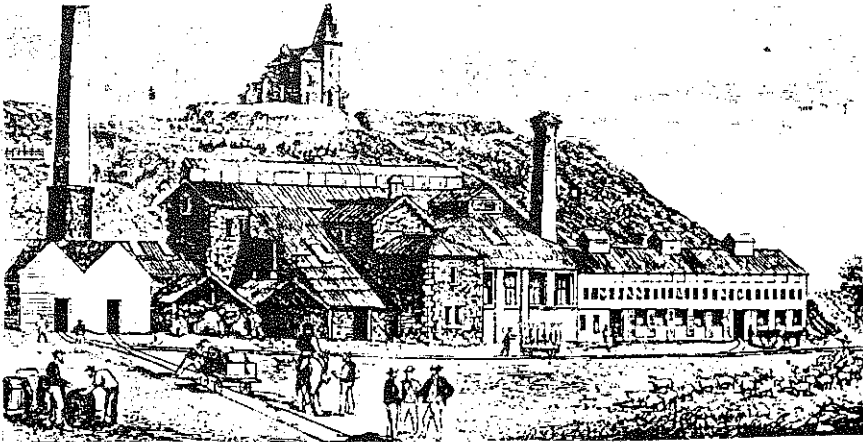
the Melbourne Meat Preserving Company. The stone and possibly some of the foundations of Raleigh's works may have been re-used by the later venture.

By the early 1850s economic recovery in agriculture had reduced the demand for boiling-down works but the sites may have been recycled for other by-product and meat industries. (Lack & Ford 1986:119, Peel 33, Lack personal comment)

The colony was also moving towards greater self-sufficiency as farmers diversified, following the collapse of the sheep market. A variety of crops were planted including cereal grains. A flour-mill was operating in Bacchus Marsh by 1850. The prosperity of this area is reflected in the scale of construction of some of the buildings. Captain Bacchus' Manor House of 1846-7, the Woolpack Inn of 1849-59 (of which the stables survive (0330) and the Border Flour Mill were substantial structures of local stone and brick, - the latter probably hand-made on site. (Moore & Oomes 10-14)

The agricultural communities were provided with basic services such as post office, banks, stores, etc. in embryo settlements at Keilor, Wyndam (Werribee), The Gap, Bacchus Marsh and Melton, while the areas closer to Melbourne were growing into suburban villages.

The landscape of the region was changing as farming made an impact. Dry-stone walls were erected around properties to fulfil the two needs of fencing the paddocks in an area where timber was very scarce, and of clearing the fields of the volcanic basalt boulders which were strewn across the lava plains when volcanos erupted here thousands of years ago. The open grasslands, once without a tree for miles, were planted with wind-breaks of South Australian sugar gums (*Eucalyptus cladocalyx*) and exotic pine and conifer trees (mostly *Pinus radiata* and *P. Monterey*) to provide shelter for the stock from the winter westerly winds and the scorching summer sun.



Melbourne Meat Preserving Co. *Illustrated Australian News* 5.10.1868

The Gold Rushes of the 1850s and 60s were responsible for a population explosion and the rapid development of an industrial economy in a colony previously devoted to agricultural pursuits. Immigration, primarily of people coming to try their luck at the gold fields, produced a seven-fold increase in the colony's population between 1851 and 1861.

At the commencement of the gold rushes, ships of 200 tons or more could still not navigate the rivers or come along-side the small piers in Hobson's Bay. The alternatives were to transfer passengers and goods to lighters and then either on to Sandridge beach for the long walk through the scrub to Melbourne, or take the slow, winding trip up-river, or alight at Williamstown and from there, take the more direct overland route to the gold-fields.

The completion of the Hobson's Bay Railway (the first in Australia) in 1854 which linked Melbourne with a new pier at Sandridge, took much of the potential traffic from Williamstown. (Bird 169-75, Uren:20) The tens of thousands of immigrants arriving in the 1850s caused such congestion in the port that no less than four reports were commissioned, seeking an improved port for Melbourne with a shorter route to the City as the key element. However, the improvements were slow to be implemented and for most of the period of spectacular urban growth, chaos was the norm at the docks.

The region had its own gold mining areas. These were in the Wombat Forest, Lerderderg Gorge, and Werribee Gorge. These areas were worked by individuals and small companies who panned the creek, dug shafts and diverted the waters to wash gold. The largest engineering achievement of the local miners was the diversion of the Lerderderg River (at Tunnel Bend) through a tunnel so that the alluvial gold in that part of the river bed could be extracted (0040).

Bacchus Marsh was probably the area in the region most affected directly by the gold rushes. The insatiable demand of the mines for timber for shafts and boiler fires, and for building material for the burgeoning towns, being thrown up almost overnight, left the nearby Wombat Forest almost stripped of usable timber in little more than a decade. (Houghton) Sawmills operated in and around the forest, transporting their sawn timber by horse dray and timber tramway to the rail head, where it was shipped to Ballarat, Bendigo, and the rest of the Central Goldfields as well as to the smaller Melbourne market.

In 1861 there were 160 odd gold-miners in the Bacchus Marsh area, mainly in the ranges to the north, and engaged in alluvial mining. (Statistics Register)

Would-be miners flocking to the gold fields gave rise to transport, related industries along the main routes. Hotels, coaching inns, stores, blacksmiths and the like were initially built alongside rough tracks. However, the

popular routes initially skirted the region. Many diggers on their way to Ballarat travelled via Geelong. The water retaining clay soils of the Keilor - Werribee plains deterred most travellers outside of summer. The Melbourne-Geelong land route was also avoided in preference to the steam-boat trip across the bay. (Lack & Ford 1986:22-3)

Direct routes eventually became established and improved and in many cases formed the basis of the highways and major roads still in use today. Remnants of the old tracks, and early macadamized surfaces can be seen where diversions and straightening have left the old route unchanged. The cobbled roads of Altona and Rockbank and the fords and tracks in Bacchus Marsh, Werribee and Melton are examples (0157-0160). The most substantial (and picturesque) of these early road-works, the Djerriwarrah Creek bridge of 1858 (0141), survives to show the skill of the stone masons who worked on it and the early importance of the main road to Ballarat.

Access to the area west of the Saltwater (Maribyrnong) River was further hindered by the need to cross first the Batman or West Melbourne swamp and then the River itself. Several punts were established across the river beginning with Lonsdale's own punt in 1839 just above the junction with the Yarra, followed by several others around 1848 in the Footscray area. Michael Lynch moved the punt to the site of the present Smithfield Road which provided a more direct route than Joseph Raleigh's punt at Maribyrnong and was still more attractive than the new road to Footscray which skirted Batman's Swamp in 1855. (Lack & Ford 1986:24-5)

A more direct road through the swamp in line with the first bridge was completed in 1863 after council factionalism and jealousy had delayed it considerably. (Lack & Ford 1986:43)

The Mt. Alexander Road from Melbourne to the Bendigo-Castlemaine area passes through the north west of the region and was very early on a bustling thoroughfare. A township developed around Flemington to serve the travellers with accommodation, stores, stables and a blacksmith's shop. The surviving business of the Cook family in Essendon (0176) had its genesis in the gold route.

By 1854 the main roads, which had previously become impassable mud hollows during winter, were being formed and stabilized with several layers of crushed rock using the macadamizing process to give them an all weather surface. This provided encouragement for the existing bluestone quarries and development of new quarries.

The provision of the roads and other public works was facilitated by the passing of several pieces of legislation. The Municipal Institutions Act of 1854 provided a basis for establishing local governments and gave them the power to raise revenue through rates and to carry out works. (Dunstan 1984:56) Williamstown Council was established in 1856, followed by Footscray in 1859. A public works Loan Act was also passed in 1855 followed by the Public Works Statute in 1865, giving the young Victorian Government power to finance and construct major public works - the Yan



Yean water supply and reservoirs in Essendon being early examples. (Dunstan:240-4)

The forming of all-weather roads was followed by construction of railways. The first railway line in Australia was built by the Melbourne and Hobson Bay Railway Co. in 1854, linking Melbourne and Port Melbourne. Because of delays in shipping a locomotive from England, the Melbourne company of Robertson, Martin and Smith was contracted to build a temporary replacement. This locomotive, the first to run on an Australian rail line and the first constructed in Australia, was built at Raleigh's vacant boiling-down works at Maribyrnong.

Later, a network of railways linked the major population, industrial and shipping centres. The railways were to have a profound effect on the development of the region. The Geelong to Melbourne line with a separately-owned branch to Williamstown was completed to Newport after several delays in 1859 and the Melbourne to Mt Alexander line opened as far as Sunbury, also in 1859. These lines provided local industries with access to the commercial heart of Melbourne, the wharves of Williamstown and the Yarra, and the agricultural regions to the north and west. They relied on passenger patronage as much as freight and Williamstown station (0121) is the oldest timber station building in Victoria. (Butler et.al.1986)

Where ships' cargoes were previously discharged into lighters and conveyed up the Yarra to the Melbourne wharves, they could now be transported by rail directly from the piers almost to the doors of city warehouses. Where livestock used to be herded the sometimes hundreds of miles from distant farming districts, they could now be transported by rail directly to the newly established saleyards at Newmarket (0014). Existing abattoirs and meat-works benefited greatly from this improved transport system and new works were soon established close by. The location of the main livestock market for Melbourne in this position was the major influence in the continuation and expansion of the meat trades in the district for many decades.

Railways also became a major factor influencing the location of industry, supplanting the Maribyrnong as a bulk transport route and in some instances becoming the primary reason for setting up a new works, such being the case at Braybrook Junction and along the Newport-Sunshine loop line.

The construction and maintenance of the railways created a major industrial system. As they required huge amounts of crushed stone for ballasting the tracks, and timber for sleepers, they gave a major boost to quarrying in Williamstown, Footscray and Braybrook, and to timber cutters and mills in the Wombat Forest. The stone work of bridges such as that over the Maribyrnong in Footscray (0133), over Stony Creek at Yarraville (0406) and Little River in Werribee (all of which date from 1859) and the Little River station and goods shed (0122) show the quality of the local stone and the construction skills available at the outset of the railway building era in Victoria.

The first railway workshops were located at Point Gellibrand for assembling imported locomotives and rolling stock (0111). They were enlarged over the years and became one of the largest employers in Williamstown, but were eventually replaced by the Newport workshops (0112), which were commenced in 1882 as a carriage works. The last traces of the early yards were cleared in 1987-8 but the Newport yards are still substantially intact, despite losing their 100 year old chimney in 1988.

There was a four-fold growth in "Manufactories" from 192 in 1854 to 983 in 1866 in the whole colony of Victoria. Manufacturing industry virtually originated in the Gold Rush period and it was nurtured from then on by the state. (Davison 1978)

Even the small farming community of Bacchus Marsh felt this growth. By the mid 1850s a second flour-mill was being erected and a third was completed in 1854, indicating the expanding market for local agricultural production created by the exploding populations of Melbourne and the goldfields. (Westgarth in Lack & Ford 1986: 27, William Kelly in Lack & Ford 1986:28)

Williamstown continued as the major port for overseas cargo trade with four piers providing sufficient depth for direct loading and unloading. - Gem Pier 1839 (0099), Ann Street Pier 1853 (0106), Gellibrand Pier 1858 (0102) and Breakwater Pier 1860 (0101). (Evans 13-15, Bird 1968)

Demand for shipping grew along with the development of the port. Small lighters and trading vessels were built at Williamstown at the many small shipbuilders along Nelson Place. Larger vessels requiring repairs were accommodated in the patent slips, one owned by Knight's (0127), a firm still in business at Williamstown.

While Williamstown accepted or tolerated the Government works which gave it a strong industrial economy, it actively discouraged all but the most innocuous of manufacturing, compelling noxious industries such as the Hobson's Bay Soap and Candle works to move. (Lack & Ford 1986:40, Butler et.al. 1986)

Footscray, on the other hand, welcomed industry with open arms. It saw in all industry, not only the noxious trades, the road to progress and prosperity and was well-known for this attitude elsewhere in Melbourne. The Australian Bone Mills on Fisherman's Bend in Port Melbourne for example, when pressed to clean up its plant and cease polluting the river, "gave the time-honoured response of capital under threat and said it would transfer operations to Footscray if not allowed to kill sheep as it liked". (Uren 93-5)

The initial influx of boiling-down works along the banks of the Maribyrnong in the 1840s was followed, during the next two decades, by an increasing variety of works processing by-products of animal slaughter. The Victorian Bone Mills (0004) shifted from Flemington to Yarraville in 1871. A small tannery at Footscray was purchased by Isaac Hallenstein in 1864 (0003) and nearby, a bacon-curing works built by Samuel Henderson (0027).

On the opposite bank of the river the Apollo Candle Works (0001) and Taycross wool and tallow works (0420) were operating by 1873.

Yan Yean water was connected in 1864. This clean reliable water supply encouraged industry to adopt steam technology. A 16 hp steam engine required about 1000 gallons of fresh water per day: wells would have been quickly exhausted and the salt water of the bay and Lower Yarra would have been too corrosive for the engines to operate.

Saw-pits soon gave way to steam sawmills, the railway workshops expanded and in 1866 the Williamstown gas works in Nelson Place (0337) was providing greater amenity with improved street lighting for the town. This was only the third gasworks in Melbourne and the first built beyond the city or inner suburbs. (Proudley:307-8)

The growth in the region's industry was a local reflection of change in the prospects and structure of gold mining. Individual prospecting of alluvial deposits had given way to large underground mines operated by public companies. By the mid 1860s, nearly 60% of the 80,000 Victorian miners worked for wages in one of the alluvial or quartz company mines. These mines had large capital investment and depended on complex technology and large capital works to extract deep lead ores. Although manufacture of mining machinery was a small part of the industrial boom, the spin-offs of technology, new markets, and investment funds were felt throughout the economy.

This was also the period of considerable activity in the labour movement with some artisans and labourers obtaining the 8 hour day in April 1856, although it was many decades before the 8 hour day was the norm. (Davison)

Domestic requirements of the increased population were met by factories producing clothing, footwear, coarse blankets, harness, as well as flour mills, breweries and other food-producing industries. Williamstown had two breweries, Breheney's and Taegtow's by 1853-4. (Ackerly 1986)

Agriculture had by this time fallen into a regular pattern with small areas providing grain for the local mills and the dry basalt plain devoted primarily to sheep grazing. Beef cattle were a minor part of the industry, with the Mt Derrimut Station near Deer Park (0307) pioneering and in the 1860s being renowned for its stud animals.

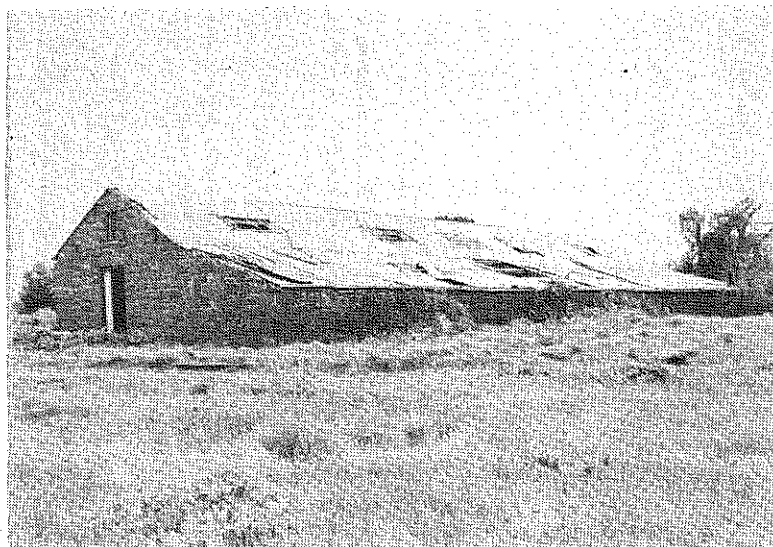
The concentration of land in the hands of a few graziers continued with the Crown Land sales from the 1850s. By 1880 thirty two proprietors owned about three quarters of land in the predominantly agricultural shires and ten holdings embraced almost two thirds of the land. (Lack & Ford 1986:31, Peel 56-60) Clark's "Deanside" (0271) and the Chirnside's "Werribee Park" (0153) exemplify the vast pastoral properties of the late 19th century.

The mid 19th century saw a minor trend in tilling the land as opposed to grazing with 1872 people employed in such work in the 1861 census, far outstripping the pastoral workers. The region was, for a while, part of

Melbourne's bread basket, evidenced by the several flour mills in the Bacchus Marsh area and nearly 70,000 bushels of wheat produced in 1869, but by the 1880s the wheat belt had moved north, drastically reducing grain production.

While pastoral properties covered vast areas and tended to encompass the open grassy plains with access to permanent water (a rare commodity), agricultural land was concentrated in small holdings in the fertile valleys of the major streams. Bacchus Marsh, Keilor, Braybrook and a few other settlements stretched out along the Werribee and Maribyrnong Rivers and Kororoit Creek. They took advantage of the alluvial soils and later employed irrigation systems to provide crops for Melbourne's fruit and vegetable markets.

Production of domestic goods and food-stuffs was mostly decentralized during the 19th century. Poor communication ensured each suburb and larger country town could support a brewery, flour-mill, bakery, blacksmith, boot maker and variety of other small factories.



Deanside Woolshed, Rockbank

The end of the Gold Rush brought floods of labour back into Melbourne when the easily-won alluvial gold abated and later, when the big mining companies came to the end of the payable gold.

The trade union movement developed following increasing fluctuations in the supply and demand of labour, and spasmodic production which regulated industry and employment activity. The trade union movement was a response to the insecure and inadequate employment conditions which prevailed for most of the nineteenth century. The development of very large factories employing hundreds of workers, the reduction in levels of skill and the appearance of mass production methods further encouraged the development of labour organization to protect the rights and conditions of workers.

Several major new industries were established along the Maribyrnong river in this period including the Yarraville sugar refinery (0005). This was built in 1874 by Joshua Brothers and taken over by the Victorian Sugar Company in 1875 when their Sandridge works were destroyed by fire. Surviving plant and machinery were then taken to Yarraville. The original 1874 refinery building survives in a larger complex of buildings erected between 1900 and 1920. The refinery, which is now owned and operated by CSR, has played a prominent role in industrial and labour history in the region. It was the largest employer and contributor to rates in Footscray and had a reputation for taking a hard line on both government regulation and union agitation. The virtual monopoly of sugar trade and production enjoyed by CSR in the South Pacific region gave it enormous power.

Fertilizer and chemical companies reflecting the continuing link between industrial development and the colony's agricultural and pastoral base continued to concentrate along the Maribyrnong. Cuming Smith took over the Victoria Bone Mills near the sugar works, Wischer and Co. (0362) had their works on Whitehall Street and a little later the Mt Lyell works (0255) was established. In each case it was the facility for unloading bulk cargoes from large ships directly into the works that attracted the companies to Yarraville and each established wharves for the purpose. (Butler 1989)

The area between Somerville Road and the Stony Creek backwash was transformed around the mid 1870s from open marshy flats with an occasional building such as the Victorian Meat Preserving Company, to a modern, large-scale industrial zone equal to anything in the Colonies. Many of these companies were responsible for conceiving and implementing manufacturing innovations such as the production of chemical fertilizer based on phosphate and sulphuric acid and the vacuum process for canning cooked meat used by the Melbourne Meat Preserving Company from 1868.

There were twelve meat preserving companies operating in Victoria during the 1868 and 1873 boom and of these 7 were in Melbourne, all along the Saltwater (Maribyrnong) River or its tributary the Stony Creek. (Lack & Ford 1986, Cook 1988)

The concentration of meat works and animal by-product factories along the river turned Footscray and Yarraville into the centre of Melbourne's noxious trades. Boiling-down works, bone mills, tanneries, wool scourers, soap and candle makers, glue works, tallow works, manure works, fellmongers and the slaughterhouses, abattoirs and meat preserving companies which provided the others with their raw material operated in a wasteful and careless manner, in most cases with few attempts made to prevent pollution of the air and water. Indeed, the river location was chosen for its value as a convenient drain. (Lack & Ford 1986)

Already common in the area they were provided with a catalyst for further concentration following the erection of the Melbourne City Council abattoirs in Flemington in 1860 (0015), along with the relocation of the livestock market to an adjacent site (0014). (Dunstan:148-9) Footscray had now two distinct industrial zones; the old Footscray wharves area and the lower section of the river at Yarraville. (Butler 1989)

The distribution of noxious trades in Melbourne underwent change during the 1870s as many of the areas east of the city were subject to clean-up campaigns. In 1870 the Board of Health considered a plan to concentrate noxious industry either at Fisherman's Bend, already an area with abattoirs, boiling down and soap and candle works, or Truganina near the Geelong Railway line and Kororoit Creek. (Uren :93) Nothing came of this plan, but it was an indication of the political and public desire to rid Melbourne of offensive trades. (Lack, in Davidson ed. 1985)

Other industries chose to locate on the plains west of Melbourne because of the isolation from population. The main gunpowder and explosives magazine, for example, was first located on Batman's Hill, it was moved to Royal Park, then Footscray (0075), then to Maribyrnong in 1879 (0078), and finally to Deer Park in the 20th century (0076).

The Phoenix Fireworks Company (0071) and Australian Lithofracteur Company (0008) were established on the open plains for the protection offered by distance from settlement. However, growth of the settlement posed a treat to this isolation at various times, sometimes requiring their removal to more distant parts.

The explosives industry has been a unique development in the region, initiated by the Jones Scott company and the Victorian Blasting Powder Company in the 1870s. Later works such as Bickford Smith (0220) and the Government munitions factories in Maribyrnong (0067, 0069) gained the benefit of an established network of shipment and storage facilities and sources of raw materials such as glycerine from the tallow melters and sulphuric acid from the chemical works. Explosives were very much part of an integrated chemical and manufacturing industry where no one product could be made without the assistance of many suppliers and manufacturers.

The dangers of these industries such as risk of poisoning or sickness, pollution, explosions, etc. were taken as necessary evils as part of the progress and prosperity brought by industry. However, not all residents or

councils accepted these risks as can be seen from the attitude of Williamstown in the 19th century.

The effect of the Victorian Factories Act of 1873 (the first in Australia) in ameliorating working conditions or cleaning up the operation of factories appears to have been minimal. A 60 hour week was authorized by the Government for the woollen mills and twice as many wage earners worked ten rather than the official eight hour day. (Buckley & Wheelwright 168-169)



Australian Explosives and Chemical Company, Deer Park, c. 1890

The last quarter of the 19th century was characterized by steady and then phenomenal growth in industry as well as urban development, followed by an equally phenomenal crash in the 1890s.

The formation of the Melbourne Harbour Trust in 1877 and the consequent reconstruction of the Melbourne wharves and Yarra River entrance to the sea with the construction of the Coode canal in 1886 and Victoria Dock in 1891 eroded the prospects of Williamstown or the lower reaches of the Maribyrnong River becoming a major shipping port. The Trust's intention was to relocate port facilities close to the western end of the city. However, the shipbuilding industry continued to prosper in the western region with the construction of the Alfred Graving Dock (0092) at Williamstown between 1864 and 1874, and the continuation of small boat builders along the foreshore and river banks.

The Alfred Graving Dock was the largest public works project constructed in the colony to that date and was built to accommodate the largest ships of the day. The dock survives only slightly modified, but little remains of the original workshops and erection sheds.

The provision of port facilities was achieved in an environment where colonial, local government and mercantile interests clashed repeatedly over the many options and proposals for port development, each with its own agenda and interest to serve. Both Williamstown and Port Melbourne remained hostile to the Harbour Trust for many years but Footscray saw the reconstruction of the banks and wharves along the Saltwater River as of great benefit to its development as a commercial/industrial centre. (Dunstan: 171 & Ch.6) (Ruhén 1976)

Footscray Council managed to stonewall the 1881 Harbour Trust Bill until it had secured a clause providing for the dredging of the Saltwater River as far as Hopetoun Bridge, the construction of wharves and the provision of the 8 hour day for Trust employees. (Advertiser Press, 1955) A further consequence of the Harbour Trust being established was that it resumed many sites along the Yarra River for port improvements forcing out the noxious trades. Many of them moved west, to Footscray, Braybrook and Williamstown.

The Newport Railway workshops (moved from Point Gellibrand in 1880) had a profound effect on the local area, growing into an establishment of over 2000 workers. Private engineering works developed in conjunction with the Newport railway workshops as the focus of manufacturing moved into heavier and more diverse products. Williamstown also evolved as a major wheat shipping port with grain sheds at the old workshop site on Point Gellibrand adjacent to the railway pier, taking millions of sacks of wheat at a time for export. (Doring 1989)

The meat processing industry continued in importance but went through a significant change with the development of refrigeration. The first



successful export of bulk frozen meat was achieved by the Australian Frozen Meat Export Co. (0021) in 1880, when several tons were shipped from Maribyrnong where the company had taken over part of the Melbourne Meat Preserving Companies works and installed freezing equipment. In 1882 The AFMEC moved to Newport beside the railway line in order to ensure quicker dispatch of their product to the wharves. Other meat works such as the Victoria Export Canning Works and the Flemington Meat Preserving Co. (0026) continued the traditional side of the industry. The latter works was one of the few noxious industries in Essendon and was established by William Anderson, ex chief meat preserver of the Melbourne Meat Preserving Co.

Although the noxious industries along the Maribyrnong continued to give the area Australia-wide notoriety, the industrial base was expanding. Footscray, Yarraville, Spotswood and Newport became major centres of the metal trades, especially in iron founding, engineering, ship-building and agricultural implements. Many of these industries were established by companies previously in the North Melbourne area but moved to the west where the cheap and freely available land gave them scope to expand during the prosperous period of the 1880s.

Foremost in this process were Hugh Lennon (0010), T. Robinson (0237), Mephan Ferguson (0009), and the Australian Glass Bottle Co. (0182) all of whom moved to the Spotswood area, close to the railway which gave them access to ports for export and the inland rail network. The late development of this area with its natural and commercial advantage was due to a lack of services such as water, roads and accommodation for workers in the area. (Western Region Heritage Study 3-9)

The list of other manufacturers who moved to or set up in the region in the 1880s and early 90s includes Wright and Edwards Carriage works (0119) and Braybrook Implement Works (0007) at Braybrook, T. Henderson (0397) and George Gibbons (0243) agricultural implement makers, D. Richardson (0216) maker of windmills and mining machinery, C. Ebeling's foundry and general engineering (0178), Hopkins Odium belt manufacturers, and Laughton's Foundry in Footscray (0379), Australian Forge and Engineering (0216) and the Melbourne Steamship Co. (0401) in Williamstown and in Yarraville, James Miller established a new rope-walk (0358) after moving from a site in South Melbourne, becoming a major supplier of jute sacking for the nearby fertilizer and sugar works.

This sample shows the very diverse range of manufacturing being undertaken in the region but even though it had become one of Australia's greatest engineering centres and the noxious trades were only a minor part of the industrial base of the region, the riverside suburbs were still dogged by a reputation for pollution and offensive odours, earning it the title of "the Cologne of Australia". (Lack & Ford :60 Footscray Advertiser 3.4.1884)

Quarrying for house building, road making and railways was a constant thread in the West's industrial history, but during the 1880s it received a

major boost as development demanded more of its raw materials. Brick making and other building industries were also to be found in the area, although the basalt clays were not so suitable for brick-making as those of the northern and eastern suburbs.

The character of the west changed considerably during this period through concentration of manufacturing industry in a band between Williamstown and Braybrook following the Maribyrnong River, and about a mile wide (c.1.8 km.) Isolated villages such as Spotswood, Newport and Yarraville began to merge into a continuous suburban and industrial belt. As employment opportunities increased, more people established themselves near their work. The working class character of the Western Suburbs was molded to a great extent by the major influx of manufacturing industry in the late 19th century.

Concurrent with the industrial expansion came suburban growth as workers moved to the new employment. Efforts were made to induce settlement and extend the suburban railway network out as far as Laverton and Altona in the south and St Albans in the north.

With the construction of the Melbourne-Ballarat Railway in 1880 and the goods link between Newport and Braybrook, Braybrook Junction, at the convergence of the Bendigo and Ballarat lines, became an industrial township. The Braybrook Implement Works (0007), (later H.V.McKay), was established beside the railway along with an iron smelting works, fire-works factory and railway carriage works. The construction of these lines can be seen as some of the major engineering achievements of the century. The Ingleston Bank (0405) at Bacchus Marsh, the viaducts over the Werribee River at Melton (0132) and Parwan Creek at Bacchus Marsh (0131) demonstrate the engineering skills available to the colony, as well as the importance of the link between Melbourne and the prosperous mining and agricultural centres of Western Victoria. (Lack & Ford 62-3)

The junction of the North east and North west railways had by this time developed as a storehouse for rural produce destined for processing in Melbourne factories or for export by sea. The sites of such stores as Younghusband (0432) or New Zealand Loan (0431) had equally convenient access to pastoral districts, manufacturing areas (particularly the nearby flour mills such as Kimpton's (0165), Gillespie's and Burton's) and the docks in Port Melbourne, Williamstown and Melbourne. (Butler 1985)

Bacchus Marsh and Melton (along with Werribee on the Geelong Line) soon became major suppliers to Melbourne of agricultural produce due to the fast, and therefore cheap, link provided by the rail. Thanks to a climate well suited to hay growing, Melton became one of the major suppliers of hay and chaff for the horse transport of Melbourne, and the fertile soils of Bacchus Marsh provided market garden and orchard produce and dairy products. Irrigation was the key to Bacchus Marsh's agricultural prosperity. Dairy cattle, fed on lucerne chaff grown in irrigated paddocks, became a major industry supporting several milk and cheese factories. Chaff mills were

established in all the local townships for producing fodder for cattle and horses. They were operated by local farmers or in some cases bloodstock and racing interests. (Vines 1987)

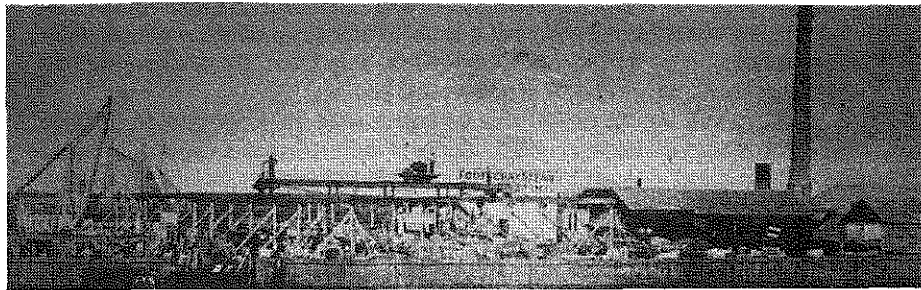
Other industries had come to the area in anticipation of the railway. A chicory kiln (0202), built by a local entrepreneur named Pearce, was a distinctive attempt to create a new industry based on irrigation and rapid transport to Melbourne. Claypits provided material for a local pottery industry and the lime workings at Coimadai (0037) were re-opened.

The origin of the munitions industry in Maribyrnong can be traced to the establishment of the Government gunpowder magazine on the Saltwater River in 1878, but it developed when Captain Whitney came from New Zealand to establish the Colonial Ammunition Factory (0067) in 1882 citing as his reason for choosing the site as the proximity to the magazine, the acid suppliers, large foundries and labour. (Lack & Ford:60 note 125)

A consequence of the increased scale of industry and the prominence of large export-oriented manufacturers which was becoming more common towards the end of the 19th century, was to increase the average number of employees in factories. By 1891, there were 92 factories in the region employing more than 100 people.

With the introduction of the domestic gas cooker in the 1880s, gas companies expanded. A second gas company was established in Williamstown (0384) to supply Newport and North Williamstown. Footscray was provided with gas from the works in Whitehall Street (0257) built in 1878 by the same engineer of the Brighton Gasworks following several unsuccessful years of campaigning to get the existing metropolitan distribution system extended. The barriers of swamp and river once again isolated the suburb. Interestingly, a condition of the lease of crown land was that the powder magazine should be removed from Footscray. (Williamstown Historical Society 1988)

As electricity began to supplant gas as a source of light, other developments ensured the continued success of the gas companies. The incandescent mantle which provided greater illumination slowed the conversion of street lighting to electricity, but the main gains were made from the introduction of gas cooking and space and water heating.



Footscray Steam Stone Cutting Works, c.1880 *Footscray's First Hundred Years*

The excesses of speculation and unfettered borrowing during the 1880s came to an end in the crash of 1892. Almost overnight hundreds of public companies collapsed, throwing financial institutions into chaos and thousands of their employees out of work.

The years of the Great Depression were characterized by few new industries being established in the private sector and many reducing their production and staff drastically or closing down altogether. Loss of jobs led to many residents leaving the area to find work elsewhere such as the Queensland and Western Australian goldfields or on the Government sustenance schemes. Footscray suffered a 17% reduction in population from 1891 to 1896 and Williamstown lost 20% reflecting its dependence on the transport industry (shipping and railways) which were hit hard by the collapse of export markets. The collapse of the construction and metal trades left quarries, foundries and engineering shops silent and 40% of Footscray's workers unemployed. (Lack & Ford:69, Linge)

Drought and rabbit plagues compounded the problems in the rural sector leading to the collapse of several pastoral companies. The subsequent reconstruction saw amalgamations resulting in the dissolution of New Zealand Loan and Mercantile and the emergence of Younghusband as a major Agency. (Butler 1985)

It was, however, also a time of considerable public works activity, some of which was instigated as sustenance schemes to provide work for the jobless and destitute, but many projects which were completed during the depression had commenced during the preceding decade.

The Melbourne sewerage scheme was begun in 1891 and completed in 1897. It incorporated the Melbourne trunk sewer, the Spotswood Pumping Station (0185), the Main Outfall Sewer (0259) and the Werribee Sewerage Farm (0204), and was easily the largest civil engineering undertaking of the 19th century in Australia.

While not immediately apparent, the sewerage project had substantial ramifications for the location and operation of industry in Melbourne as well as the Western Region, apart from the obvious advantages for public health and convenience. A consequence itself of the agitation to clean up the city and remove waste from the streets, it enabled industries which produced noxious wastes greater freedom to locate where they liked. By discharging into the sewer they need not be so dependent on the river.

The social impact of the scheme began with the employment of large numbers of navvies during construction and their subsequent unemployment upon completion. Scenes of deprivation were reported as thousands of desperate unemployed competed for the right to work, offering their labour at any price. (Lack & Ford:70) Some consolation came from the development of many small holdings based on the irrigation waters provided by treated effluent from the Werribee sewerage farm.

Many men who made their mark in the building industry were connected with the scheme including such contractors as Cochranes, and suppliers like Alkemaide Brothers lime manufacturers from Coimadai, Thompson's Engineering and Pipe works at Williamstown, David Mitchell, etc. (Shaw:92)

Other public works completed during the depression included the construction of Victoria dock and the dredging of the deep water shipping channels in 1891, the connection of electricity supply to Essendon in 1894, and the opening of the road and steam ferry service between Williamstown and Port Melbourne in 1897 (Uren 188)

The depression years also brought about a change in Williamstown's attitude to industry and the city actively sought out manufacturers to locate along the railway line and water front with some success. (Footscray Independent 14/10.1905) Australian Forge and Engineering (0216) began in Ann Street near the docks, the Melbourne Glass Bottle works (0182) moved from Yarraville to Spotswood and Shell Petroleum established a repacking depot in the 1890s (0445). (Shell was in fact the first of a number of oil companies in the area.) The water front suffered greatly from the decline in shipping and concentration of trade up river at the Melbourne docks. A contract to supply pipes for the Kalgoorlie water pipeline provided relief for Mephan Ferguson which was one industry to expand during the depression.

However, the strong locational forces which drew noxious industry to the river banks continued to bring new industry even once the original factors of water supply and waste drainage were no longer paramount. By the 1890s, Melbourne had got used to its noxious industries in certain areas. What planning controls there were ensured the existing industrial zones remained in their current use. A case in point was the establishment in the 1890s of Mowling's Soap and Candle Works (0224) in Footscray, along with Victoria's first oleo-margarine works and a white lead plant, again on the banks of the Maribyrnong. Perhaps the depression had made the council even more desirous of industry, regardless of environmental cost.

What was probably a more pertinent locational force in this case was the fact that the area was an established zone for industries slaughtering animals and processing animal by-products. The obvious choice for any new works was to be near the source of raw material, namely the abattoirs and boiling-down works. The large wool scouring works may also have been built across the river on Dynon Road because of these factors.

Elsewhere, smaller works were influenced by similar factors. Debney's tannery on Moonee Ponds Creek joined many more such works to the north which took advantage of the wattle stands (the bark being used in the tanning process) and Parsons and Lewis horse hair works (0377) moved from suburban North Melbourne to the banks of Kororoit Creek at Braybrook Junction, by this time a growing industrial village.

## 1900-1913 Edwardian stability

The first decades of the 20th century saw a recovery in industrial growth in the private sector and an escalation of Government public works programs. This was in part due to the changes in import tariff protection and free trade legislation enacted in the new Federal Parliament. It basically meant that the Region's industries could compete on even terms with those interstate, and when tariff protection was introduced on imports, many industries operated free of overseas competition. Textiles, clothing, food processing and agricultural implements made particularly rapid progress in the new economic climate. (Davidson 1969:3)

The site of the Braybrook Implement works (0007) was chosen for its convenience to the Ballarat and Bendigo railway lines which served the most productive agricultural lands of Victoria. Other industries were also attracted here including Wright and Edwards carriage works, an iron smelting works and the Phoenix Fireworks Co. (Popp 1979)

When H.V. McKay took over the Braybrook Implement Works at Braybrook Junction a new phase in industry was commenced. The works went on to become one of the largest in the Southern Hemisphere and moved the focus of industry further west. The Sunshine Harvester Works (as it became known) took the lion's share of the agricultural implement trade in Australia and successfully exported to overseas countries. However, the style of 20th century manufacturing also went through drastic changes. Mass production techniques became the norm and labour relations took on a more confrontational attitude. (Living Museum 1986,1987)

The management structure of many 19th century engineering firms was in the form of family ownership often with the patriarchal head commanding great loyalty from his employees. However, real or mythical this image was, it was to be discarded. (Davison 1978). A deterioration of relations between workers and employers can be traced in many industries along with a change to negotiating by confrontation as a basis for resolving disputes. The climax of this period came in 1911 when a 3 month strike and lockout took place at the Sunshine Harvester Works when H.V. McKay insisted on his right to pay what he thought a fit wage. The subsequent court decision had a profound influence on Australian Unions. (Lack & Ford:74, Buckley & Wheelwright, Lack ADB, H.V. McKay)

The 1900s also saw the centralization of nearly all the major agricultural implement makers in the Western Suburbs. Lennon and Robinson in Spotswood were joined by Gibbons (0243), Mitchell (0437), Holland & Fuller, T. Howie (0397), and T. Robinson (0237) in Footscray and H.V. McKay in Braybrook.

The areas most influenced by the new developments were on the fringes of existing industrial areas. The old established industrial area of Footscray saw the addition of a few new factories of types familiar to the district and some novelties. The old jute works was refitted by the Polish

immigrant Barnett Glass (0013) for a rubber manufacturing works and next door, Maize Products (0225) began making a range of starch and cereal products.

In 1903 William Angliss moved from the Melbourne City Council Abattoirs in Newmarket to erect the Imperial Freezing Works across the river in Footscray. This was the beginning of a mammoth export meat trade incorporating all parts of the meat and by-product industries in a single site: a new style of factory which was followed by several others, Borthwicks (0018), Sims Coopers (0025), Gilbertsons (0020), Smorgons (0019), etc. who established themselves on the open paddocks of Brooklyn and Altona.

Angliss also instigated a scheme for providing houses for the company employees (0313), carrying on a tradition of worker housing practiced by H.V. McKay in Sunshine, Kinnears in Footscray and Nobels in Deer Park. George Kinnear moved his rope works from Essendon Junction where it had operated since the 1880s to Footscray in 1902 (0188) and accommodation for the workers who followed the works was a priority.

The public works and government contracts of this period reflected the newest advances in technology. The Newport Power Station (0266) was begun in 1912 to allow electrification of the railways and it was followed by grand electricity substations such as those at Albion (0263), Newport (0264), Kensington (0265) and elsewhere in Melbourne. The system also provided the beginnings of the domestic electricity supply in Melbourne.

The munitions industry continued to grow with the establishment of the Government explosives and ordnance factories at Maribyrnong, the Spotswood Fuze (sic) Factory (0220) and Kynoch's ammunition works in Footscray West (0066).

The increasing sophistication of the Melbourne ports is reflected in the establishment of a major Harbor Trust depot in Williamstown (0395) and the reclamation and reconstruction of large areas of the Williamstown waterfront. By 1911 Williamstown, Footscray and Braybrook had become the most highly industrialized suburbs of Melbourne despite the setbacks of the depression. (WRHC:3-7)

Recovery and growth in the engineering and metal industries was rapid with new or enlarged works of the likes of Mephan Ferguson, Frederick Long, D. Richardson & Son and Claus Ebeling attracting many contracts for civil and private construction projects.

The turn of the century also heralded a new consciousness about pollution from industry, particularly of the Maribyrnong. The Essendon River League and the Fish Protection Society agitated for a clean river and a stop to the industries along its bank pouring out their effluent. It had support in this from the Essendon Council and Citizens who also campaigned for the removal of the City Abattoirs and noxious trades at Flemington. (Lack & Ford:75-6)

The Yarraville chemical industries were joined by Mt Lyell and Wischer and Co. and were becoming more dependent on each other as the

range of products manufactured there increased. A new flour milling venture was established on the rail line at Newport (0394) and Williamstown gained the Nugget Shoe Polish works (0393).

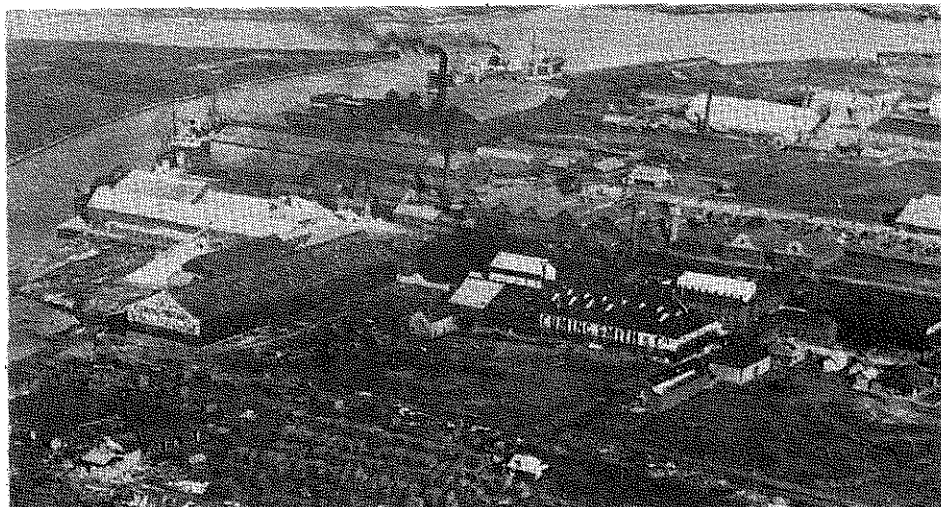
The old Melbourne Meat Preserving Company premises once again became the site of innovative technology when it was taken over by the Adelaide company of Hume Brothers in 1911. Hume Pipes (as it was to become) invented, patented and perfected a method for making reinforced concrete pipes using centrifugal forces to mold and set the concrete. It truly revolutionized the manufacture of pipes providing a cheap, strong alternative to the clay, wood or iron pipes then in use.

A brickworks at Bacchus Marsh, coal mines at Altona, sand mining near Keilor and new quarrying developments saw heavy industries appear in the rural areas for the first time.

Brick-works and potteries were also established at Footscray, Yarraville, Tottenham and briefly in Altona but these were never of the scale of northern and eastern suburbs brick-works. The exception was the Darley brick-works (0006), established in 1902, which produced (and continues to produce) fire-bricks and refractories for kilns from the local clays.

The Darley brick-works was of considerable importance to many manufacturing industries as it was virtually the only local supplier of high grade refractories for such things as gas works, foundries, smelting furnaces and potteries.

In the rural areas, the change from grain crops to pasture and hay growing was almost complete and the area of market gardens and orchards were increasing in Bacchus Marsh, Werribee and Keilor thanks to irrigation schemes coming to fruition.



Cuming Smith, Miller's Ropes, C.S.R., Mt. Lyell & Co. c. 1925



The First World War gave rise to some distinctive developments in industry. The explosives and ammunition factories at Maribyrnong were greatly enlarged and the Williamstown docks developed for naval shipbuilding. The Williamstown Dockyards were taken over by the Government during the War and retained long after.

Point Cook was chosen for the first airfield for the newly proclaimed Royal Australian Air Force on the verge of the First World War, commencing an era of military occupation beyond the munitions manufacturers. (James 1985:94) Large numbers of troops were camped at Bacchus Marsh, Maribyrnong, Altona and the Ascot Vale showgrounds. Many local firms won lucrative contracts including William Angliss, Maize Products, the Flemington Meat Preserving Co., Kinnears and Michaelis Hallenstein. H.V.McKay began making water carts, wagons and ambulances for the Army. In Bacchus Marsh, the Federal Milk Factory joined several others in the area producing condensed milk and other dairy products resulting in a local shortage of fresh milk.

The munitions industry saw massive expansion with the Maribyrnong artillery base being taken over for an Ordnance Factory (0070). Over a thousand people were working at the Ammunition Factory in 1917. (Ford:82)

The rural sector also benefited as agricultural production increased to levels never seen before, including a resurgence of grain farming. (Lack & Ford:83) This in turn stimulated the agricultural implement works in the region.

As automobiles took over from the horse, the traditional fuel supply also changed, encouraged by the requirements of the new mechanized warfare. The chaff mills which were a feature of the pastoral areas around Werribee, Melton and Sydenham, were joined by a number of oil companies who located in easy reach of the Williamstown docks. H.C. Sleight, Vacuum Oil (0239), Shell, Alba Petroleum (0414) were all in the Newport area by the late 1920s (Ackerly 1988) and Victoria's first refinery was established on Kororoit Creek Road by the Commonwealth Oil Company (0180).

Potteries in Maribyrnong (0220) and Sunshine (0227) were established around World War I possibly as a consequence of the scarcity of imported ceramics and earthenware caused by the disruption to shipping and the loss of the traditional suppliers. (Lack & Ford:87)

Likewise, coal was being mined at Altona (0041,0042) and Bacchus Marsh (0043) to supply domestic needs and a briquette depot erected at Paisley. Near Bacchus Marsh an antimony deposit (0038) was mined to supply the metal which was essential in munitions production but not needed in peacetime.

The Western Region saw considerable growth during the 1920s when renewed patriotism and confidence in local industry saw campaigns to encourage consumers to "Buy Australian". This led to the expansion of existing manufacturers and the establishment of a large number of new industries. In general, these were located west of the established residential and industrial areas. The new industrial zones included the almost instant industrial estate of Albion where within a few years factories had been built by Wunderlich (0235) for manufacture of windows and pressed metal wall and ceiling linings, Spauldings (0233) sporting goods manufacturers, Nettlefolds nut and bolt factory (0234), Australian Reinforced Concrete (0345), makers of steel reinforcement and John Darling and Sons (0164) who commenced flour milling opposite the Albion Railway station.

This new development was encouraged by H.V. McKay who wanted to see a greater industrial base for the area around his Sunshine Harvester Works. Closer to Sunshine, Alfred Drayton had established the Sunshine Pottery and nearby was Crittall's window frame factory (0400).

The saw-tooth roof single storey form became the most prominent factory architecture during this period reflecting the changes in manufacturing processes where large areas of continuous floor space were needed for efficient movement of materials between the various stages of production. An example can be seen in the sheet metal factories where the steel went from guillotine to press to punches and on to a fabrication area along a production line. The saw-tooth roof provided the best means of spreading natural light over a large area. It could only work on a single floor level although it was often employed on the top floor of wool stores to provide light to the sample and auction floor. The roof lights were usually, but not universally, south facing to ensure diffused rather than direct light.

Continuing growth in the railways saw an expansion of the Newport Railway Workshops and the establishment of the Spotswood Ways and Works depot (0114) and the Railway Stores Department (0440) across Melbourne Road. This gave the Newport/Spotswood area a confirmed railway character with more people employed by the railways than any other branch of industry or commerce.

The Yarraville chemical works of Cuming Smith, Mt. Lyell and Wischer and Company, and Australian Fertilizers and Chemicals in Deer Park amalgamated to form a single company; Commonwealth Fertilizers and Chemicals Pty. Ltd. There was much rationalizing of production following the merge leading to the closure of Wischer and Co. and the sale of parts of the complex to I.C.I. (Aust.).

Dickies towels in Yarraville, Port Phillip Mills in Williamstown and Bradford Cotton Mills in Footscray added to the established textile industries in the region. The Newport-Spotswood area developed the core of oil storage and terminal complex with Commonwealth Oil Refineries, and British

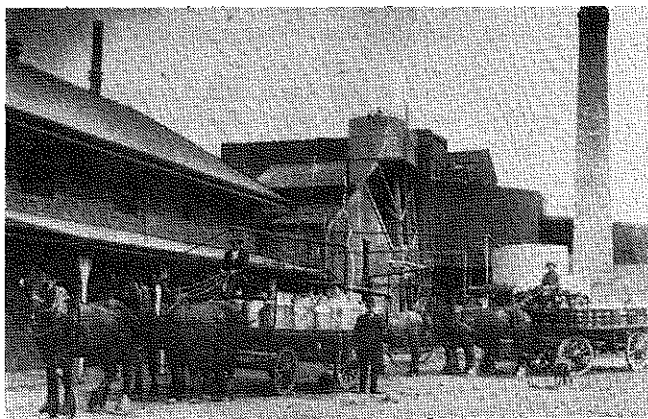
Imperial Oil in Burleigh Street joining Vacuum Oil and H.C. Sleigh. C.O.R. built Australia's first refinery near Kororoit Creek in Laverton in 1923 and was the only major refinery until after World War II.

Geelong Road, West Footscray also developed as an industrial area. Beaurepaires Olympic Tyres (0240), Smorgan's meatworks, Barmac Wright rainwear (0235) and others took large sites in what was then open farm land. Foreign capital was coming into Australian industry at a higher level than ever before. British firms such as Crittalls and Nettlefolds established subsidiaries in Australia and others bought into existing companies. For example, Massey Harris of Canada exchanged its Australian distribution network and the rights to its products and name for a part share in the Sunshine Harvester Works forming H.V.McKay Massey Harris Pty. Ltd.

Essendon continued as a non industrial area except for small specialized industries such as the aircraft supply and construction companies servicing the newly opened airport (0135), clothing, plaster, cycle and cart manufacturers, indicating the predominantly workshop and cottage industry catering for a growing residential population. (Lack & Ford:89)

The Bacchus Marsh district, thanks to its complex geology supported a range of mining industries in the 1920s. Manganese near McFarlane's farm, Kaoline (for porcelain pottery) from Rowsley, Dolerite and lime at Coimadai and brown coal at Parwan joined the Darley clay pits and the gold fossickers in the Werribee and Lerderberg Gorges.

Even while companies were prospering they offered little security of employment for their workers. From the end of World War I onwards, factories such as the Colonial Ammunition Company or the Sunshine Harvester Works would put off several hundred workers at a time. The meatworks, which were dependent on seasonal exports employed casual labour for the busy period and laid them off at slack times. In many industries piece-work rates created inequities in pay scales.



Federal Dairy, Bacchus Marsh, c. 1890, Bacchus Marsh Historical Society

The period of strong growth during the decade following the First World War came to a dramatic end in 1929 when factory closures and mass sackings of workers came in the wake of the stock market crash and the collapse of many companies which had extended themselves during the boom years and now were deeply in debt.

Many industries closed down completely and others operated only periodically or with a much reduced workforce. A two or three day week was introduced by some factories and in most cases the women and single men were retrenched before married men.

Amalgamation of industries was also becoming quite prevalent. Probably the largest conglomerate to be established in the region was Imperial Chemical Industries who took over the explosives factories of Nobels, Bickford Smith, and Kynochs, as well as many chemical firms including the Yarraville complex then owned by Commonwealth Fertilizers and Chemicals.

Sustenance programs, designed to alleviate the plight of the unemployed contributed to industrial activity or at least helped contain the drift of workers away from the area. Schemes included laying concrete paths and lining the irrigation channels in Bacchus Marsh and Werribee, reconstruction of the banks of the Maribyrnong River and sewerage works in Sunshine. These, however, had very little effect on the overall industrial base of the region.

Paradoxically, while the 1930s were a time of failure and trouble for many of the region's established industries, they were also a period of innovative development. Large new export meatworks were established on new principles where instead of each man working on a single carcass at a time carrying out the slaughtering and trimming process as a craft, the process was reduced to many simple operations carried out by unskilled workers who stood beside a travelling chain performing the same task on each beast as it came by.

The introduction of the chain, as it was called, caused one of the most bitter strikes in Victoria. Reduction in wages had made life even harder in what was already an insecure seasonal occupation and at a time when the country was experiencing its worst ever unemployment and many workers were already unable to provide properly for their families.

The depressed real estate market and the collapse of many of the established manufacturing firms created a climate which by the late 1930s gave impetus to establishment of new factories. Those who had remained solvent found investment potential in new manufacturing processes and mass production technology.

The western fringe of the built up area saw much of this development. George Bramall (0253), Hopkins Odlum (0209) and Olympic Tyres and Rubber built on the established rubber goods industry which had been pi-

oneered by Barnett Glass. Along with the Southern Can Company (0207), Boon Spa soft drinks (0208) and Austral Bobbins (0428) they created a new industrial precinct near the crossing of Geelong Road and the Bendigo railway line taking advantage of the relatively cheap land and the ideal transport facilities.

This unified contemporary development was distinguished by the erection of office and showroom facades reflecting the range of the tastes in European Moderne styling then in vogue. The factories behind these facades demonstrate the new wave in factory layout with acres of unadorned, south facing saw-tooth roof providing uninterrupted and naturally lit factory floor space for the production line manufacturing processes.

Elsewhere in the region, isolated factories also adopted this new style in their expansion and rebuilding programs. Warren Brown (0429), Metters, Sunshine Potteries (0383) and many lesser facades show the clean lines, geometric shapes and streamlined curves which identify the period and the style.

One of the key developments in the 1930s was the erection in West Footscray of James Hardie's factory (0211). James Hardie had in the previous 30 years pioneered the import, use and later manufacture of asbestos building materials in Australia. In 1932 they built their Melbourne factory as a show piece of its products. The factory and offices had been erected by the firm of Cochranes who also had premises in Footscray. Although a period of terrible depression, it seems that it was also a time when industrial buildings were being seen as more than just functional workshops. Instead they could be expressions of the company's image. This is a notion which often applied to offices and residences but it was new for noted architects to be employed to design mere factory buildings.

Other developments included the first manufacture of plastics on a commercial scale by A.C.I at Spotswood, another oil terminal constructed at Newport (Alba petroleum), new metal manufacturers such as Brass Company of Australia, Extruded Metals and Ralph McKay all in Hampstead Road Sunshine and new animal by-product works such as Klipspringers (0032) and Pennel's (0034).

The development of the GMH plant at Fishermen's Bend and Ford in Geelong in the 1930s stimulated the glass, paint, leathercloth, rubber and metal trades and oil and petroleum industry throughout the region.

Put together these various new ventures and expansions in existing works provide a counterpoint for the common perception of decline and stagnation in industry in the 1930s.

## 1939-45      World War II

For the duration of the Second World War, nearly all new developments in industry in the region were focused on providing for the war effort. Huge expansion went ahead in the Gordon Street Small Arms Ammunition Factory, the Maribyrnong Explosives Factory and the Ordnance Factory. At Essendon Airport, hangars and workshops were constructed for the Beaufort aircraft in 1940. (Shaw:65) Airforce bases at Point Cook and Laverton were put on a war footing and Williamstown shipbuilding facilities were expanded to cope with the naval orders. These included the HMAS Castlemaine now moored at Gem Pier.

The private sector benefited from the war production through the establishment of the system of Government Annexes, where Government funds, sometimes on McArthur's Lend Lease scheme, were used to finance private companies who would build and operate specific factories for the war effort. Examples include Sunshine Harvester Works, ICI in Deer Park, McKenzie and Holland at Spotswood, and clothing factories in Williamstown and Footscray. (Jenson 1946)

Other local firms produced goods for the military including uniforms and blankets from the Williamstown woollen mills, motor boats from J.J. Savage and spark plug insulators from Drayton Potteries. The shortage of materials created by the war was met by local industry producing substitutes. Manganese and antimony mines at Bacchus Marsh were reopened, ICI erected several synthetic ammonia plants and Commonwealth Fertilizers began producing specialized acids.

Among the few new factories were Rheem Australia in Brooklyn (1943) Austral Bronze (1942) Metal Manufacturers (1944) in Maribyrnong, Olympic Cables in Tottenham, Industrial Engineering and British Australian Carpet Manufacturers (0429). All but the last of these produced items valuable for their military uses. In 1941 the Monsanto Chemical firm erected a plant on 7 acres at the west end of Somerville Road (0181), being the first factory in that area. Then, all land west of Yarraville was open grazing paddocks showing the rapid expansion of the industrial areas since W. W.II.

Several factories were declared essential industries during the war. They included Darlings Flour Mill and Creamota (0422), which produced flour and cereals, Bradford Cotton Mills, Port Phillip Mills, Kinnears Ropes, Ralph McKay and Brass Co. of Australia. To meet the combined demand of domestic and military orders these factories worked 24 hours a day in three shifts. (Lack & Ford 1986:108)

One of the striking features of wartime production was the employment of large numbers of women in manufacturing and heavy industries, especially in the munitions factories, and many other areas previously closed to women. Their employment was a consequence of the shortage of male labour and was short lived. At the end of the war when military production was being wound down and servicemen were returning from the front-lines, the women were quickly retrenched.

The influencing factors effecting industrial growth in the Western Region during the Post War period were once again the availability of relatively cheap land, proximity to transport facilities and suppliers, and a resident labour population. Other districts in Melbourne were also attracting their share of industry at this time, notably Coburg and the northern suburbs and the Clayton/Dandenong area, but the Western suburbs were still an attractive location.

During World War Two American forces in Australia had demonstrated the comforts to be had through use of the refrigerator and other modern appliances. The hire purchase system and more economic and efficient manufacturing techniques had made these products more affordable and the result was a consumer society with an expectation and ability to own the products being manufactured. Wartime experience in engineering provided a basis for manufacture of consumer goods as well as the manufacture of the metal working machinery necessary for the production of those goods. (Ellis 1966:47, Davidson 1969:5-6)

Not long after the end of the war a bitter industrial dispute developed in the metal trades as workers and managers grappled with the wage-pegging regulations which remained in force into 1946. The high production capacity generated by the war and the demand created by reconstruction gave workers high expectations that they would share in the anticipated prosperity of peace-time. A pound a week rise was demanded by metal trades unions and the dispute culminated in a national strike in the metal industry in which Cecil McKay and the Sunshine Harvester Works played a major role. (Murray & White 1982)

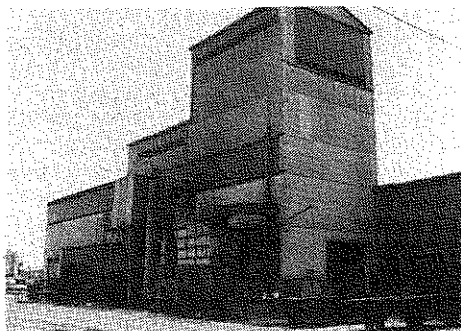
The wartime industrial achievements of the Western Suburbs were celebrated in publications such as "Forging Ahead", by Footscray and Braybrook, and "Wealth of a City" by Williamstown. These councils, seeing the economic value brought by manufacturing industry sought to promote further industrial and residential development. The main occupation of males in Footscray, Braybrook and Williamstown after the war were in manufacturing industry, particularly engineering, founding and ironwork. Publications of the time describe the west as "The Birmingham of Australia". (Forging Ahead, Sunshine Cavalcade)

In the 1950s the population of the developed, inner suburbs of Essendon, Footscray and Williamstown was actually declining and housing and industrial construction was facilitating rapid growth in the outer areas such as Brooklyn, Sunshine and Braybrook. These changes were a reflection of the modernization of manufacturing industry with new, expansive factories replacing the old works which in many cases were survivals from the 19th century. Connor Shea, Taubmans (0236), Lysaght, Olympic Cables, Eta Foods (0183) and D. Richardsons (0217) are examples. In nearly every case complete new factories were built in the open paddocks beyond the

fringe of development. Massey Ferguson were one exception as they had inherited a huge expanse of land and factory space fortuitously amassed by H.V. McKay more than half a century before. Henry Bolte opened a new manufacturing plant at Massey Ferguson in the 1960s when that company had re-established the dominance of the Sunshine Harvester Works as the major agricultural implement maker in Australia.

Accompanying the new industrial areas were sprawling residential developments where houses dotted the fields and services such as roads and sewerage were slow to catch up. Many of these new houses were built for the thousands of European immigrants who came to Australia looking for a new life following the destruction of the War. Their contribution to the growth of the Western Suburbs is inestimable. The location of the Migrant Hostels in Williamstown, Braybrook, and Maribyrnong, the availability of cheap land for building and the proximity to employment clearly were key factors in the choice (where they had one) of the migrants new homes. Migration and housing and industrial development in the post war period are inexorably linked in the region.

The pattern of industry we see today was finalized by the 1950s and '60s. The banks of the Maribyrnong River South of Ballarat Road in Footscray, Yarraville and Spotswood were taken up by just a few very large factories and west of Maribyrnong township in Maidstone, Braybrook and North Sunshine the Government munitions establishments dominate but otherwise mainly small factories continued to be the norm. The sites of earlier industries, interspersed among house plots on small blocks in the complex 19th century street patterns, were very poorly suited to expansion and have only survived as operating factories in very few cases.



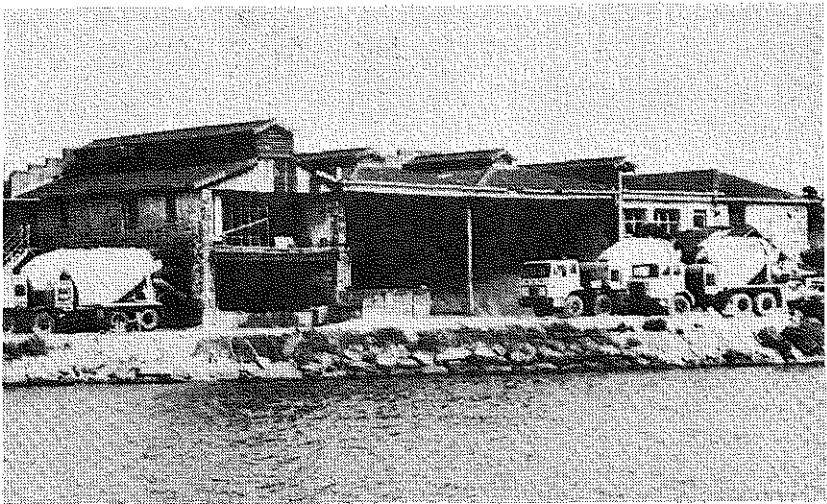
New Foundry at Massey Ferguson in the late 1960s. It was hardly used.



New factories were erected along the Sunshine - Newport goods line, Geelong Road, Tottenham and Brooklyn and Altona North. The noxious industries found a new home at Laverton North and Altona North where a special-use, dangerous industries zone was based around the proposed site for the relocated livestock saleyards originally planned in the 1920s and only recently rejected as an option.

The northern part of the region did not see substantial development apart from that connected with the airport, until the 1960s when many small manufacturers and light industrial firms were established along Keilor Road and Mathews Avenue. The airport may have been the initial catalyst for this development preventing the continuation of the predominantly suburban dormitory of Essendon.

In Altona, on the vacant land nearest to the Williamstown and Newport oil wharves, a huge petrochemical complex was built from scratch. It began with Petroleum Refineries Australia in 1949 which comprised the basic oil, bitumen and later petroleum refinery plant. Subsequent plants were established for producing intermediate compounds such as ethylene, butadiene, and propylene within the Altona Petrochemical Corporation. In turn, nearby plants converted these compounds to styrene, synthetic rubber, chlorine, resins and a variety of plastics and other chemical products. The area presents an example of specialized, inter-dependent industries developing in collaboration with each other from a small nucleus.



Australian Meat Preserving Company, Sims Street, Footscray. Demolished between 1975 and 1985.

The 1970s were characterized by the news headline on the sacking of 500 employees at Massey Ferguson. By 1972 the number of factories in Footscray had decreased to 208 from a high of 245 in 1947. However, the growth of the Braybrook or Sunshine industrial area more than compensated for Footscray's loss. In 1951 When the Shire of Braybrook became a City it had 120 factories, in 1971 it had 264. Between them the two municipalities accounted for half of the factories and factory employees in the region. (Victorian Municipal Directory 1972)

While market gardens, farms and their associated processing works such as chaff mills and milk factories were still a feature of Bacchus Marsh, Melton and Werribee, Keilor began to take on more of an industrial and suburban character. Local industry accounted for a small proportion of employment with many residents commuting to the city and manufacturing zones of Melbourne. Bacchus Marsh lost the Lifeguard milk factory but gained the Timbrock hardboard mill.

The pattern of defined industrial and residential zones interspersed with large tracts of Commonwealth land controlled by the defence department was indelibly etched on the region's landscape. Until the 1970s new development fitted in with this pattern or else moved out to the fringe of the built up areas. The recent decades have seen some dramatic changes to many areas of the region. These changes have mostly been heralded by the sounds of demolition. Maize Products, Michaelis Bailey, the Angliss meatworks, City Abattoirs, Humes Pipes and the Colonial Gas Association closed down all or most of their plants and were eventually demolished, changing the face of the river front industrial area of Footscray.



Demolition of the Michaelis Hallenstein Tannery in Footscray, 1987

Restructure of industry has taken the form of a reduction of the workforce and changes to work practices and manufacturing processes. Automation of production lines and new computer controlled machinery has meant fewer operators are needed and the nature of the workforce has changed with a new emphasis on technical qualifications. Unskilled and labouring work, once a mainstay of employment in the region, has diminished. Firms unable or unwilling to make changes have poor chances of survival. Between 1982 and 1984 more than 10 heavy metal engineering shops closed down while more than 1,000 workers were retrenched. Long standing companies such as Hobsons Bay Engineering, David Brown Gears and C. Ebeling have closed their doors.

The oldest industrial sites in the region have been under pressure from several directions in recent years. The resurgence in interest in the natural values of the river and waterfronts has discouraged new industry in these areas. As the old and often offensive factories have closed down and been demolished they have been replaced, not with new factories, but with parkland, housing and community facilities.

Residential development of obsolete industrial land has also followed as the improved environment and the greater desirability of inner city living has inflated land prices. The redevelopment of the Angliss Meatworks, City Abattoirs and Newmarket Sale Yards for mixed private and public residential use is changing the whole character of the Footscray area. Elsewhere, the gentrification of inner suburban workers housing has spread from Carlton and Fitzroy to Yarraville and Newport.

Henderson House, one of the oldest industrial sites in the region is now a community arts centre, the Melbourne Meat Preserving works is in parkland managed for its historic and industrial heritage, large areas of the river flats have been planted with native vegetation by the Board of Works. The whole of the Footscray docks area, the first settled and industrialized part of Footscray, is to be redeveloped for housing and entertainment. More than half of the Sunshine Harvester Works has been sold to be converted into a huge shopping complex.

However, the Western Region continues to make a major contribution to manufacturing and processing in the State. Small modern factories employing an average of around 20 people are dotted throughout the region. At the other extreme, the largest complexes such as ICI, Monsanto, Olex Cables, the Altona petrochemical complex and the Government munitions factories are located in distinct single industry industrial zones and employ several hundred workers each. (Wilson et. al 1984)

# THE HERITAGE STUDY

## INTRODUCTION

The study has been prepared for the Ministry for Planning and Environment, Victoria and is part of the Regional Action Program 1988. The study aims to survey and document and assess the surviving sites of Industrial Heritage significance in the Western Region of Melbourne.

## OBJECTIVES

The purpose of the Study is firstly to succinctly outline the historical development of industry in Melbourne's Western Region, secondly, to identify, describe and evaluate the industrial buildings and sites of social, cultural, scientific, aesthetic, architectural or historical significance, and thirdly, to make recommendations for the conservation of the industrial heritage of Melbourne's West.

## STUDY AREA

The study area is that of the Western Region Commission, taking in the municipalities of Altona, Bacchus Marsh, Essendon, Footscray, Keilor, Melton, Sunshine, Werribee and Williamstown.

A smaller area outside these municipal boundaries (namely the Kensington/Flemington area adjacent to the Maribyrnong River) was also included because of its important link with the Western suburbs. Part of this area has, in the past, been included in either the Borough of Footscray, the Shire of Braybrook, the City of Essendon or the City of Footscray.

## SCOPE

Due to the extensive area and complexity of subject matter under investigation plus the large number of sites worthy of investigation this study cannot be regarded as exhaustive. Nevertheless, it embodies the results of a selection process designed to include the most significant sites. These include industrial sites with substantial physical remains or those of particularly notable age, size, uniqueness, preservation, etc. While most effort has been directed towards nineteenth and early twentieth century sites, a representative sample of the more significant post World War I sites has also been included.

The study builds on existing area conservation studies which have been carried out in Williamstown, Essendon, Flemington - Kensington, Footscray and the Harbour, Railways and Industrial area of West Melbourne by concentrating on a single theme in the built environment, that is, industry.

## BUDGET

The total budget was \$25,000, \$6000 of which was allocated to the employment of a sub-consultant architect, Andrew Ward and Associates.

## STEERING COMMITTEE

Roger Holloway	MPE Western Metro
David Dunstan	MPE Heritage Branch
Ian Woodroffe	Royal Historical Society of Victoria
Jenny Sandercombe	Western Region Commission (part)
Jill Burness	Western Region Commission (part)
Boyce Pizzey	Museum of Victoria
Andrew Ward	National Trust of Australia (Vic) (part)
Alison Blake	Footscray Institute of Technology
Annette Mastrowicz	MPE (part)
Marcia Webb	MPE (part)

## STUDY TEAM

Melbourne's Living Museum of the West has been employed to carry out the study on behalf of the Steering Committee and the following personnel have been employed.

Olwen Ford	Co-ordinator
Gary Vines	Principal researcher
Andrew Ward	Architectural consultant

Sharon Barnes and Tom Rigg provided additional research material for the site survey.

## CRITERIA FOR RECOMMENDATIONS

It has been necessary to establish priorities for the research and recording of individual sites. To this end three different levels of analysis were adopted, corresponding to levels of significance.

The three levels of identification and analysis provide for:

- (1) A *prima facie* case for recommendation for inclusion on the Historic Buildings or Government Buildings Registers, the Register of the National Estate and for protection under the Planning and Environment Act.
- (2) A case for identification and protection under the relevant provisions of the Planning and Environment Act, and recommendations to that effect.
- (3) Information arising out of the Museum's extended research, but not including any recommendations at this stage for planning protection. The

criteria for inclusion of sites on the Historic Buildings Register and Register of the National Estate are included in Appendices B and C.

In addition to recommendations for nomination to the Statutory Registers in this study, significant sites have been referred to the National Trust of Australia (Victoria) via its Industrial History Committee.

The following table indicates the corresponding level of protection recommended for sites at each level of analysis. Four levels of protections have been chosen, with the upper two divided according to their eligibility for consideration by the Historic Buildings Council.

- (HBR) Historic Buildings Register
- (GBR) Government Buildings Register
- (NE) Register of the National Estate (Australian Heritage Commission)
- (MMPS) Melbourne and Metropolitan Planning Scheme

Level of identification and analysis	Conservation Recommendation	Relative Significance
1	A HBR GBR NE MMPS	National or State
	B NE MMPS	Regional
2	C MMPS	Regional or Local
3	D	Local

Sites in the last category (conservation level D) may be **contributory** as far as cultural importance is concerned. These sites have not been dealt with in the main body of recommendations for planning protection.

## SUMMARY OF RECOMMENDATIONS

The following site lists have been compiled in the format: Site Number (see citations), Classification Level, Site Name, Condition Codes (see below-site recording form), and the address.

### LEVEL A SITES

The following sites in the region are currently included on the Historic Buildings Register:

0007	A	Sunshine Harvester Works	A	Hampshire Road Sunshine
0027	A	Henderson's Piggery	A Ar	43-45 Moreland Rd. Footscray
0092	A	Alfred Graving Dock	A	Nelson Place Williamstown
0093	A	Advertiser Office	A	205 Nelson Place Williamstown
0177	A	Blacksmith Shop	A	100-2 Main St. Bacchus Marsh
0260	A	Burley Griffin Incinerator	AHE	Holmes Rd. Essendon

The following sites are recommended for inclusion on the Historic Buildings Register:

0001	A	Apollo Candle Works	AH	166 Kensington Rd. Footscray
0005	A	CSR	AH	265 Whitehall St. Yarraville
0202	A	Chicory kiln	A	Taverner St. Bacchus Marsh
0220	A	Spotswood Fuze Factory	A	140 - 150 Hall St. Spotswood
0237	A	T. Robinson & Co.	A	210 - 220 Hall St. Spotswood
0399	A	Melbourne Woollen Mills		2 Banool Ave. Yarraville

The following sites in the region are currently included on the Government Buildings Register:

0002	A	Melbourne Meat Pres. Co.	A Ar H	Van Ness Avenue Maribyrnong
0014	A	Newmarket Sale Yards office	A PD	Racecourse Road Kensington
0087	A	Time Ball Tower Lighthouse	A PD	Pt. Gellibrand, Williamstown
0089	A	Tide Gauge building	A	Nelson Pl. Williamstown
0121	A	Williamstown Station	A	Ann St. Williamstown
0122	A	Little River Station & She	A	Little River
0124	A	Footscray Station	A	McNab Avenue, Footscray
0141	A	Djerriwarrah Creek. Bridge	A	Ballarat Rd Bacchus Marsh
0185	A	Spotswood Pumping Station	A	Douglas Parade Spotswood
0193	A	Water Tank	A	Werribee Sewerage Farm
0336	A	Essendon Railway & Station	A	Buckley St. Essendon

The following sites are recommended for inclusion on the Government Buildings Register:

0039	A	Station & Goods Yards	A	Woods St. Yarraville
0069	A	Explosives Factory Marib'nong	AH	Cordite Ave Maribymong
0074	A	Gunpowder Magazine Maribyr	A	Van Ness Ave Maribymong
0112	A	Railway Workshops	A	Champion Rd. Newport
0130	A	Quartermile Bridge	AE	off Stirling Drive E. Keilor
0132	A	Melton Viaduct	E	near Clarks Rd Melton
0133	A	Maribymong Rail Bridge	E	Newells Paddock Footscray

### LEVEL B SITES

The following sites in the region are currently included on the Register of the National Estate.

0027	A	Henderson's Piggery	A Ar	43-45 Moreland Rd. Footscray
0074	A	Gunpowder Magazine Maribyr	A	Van Ness Ave Maribymong
0087	A	Time Ball Tower Lighthouse	A PD	Pt Gellibrand, Williamstown
0089	A	Tide Guage building	A	Nelson Pl. Williamstown
0090	A	Customs House	N	Nelson Place Williamstown
0093	A	Advertiser Office	A	205 Nelson Pl Williamstown
0122	A	Little River Station & Shed	A	Little River
0132	A	Melton Viaduct	E	near Clarks Rd Melton
0141	A	Djerriwarrah Creek. Bridge	A	Ballarat Rd Bacchus Marsh
0148	A	Keilor Road Bridge	AL	Old Calder Highway Keilor
0156	A	Rothwell Bridge	L	Little River Rd, Little River
0177	A	Blacksmith Shop	A	100-2 Main St. Bacchus Marsh
0185	A	Spotswood Pumping Station	A	Douglas Parade Spotswood
0192	A	Point Cook Homestead	N	Homestead Rd. Point Cook
0193	A	Water Tank	A	Werribee Sewerage Farm
0200	A	Exford estate	N	Exford Rd. Exford
0271	A	Deanside	N	Off Sinclair's Rd. Rockbank
0274	A	Eynesbury	N	Eynesbury Rd. Werribee
0280	A	Overnewton	N	Overnewton Rd. Keilor
0283	A	Strathulloch	N	Griegs Rd. Melton
0284	A	The Willows	N	Homestead Rd. Melton

The following sites are recommended for inclusion on the Register of the National Estate.

0001	A	Apollo Candle Works	AH	166 Kensington Rd. Footscray
0002	A	Melbourne Meat Pres. Co.	A Ar H	Van Ness Ave Maribymong
0005	A	CSR	AH	265 Whitehall St. Yarraville
0006	B	Darley Fire-Brick Works	A	Grey St. Bacchus Marsh
0007	A	Sunshine Harvester Works	A	Hampshire Road Sunshine
0008	B	ICI Explosives		Ballarat Rd. Deer Park
0011	A	Express printing office	AN	8 Gisborne Rd. Bacchus Marsh
0013	B	McPhersons Jute Works	A	91 Moreland St. Footscray



0014	A	Newmarket Sale Yards office	A PD	Racecourse Rd Kensington
0016	B	Pig and Calf Market	A	Market Road Brooklyn
0030	B	Estates woolstore	A	Sunshine Rd Tottenham
0037	B	Dibley Lime Kilns	A PD A	Diggers Rest Rd. Coimadai
0039	A	Station & Goods Yards	A	Woods St. Yarraville
0065	B	Mining Water Race	Ar PD	Lerderderg Gorge Bacchus Marsh
0067	B	Ammunition Factory Maribyr	A	Gordon Street Footscray
0069	A	Explosives Factory Maribyr	AH	Cordite Ave Maribyrmong
0070	B	Ordnance Factory Maribyr	A	Wests Road Maribyrmong
0075	B	Powder Magazine Footscray	A	Lyons Street Footscray
0092	A	Alfred Graving Dock	A	Nelson Place Williamstown
0110	B	Altona Pier	A	Pier St. Altona
0111	B	Railway Workshops	D Ar	Railway Tce. Williamstown
0112	A	Railway Workshops	A	Champion Rd. Newport
0121	A	Williamstown Station	A	Ann St. Williamstown
0124	A	Footscray Station	A	McNab Avenue Footscray
0130	A	Quartermile Bridge	AE	off Stirling Drive E. Keilor
0133	A	Maribyrmong Rail Bridge	E	Newells Paddock Footscray
0137	B	South Base survey marker		near Princes Highway Werribee
0140	B	Arundel Rd. Bridge	A	Arundel Road Keilor
0147	A	Kororoit Creek Bridge	AL	Princes Highway Brooklyn
0159	A	Ford	N	North Rd Avondale Heights
0164	B	Darling's Flour Mill	A	Sydney Street Albion
0180	B	Commonwealth Oil Refinery		Kororoit Creek Rd. Altona
0183	B	ETA Factory	A	254 Ballarat Rd Braybrook
0202	A	Chicory kiln	A	Taverner St. Bacchus Marsh
0207	B	Southern Can Co.	A	240 Geelong Rd. Footscray
0209	B	Hopkins Odlum	A	268-75 Geelong Rd W Foots
0211	B	James Hardie	A	Hardie Rd. Brooklyn
0220	A	Spotswood Fuze Factory	A	140-150 Hall St Spotswood
0224	B	Mowling's Soap & Candle	A	107 Whitehall St. Footscray
0229	B	Factory	A	87-0 Raleigh St. Essendon
0232	B	Cheetham Saltworks	A	Aviation Rd. Laverton
0237	A	T. Robinson & Co.	A	210-220 Hall St. Spotswood
0239	B	Vacuum oil Co.	A	Francis St. Yarraville
0240	B	Olympic Tyre & Rubber	A	Cross St. Footscray West
0259	B	Outfall Sewer	E	Altona to Werribee
0260	A	Burley Griffin Incinerator	AHE	Holmes Rd. Essendon
0263	B	Albion sub station	A	Ferguson St. Albion
0264	B	Newport sub Station	A	Melbourne Rd. Newport
0265	B	Kensington VR sub Station	A	Illawarra Rd. Flemington
0272	A	Ellerslie	N	Pilmer St. Bacchus Marsh
0277	A	Greystones	N	Rowsley
0302	A	Sunbury Winery	N	Sunbury Rd. Sunbury
0313	A	Angliss workers housing	N	Newell St. Footscray
0319	A	Ercildoun	N	Napier St. Footscray
0322	A	Rockbank Inn	N	Beaties Rd Rockbank

0330	B	Woolpack Inn Stables	PD Ar.	Woolpack Rd. Bacchus Marsh
0336	A	Essendon Railway & Station	A	Buckley St Essendon
0340	B	Melbourne Hay or Pig Market	A	Parwan Park Bacchus Marsh
0341	B	RAS Showgrounds	A	Epsom Rd. Ascot Vale
0359	B	Glucose Factory	A	29 Fisher Pde Ascot Vale
0370	B	Williamstown Chronicle	A	8 Parker St. Williamstown
0372	B	Oil storage tanks	E	Burleigh St. Spotswood
0393	B	Nugget Shoe Polish	A	16-18 Morris St. Williamstown
0397	B	T. Henderson		102 Whitehall St. Footscray
0399	A	Melbourne Woollen Mills		2 Banool Ave. Yarraville
0426	B	Minifies Flour Mill	A	Lennon St. Flemington
0431	B	Wool store	A	3 Lloyd St. Kensington
0434	B	Kensington Railway Station	A	Bellair St. Kensington
0446	B	Black Arch rail bridge	A	off Sunshine Road Sunshine

### LEVEL C SITES

Presently none of the surveyed sites are known to have been included on any local planning schemes.

It is recommended that action be taken by the appropriate responsible authorities for inclusion of the listed sites under the named planning schemes as provided for in Sections 25N & O of the Planning and Environment Act.

For the City of Altona Planning Scheme:

0110	B	Altona Pier	A	Pier St. Altona
0180	B	Commonwealth Oil Refinery		Kororoit Creek Rd. Altona
0232	B	Cheetham Saltworks	A	Aviation Rd. Laverton
0259	B	Outfall Sewer	E	Altona to Werribee

For the Shire of Bacchus Marsh Planning Scheme:

0006	B	Darley Fire-Brick Works	A	Grey St. Bacchus Marsh
0040	C	Gold Workings	PD Ar	Lerderderg Gorge Bacchus Marsh
0063	C	Town Water Channel		Werribee Vale, Bacchus Marsh
0064	C	McFarlane's Channel	Ar H	Werribee Gorge Bacchus Marsh
0065	B	Mining Water Race	Ar PD	Lerderderg Gorge, Bacchus Marsh
0131	C	Rowsley cutting, viaduct	AE	Dogtrap Gulley Bacchus Marsh
0141	A	Djerriwarrah Creek. Bridge	A	Ballarat Rd Bacchus Marsh
0177	A	Blacksmith Shop	A	100-102 Main St. Bacchus Marsh
0196	C	Roses and miner's Huts	PD Ar	Werribee Gorge State Park

0202	A	Chicory kiln	A	Taverner St. Bacchus Marsh
0295	C	Pikes Creek Dam		Western Highway Bacchus Marsh
0330	B	Woolpack Inn Stables	PD Ar.	Woolpack Rd. Bacchus Marsh
0340	B	Melbourne Hay or Pig Market	A	Parwan Park Rd. Bacchus Marsh
0392	C	Stable	A	Young St. Bacchus Marsh
0405	C	Ingleston Viaduct	E	Werribee Gorge Bacchus Marsh
0037	B	Dibley Lime Kilns	A PD A	Diggers Rest Rd. Coimadai
0038	C	Antimony Mines	PD Ar	Antimony Mine Road, Coimadai

For the City or Essendon Planning Scheme:

0138	C	Tramway Depot	A	Mt Alexander Rd. Ascot Vale
0341	B	RAS Showgrounds	A	Epsom Rd. Ascot Vale
0359	B	Glucose Factory	A	29 Fisher Pde Ascot Vale
0418	C	MMTB Substation		Maribymong Rd. Ascot Vale
0045	C	Maribymong Sand Pits	PD Ar	South of Prospect St. Essendon
0135	C	Essendon Airport		off Mathews Avenue Essendon
0176	C	Cook's Blacksmith		882-4 Mt Alexander Rd. Essendon
0229	B	Factory	A	87-0 Raleigh St. Essendon
0230	C	Factory	A	90-92 Albion St. Essendon
0260	A	Burley Griffin Incinerator	A HE	Holmes Rd. Essendon
0336	A	Essendon Railway & Station	A	Buckley St Essendon
0425	C	Turner's Timber Yard	A	5 Willow St. Essendon

For the City of Footscray Planning Scheme:

0001	A	Apollo Candle Works	AH	166 Kensington Rd. Footscray
0012	C	Kinnear's Rope Works	A	130 Ballarat Road Footscray
0013	B	McPhersons Jute Works	A	91 Moreland St. Footscray
0027	A	Henderson's Piggery	A Ar	43-45 Moreland Rd. Footscray
0067	B	Ammunition Factory Marib.	A	Gordon Street Footscray
0075	B	Powder Magazine Footscray	A	Lyons Street Footscray
0095	C	Footscray Wharves	PD	Maribymong St. Footscray
0124	A	Footscray Station	A	McNab Avenue Footscray
0133	A	Maribymong Rail Bridge	E	Newells Paddock Footscray
0134	C	Bunbury St Bridge & Tunnel	E	Bunbury St. Footscray
0146	C	Angliss Stock bridge	E	near Ballarat Rd Footscray
0206	C	Fire Station	A	69-71 Droop ST. Footscray
0207	B	Southern Can Co.	A	240 Geelong Rd. Footscray
0208	C	Boon Spa	A	264 Geelong Rd Footscray
0212	C	Maples Warehouse		111-3 Nicholson St. Footscray
0214	C	Warehouse	A	232 Nicholson St. Footscray
0216	C	D. Richardson		25 Whilehall St. Footscray

0224	B	Mowling's Soap & Candle	A	107 Whitehall St. Footscray
0369	C	John Jones boat-shed		Maribyrnong St. Footscray
0383	C	Metters KF	A	Gordon St. Footscray
0396	C	Warehouse	A	Ryan St. Footscray
0397	B	T. Henderson		102 Whitehall St. Footscray
0420	C	Twycross wool works		216 Kensington Rd. Footscray
0429	C	Warren & Brown	A	113-115 Ballarat Rd. Footscray
0209	B	Hopkins Odium	A	268-75 Geelong Rd West Footscray
0240	B	Olympic Tyre & Rubber	A	Cross St. Footscray West
0253	C	Barmac Wright	A	444 Geelong Rd Footscray West
0352	C	Weighbridge	A	Geelong Rd. Footscray West
0398	C	Graham Campbell Ferrum		260 Geelong Rd. Footscray W.
0428	C	Australian Bobbins	A	Graingers Rd. Footscray West
0004	C	Cuming Smith	AH Ar	Whitehall St. Yarraville
0005	A	CSR	AH	265 Whitehall St. Yarraville
0039	A	Station & Goods Yards	A	Woods St. Yarraville
0239	B	Vacuum oil Co.	A	Francis St. Yarraville
0255	C	Mt. Lyell	A	Whitehall St. Yarraville
0358	C	Miller's Ropeworks	A	Whitehall St. Yarraville
0399	A	Melbourne Woollen Mills		2 Banool Ave. Yarraville
0406	C	Stony Creek Rail Bridge		Stony Creek Yarraville

For the City or Keilor Planning Scheme:

0140	B	Arundel Rd. Bridge	A	Arundel Road Keilor
0130	A	Quartermile Bridge	AE	off Stirling Drive Keilor East
0423	C	Sheep Dip	PD Ar	off Burrowye Crs. Taylors Lakes

For the City of Melbourne Planning Scheme:

0265	B	Kensington VR sub Station	A	Illawarra Rd. Flemington
0426	B	Minifies Flour Mill	A	Lennon St. Flemington
0444	C	Glues and By-products	Ar	Hobson's Road Flemington
0014	A	Newmarket Sale Yards office	APD	Racecourse Road Kensington
0015	C	City Abattoirs gatehouse	PD	Smithfield Road Kensington
0165	C	Kimpton's Flourmill		Elizabeth Street Kensington
0376	C	Meggits	A	39 Hobson's Rd. Kensington
0430	C	Burge Brothers	A	135-57 Racecourse Rd Kensington
0431	B	Wool store	A	3 Lloyd St. Kensington
0432	C	Younghusband wool store	A	Chelmsford St. Kensington
0434	B	Kensington Railway Station	A	Bellair St. Kensington

For the Shire of Melton Planning Scheme:

0037	B	Dibley Lime Kilns	APDA	Diggers Rest Rd. Coimadai
0038	C	Antimony Mines	PD Ar	Antimony Mine Road Coimadai

0132 A Melton Viaduct E near Clarks Rd Melton

For the City of Sunshine Planning Scheme:

0164	B	Darling's Flour Mill	A	Sydney Street Albion
0233	C	Spauldings	A	McIntyre Rd. Albion
0263	B	Albion sub station	A	Ferguson St. Albion
0345	C	ARC		Ballarat Rd. Albion
0032	C	Klipspringer	A	37 Cranwell St. Braybrook
0183	B	ETA Factory	A	254 Ballarat Rd Braybrook
0410	C	3LO radio station	PD	Ashley St. Braybrook
0448	C	Pilkington ACI	A	234 Ballarat Rd Braybrook
0016	B	Pig and Calf Market	A	Market Road Brooklyn
0211	B	James Hardie	A	Hardie Rd. Brooklyn
0008	B	ICI Explosives		Ballarat Rd. Deer Park
0254	C	ICI LeatherclothFactory		Station Rd. Deer Park
0438	C	Federal Fertilizers		Ballarat Rd. Deer Park
0002	A	Melbourne Meat Pres. Co.	A Ar H	Van Ness Ave Maribyrnong
0069	A	Explosives Factory Maribyr	AH	Cordite Ave. Maribyrnong
0070	B	Ordnance Factory Maribyrnong	A	West's Road Maribyrnong
0074	A	Gunpowder Magazine Maribyr	A	Van Ness Ave. Maribyrnong
0007	A	Sunshine Harvester Works	A	Hampshire Road Sunshine
0051	C	Albion Quarry		Ballarat Rd. Sunshine
0227	C	Sunshine Porcelain Pottery	A	Derby Rd. & Thorp St. Sunshine
0261	C	Sunshine Fire Station		Hampshire Rd. Sunshine
0400	C	Window Frame Factory	A	Hampshire & Derby Rds. Sunshine
0446	B	Black Arch rail bridge	A	off Sunshine Road Sunshine
0029	C	Goldsborough Mort woolstore	A	Sunshine Rd. Tottenham
0030	B	Estates woolstore	A	Sunshine Rd Tottenham
0249	C	Pacific Carpets	A	Paramount Rd. Tottenham

For the City of Werribee Planning Scheme:

0232	B	Cheetham Saltworks	A	Aviation Rd. Laverton
0122	A	Little River Station & She	A	Little River
0137	B	South Base survey marker		near Princes H'way Werribee
0193	A	Water Tank	A	Werribee Sewerage Farm
0293	C	Chaffey Irrigation Scheme	PD Ar	Riverbend Park Werribee
0294	C	Water Tower Werribee		

For the City of Williamstown Planning Scheme:

0061	C	Quarry	PD	Newport Lakes Newport
0112	A	Railway Workshops	A	Champion Rd. Newport
0175	C	Loft's Blacksmith		521 Melbourne Rd. Newport
0264	B	Newport sub Station	A	Melbourne Rd. Newport
0394	C	Thomas Flour Mill	A	McRobert St. Newport

0010	C	Hugh Lennon	PDA	Hall St Spotswood
0116	C	McKenzie and Holland		Sutton Street Spotswood
0185	A	Spotswood Pumping Station	A	Douglas Parade Spotswood
0220	A	Spotswood Fuze Factory	A	140-150 Hall St Spotswood
0237	A	T. Robinson & Co.	A	210-220 Hall St. Spotswood
0372	B	Oil storage tanks	E	Burleigh St. Spotswood
0419	C	Alba Petroleum		Sun Ave. Spotswood
0445	C	Shell Oil storage & packing		Burleigh St. Spotswood
0092	A	Alfred Graving Dock	A	Nelson Place Williamstown
0093	A	Advertiser Office	A	205 Nelson Place Williamstown
0101	C	Breakwater Pier	Ar	Gellibrand Pier Williamstown
0102	C	Gellibrand Pier		Point Gellibrand Williamstown
0111	B	Railway Workshops D	Ar	Railway Terrace Williamstown
0121	A	Williamstown Station	A	Ann St. Williamstown
0128	C	Blunt's Boatyard		Nelson Place Williamstown
0129	C	Savage boat yard		Nelson Place Williamstown
0179	C	Henry B. Smith Ltd		Osborne St Williamstown
0315	C	Bates Bakery	A	56 Douglas Pde Williamstown
0370	B	Williamstown Chronicle	A	8 Parker St. Williamstown
0371	C	Electricity Supply Dept.		Bath Place Williamstown
0393	B	Nugget Shoe Polish	A	16-18 Morris St. Williamstown
0395	C	Harbour Trust Yards	A	Ann St. Williamstown

## STUDY METHOD

### RESEARCH

The sites which were allocated Conservation levels A and B were researched for construction dates, establishment or modification of major manu-facturing processes, major owners or operators, architects and details of the company histories.

Data for individual sites has been collected from rate books, company records, MMBW plans, Government records and secondary sources. The accounts of local industries printed in several municipal publications such as *Footscray's First Hundred Years*, *Forging Ahead* etc. were heavily relied upon. These are cited in the bibliography.

Information for the background history was drawn from the existing accounts of historical development in the region, particularly those of the *Melbourne Western Region Heritage Study* and the individual area conservation studies, undertaken so far in Williamstown, Essendon, Flemington/Kensington and Footscray. In addition, secondary sources such as the many local histories and the primary source material generated from individual site research has contributed to the background history. As considerable work has already been done in the area of historical research in the Western Region, it was not thought practical or desirable to carry out additional detailed primary research for the background history.

All sites were physically surveyed and photographed and details of each entered on a standard recording form. Details of location, ownership, extant buildings, fittings and equipment, historical and background information were recorded and later entered onto a computer data base in order that searches and cross-indexing could be undertaken. Additional cross references, relevant historical and photographic references, statements of significance and recommendations were added later.

The most complex sites involved several inspections and discussions with factory managers and staff. But in most cases a brief external inspection was all that was required to ascertain whether there were any significant remains surviving.

In addition to the site survey, independent architectural assessment of selected sites was made by a sub-consultant historical architect. About 40 sites were examined by the architect who provided a description of the architectural values of each site and a general summary of the architectural trends in the region.

## SITE RECORDING FORM

A sample site recording form indicating the types of data recorded has been included in Appendix D. Some explanation may be necessary.

The **SITE NAME** is an arbitrary one intended only to distinguish each site. The **SITE NUMBER** is a sequential number allocated in order of recording. **MAPSHEET NAME, NUMBER, SCALE** and **GRID REFERENCE** refer to the Australian national topographic maps, usually from the 1:25000 series. These have normally been used only when a Melways reference is not available or provides insufficient detail.

**ADDRESS** is the usual business address, not postal address.

**MELWAY REFERENCE** is from the 18th edition of the *Melways Street Directory*. In the citations the Melways Street directory page number and grid reference is given or the 1:25000 topographic map reference, if it is outside the Melways coverage.

The box in the top right hand corner is for details of the person recording the site. This was intended to be used by volunteers involved in the project, but in practice the vast majority of sites were recorded by the consultant.

**PRESENT OWNER/CONTACT** is self explanatory.

**NATURE OF SITE** is a classification of the type of industry. A three level hierarchy has been used with a control list similar to the classification system used by the Museum of Victoria. This provides for future analysis of sites and industries. This is expressed in the citation as "Site Type".

**DATE** is expressed either as the date of construction, the earliest date of operation of the particular site, or the range of dates that the site is known to have operated (as indicated).

**WHAT WAS IT USED FOR** is intended as an informal description of the nature of the industry, in order to provide classificatory information in addition to the **NATURE OF SITE** statement. This is not used in citations.

**DESCRIPTION OF BUILDINGS/FEATURES** entails a brief description of the physical remains of the site. Additional information can be included in the form of maps or diagrams.

**PEOPLE ASSOCIATED WITH THE SITE** records, owners, managers, and others of interest along with the details of association.

**HISTORICAL ASSOCIATION** includes a brief summary of the history of the site, including changes of ownership, construction details, operation of the industry, etc.

**CONDITION/PRESERVATION** is a statement of the physical condition of surviving structures. It is recorded according to the following key.

- D Demolished
- PD Partly Demolished - substantial remnants of buildings survive
- Ar Archaeological Deposits - evidence that below ground structure or features remain, eg. foundations, basement, buried artifacts, etc.



- A Of Architectural interest
- N Non-industrial site
- L Listed site, of potential significance but not researched in detail.
- H Important Historical association
- E Important example of Engineering achievement

OTHER REFERENCES includes any documentary reference to the site, information about the industry in general or the context of the particular factory.

OTHER ARTIFACTS PRESENT is for recording brief details of machinery, fittings, etc. Not in citations.

The bottom section LMW USE ONLY is for additional information completed after the site data has been recorded.

ON EXISTING REGISTERS has a summary of the statutory and non statutory registers on which the site has been included according to the following key.

- (HBR) Historic Buildings Register
- (GBR) Government Buildings Register
- (NE) Register of the National Estate, Australian Heritage Commission
- (NTC) National Trust Register, Classified
- (NTR) National Trust Register, Recorded
- (NT) National Trust, file only
- (nom) nominated but not yet registered.

Registration or file numbers follow the codes when they are known.

The information included in the site citations in this report has been drawn from the Site Recording Forms with the addition of a statement of significance, recommendation for protection at a specific level and architectural statement. It has, however, been produced in a slightly different format.

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160 feet to the inch series Numbers 1-15, 32, 33, 53, 98-102, 172, 192, 199, 204, 210-220, 224, 227-229. 282,301

400 feet to the inch series, City of Footscray Index Plan 1895, City of Essendon, Melbourne & Brunswick 1895, sheet 1, Flemington Kensington & North Melbourne 1895, City of Williamstown, 1895 many available from Map Library, State Library of Victoria

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- |                                              |                                                                                                                                                   |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
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## APPENDIX A

### Criteria for Inclusion of Sites on the Historic Buildings Register

The Historic Buildings Register deals with and offers protection to privately-owned buildings and objects. It is wide-ranging and contains some 600 listings, most of them entire buildings, some only parts of buildings.

The objective is to identify those aspects of a building that contribute to its architectural or historic importance. A separate Government Buildings Register including properties such as schools, bridges, railway stations, lock-ups, even the pile lights in Port Phillip Bay, was drawn up in 1982 and is added to by the Minister for Planning and Environment on recommendations from the Historic Buildings Council.

The only factors considered in the listing of a building are its architectural and historic importance.

The Council has a number of criteria for assessing architectural importance including whether a building:

- \* demonstrates creative and/or technical accomplishment in the history of architecture and building in Victoria, and more particularly if it is:
  - \* a representative or extraordinary example of a particular architectural style;
  - \* influential in the development of architectural style, building technology and construction techniques, or a demonstration of new and innovative solutions to user requirements;
  - \* influential in the development of aesthetic theories and architectural design philosophy in a particular period;
  - \* a transient or permanent influence upon the development of local architectural and building traditions;
- \* demonstrates typical or outstanding craftsmanship in building construction and decoration;
- \* demonstrates a representative or notable application of decorative schemes or particular material in construction and design;
- \* is a representative or extraordinary example of an architect's work;
- \* is a representative or extraordinary example of a building type;

- \* demonstrates a changing sequence of architectural styles, patterns of occupancy and function;
- \* is an essentially intact and rare example of a building type.

Similarly, a building may be considered to be of historical importance if it can be shown to:

- \* represent or be an extraordinary example of a way of life, custom, process or function;
- \* have a strong association with an important figure or figures, cultural group or event;
- \* represent a sequence of usages or functions over time;
- \* be of considerable age particularly in circumstances where the precise historical significance of the building is not at present known.

Naturally these criteria are not exhaustive and other factors may be relevant in particular cases.

## APPENDIX B

### Criteria for Inclusion of Sites on the Register of the National Estate

The Australian Heritage Commission Act provides the basic criterion for the entry of a place in the Register. The Act states that the Register will list places included in the National Estate, the definition of which is given above.

Each place proposed for the Register is assessed on the basis of its individual national estate values. However, to assist the Commission in deciding whether a place meets the criterion for registration, a number of factors are considered for each of the major categories: Natural, Aboriginal and Built/Historic. These attributes, which are not mutually exclusive are summarised below. They are defined in the Australian Heritage Commission Manual, which is available publicly. The Commission is responsible for a decision on whether or not the places possessing these attributes are of sufficient national estate significance to warrant entry in the Register.

#### Relevant Attributes for the Built/Historic Environment:

- \* creative and/or technical accomplishment.
- \* demonstration of a way of life, custom, process or function no longer practised, in danger of being lost or of exceptional interest.
- \* strong association with an important figure or figures, development or cultural phase
- \* townscape and/or landscape value and in particular:
  - (a) the degree of unity of its materials, design and scale
  - (b) its enhancement by its setting and in return its contribution to its setting
- \* scarcity value.

These attributes are being constantly refined.

In the light of these factors, the Commission's technical staff recommend to the Commission whether a place should be listed as part of the National Estate.

## APPENDIX C

### Sample of Site Data Sheet

The following is a sample of the Site Data sheet used for recording information on sites. The completed forms have been retained in files at Melbourne's Living Museum of the West, Pipemakers Park, Maribyrnong, along with other relevant material and historical documents and is available for research purposes.

These data sheets form the basis of the citations in this Report (see page 12)

LIVING MUSEUM SITE RECORDING FORM		
SITE NAME.	SITE NUMBER.	RECORDED BY.
MAPSHEET NAME.	NUMBER.	ADDRESS.
SCALE.	GRID REFERENCE.	PHONE.      DATE.
ADDRESS.	MELWAY REFERENCE.	
PRESENT OWNER/CONTACT.		
NATURE OF SITE		
DATE.	WHAT WAS IT USED FOR.	
DESCRIPTION OF BUILDINGS/FEATURES.		
PEOPLE ASSOCIATED WITH THE SITE.		
HISTORICAL ASSOCIATIONS.		
CONDITION/PRESERVATION.		
OTHER REFERENCES.		
OTHER ARTIFACTS PRESENT.		
LHW USE ONLY REGISTERED.	ACTION TAKEN.	
PHOTOGRAPHS.	SUPPLEMENTARY FILE.	

# Site Data Sheet

<p><b>LIVING MUSEUM SITE RECORDING FORM</b></p> <p>LOCATION DIAGRAM</p>
<p>PLAN OF SITE</p> <p>(show scale, north arrow and relevant measurements)</p>
<p>PHOTOGRAPH</p>