



**HERITAGE  
COUNCIL**  
OF WESTERN AUSTRALIA

## REGISTER OF HERITAGE PLACES

### ASSESSMENT DOCUMENTATION

#### 11. ASSESSMENT OF CULTURAL HERITAGE SIGNIFICANCE

The criteria adopted by the Heritage Council in November 1996 have been used to determine the cultural heritage significance of the place.

##### PRINCIPAL AUSTRALIAN HISTORIC THEME(S)

- 3.5.3 Developing agricultural industries
- 3.11.1 Regulating waterways

##### HERITAGE COUNCIL OF WESTERN AUSTRALIA THEME(S)

- 302 Rural industry and market gardening

#### 11.1 AESTHETIC VALUE\*

Situated on the Canning River within the Canning River Regional Park, *Kent Street Weir* has a landmark quality in a picturesque setting. (Criterion 1.3)

#### 11.2 HISTORIC VALUE

Constructed to meet the needs of agriculturalists and market gardeners, *Kent Street Weir* assists in the understanding of the development of the agricultural and horticultural industries in the Canning River region. (Criterion 2.1)

The place is related to the development of agricultural practice in Western Australia and in the Canning area in particular. *Kent Street Weir* was developed in response to a need to prevent ingress of salt water over agricultural land. (Criterion 2.2)

The development of the place was due largely to the lobbying of local agriculturalists, including Mr Packer, Mr Cameron and Messrs. A and EE Manning. (Criterion 2.3)

The place is the result of a search for a design that would meet a specific engineering need. (Criterion 2.4)

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\* For consistency, all references to architectural style are taken from Apperly, R., Irving, R., Reynolds, P. *A Pictorial Guide to Identifying Australian Architecture. Styles and Terms from 1788 to the Present*, Angus and Robertson, North Ryde, 1989.

For consistency, all references to garden and landscape types and styles are taken from Ramsay, J. *Parks, Gardens and Special Trees: A Classification and Assessment Method for the Register of the National Estate*, Australian Government Publishing Service, Canberra, 1991, with additional reference to Richards, O. *Theoretical Framework for Designed Landscapes in WA*, unpublished report, 1997.

### **11. 3. SCIENTIFIC VALUE**

As *Kent Street Weir* provides a demarcation between fresh and salt water environments in the same river system, it provides avenues for research into requirements and adaptation of river species. (Criterion 3.1)

*Kent Street Weir* was originally constructed to prevent the ingress of salt water upstream during the summer months when the lower reaches of the river became saline due to tidal movements. This early technological response to the problem of salt inundation over agricultural land was a unique achievement in the Perth Metropolitan area. (Criterion 3.3)

### **11. 4. SOCIAL VALUE**

*Kent Street Weir* has been part of the Kent Street recreational area since its construction. The place itself has been used as a swimming pool and fishing spot for many years and has been an important element in the social fabric of the district. (Criterion 4.1)

*Kent Street Weir* has provided a focus of community recreation since the 1920s and as such, contributes to the community's sense of place. (Criterion 4.2)

## **12. DEGREE OF SIGNIFICANCE**

### **12. 1. RARITY**

As one of the few examples of weirs within the Perth Metropolitan area, *Kent Street Weir* has rarity value. (Criterion 5.1)

### **12. 2 REPRESENTATIVENESS**

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### **12. 3 CONDITION**

*Kent Street Weir* is in good condition. It has been maintained on a regular basis.

### **12. 4 INTEGRITY**

*Kent Street Weir* retains a high degree of integrity. Although the retaining structure has been altered over the years, the original form and intent of the floodgates remain intact.

### **12. 5 AUTHENTICITY**

*Kent Street Weir* has a moderate degree of authenticity.

### 13. SUPPORTING EVIDENCE

The documentation for this place is based on the heritage assessment completed by Historian Lise Summers and Architect Kris Keen in 1997. The documentary evidence was updated by Jacqui Sherriff in 2008, and the physical evidence was updated by Carrick + Wills Architects, in 2009. Amendments and/or additions have also been made by State Heritage Office staff and the Register Committee.

#### 13.1 DOCUMENTARY EVIDENCE

*Kent Street Weir* comprises a steel and concrete weir with removable timber boards and a bridge structure that spans the Canning River. The structure was designed by the Public Works Engineer, at the request of local residents to stop the ingress of salt water during the summer months and it was completed in 1927. Although it was called a 'weir' it actually functioned as a floodgate as the timber boards would be removed prior to the arrival of the winter rains to prevent the surrounding land flooding. The boards would then be reinserted in summer.

Settlement of the Canning district started not long after the first white settlers arrived in 1829, but it was not really until the opening of the South Western Railway in 1893 that the area became more densely settled. By the mid-1890s, a number of fine orchards and market gardens had been established in the Canning area, watered from the Canning River. The Canning River featured strongly in the development of the area, as a source of water, food, recreation and transport. Various spots along the river were used as picnic areas, and swimming and fishing spots.<sup>1</sup>

By 1911, there were sufficient market gardeners and orchardists along the river to sign a petition asking the Minister for Agriculture to 'conserve the Canning River water from becoming salty'.<sup>2</sup> When the deputation met the Minister for Works, Henry Daglish (as the Agricultural Minister was away), the Minister stated that:

... he hardly need say that the Government was anxious to provide for the full utilisation of all land that could be brought into successful cultivation by means of irrigation ... they recognised the advantage of helping those producers establishing gardens in and around the metropolitan area, and was glad to do what was possible to cheapen foodstuffs.<sup>3</sup>

The PWD had already had an irrigation expert, A H Scott, look into the question of placing a weir across the Canning River. Mr Scott considered the construction of a weir 'absolutely necessary' to enable settlers to irrigate if the salt water was held back. Scott proposed a site anywhere within 100 meters of the end of Wharf Street.<sup>4</sup> However, Mr Oldham, the Engineer for the Water Supply and Sewerage

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<sup>1</sup> F G Carden, *Along the Canning: A History of the City of Canning, Western Australia*, City of Canning, Cannington, 1991, p. 160.

<sup>2</sup> M Lewis to W B Gordon, MLA, 28 August 1911, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, State Records Office of Western Australia (SRO).

<sup>3</sup> Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>4</sup> A H Scott to PWD, 1 February 1911, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

Department did not think the site suitable without considerable, and costly, earth works in order to provide a dam of reasonable size.<sup>5</sup>

In November 1911, local farmers Lewis and Packer proposed placing a temporary sandbag weir across the Canning. Permission was granted within a few days, and the PWD reimbursed them £15. The Chief Engineer thought the payment justified, as though Lewis and Packer 'did the work to increase the profit from their gardening operations' the PWD did intend to permanently lock the river and thought they would 'gain knowledge from this temporary weir'.<sup>6</sup> The temporary weir did two things – it dammed up the salt water and made fresh water available for irrigation.

When the PWD Engineer checked the temporary weir in February 1912, he found it to be 'carried out in a satisfactory manner and is apparently doing good work'. He also recommended that a concrete weir with moveable floodgates be constructed.<sup>7</sup>

In November 1912, the local MP, Charles Lewis, wrote to the Minister for Works:

The settlers who are working their gardens along the banks of the Canning River are particularly anxious to know when the locking of that river is to be commenced, shortly the salt water will be coming up and destroying their produce and, if you are unable to commence the work, will you grant permission to them to put in a temporary weir the same as last year.<sup>8</sup>

The Minister advised that the PWD could not do the work this year, and permission was granted for the re-erection of the temporary bag weir. The PWD's engineer recommended that the cost be borne by the locals as about 12 people would benefit. One of the main reasons for the Government's delay was the expected amendment to the *Irrigation Act*, which would give the Government more power in the matter.<sup>9</sup>

This set the pattern for the next few years. Each year the settlers asked about the construction of a permanent weir and asked to build a temporary weir in the meantime, and each year the Government offered reasons why they could do nothing yet, while granting permission to build the temporary weir.<sup>10</sup>

The *Irrigation Act* was passed in October 1914 and the following year, estimates were prepared for a steel pile weir for the Canning River. However, questions

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<sup>5</sup> Report by Engineer Oldham, 10 May 1911, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>6</sup> Chief Engineer, 26 March 1912, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO. The files do not clearly state where the temporary weir was located. Early correspondence suggests that it was near the Nicholson Road Bridge, but in 1917 it was clearly located at the foot of Kent Street.

<sup>7</sup> Report of PWD Engineer, 12 February 1912, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>8</sup> Charles Lewis to Minister for Works, 9 November 1912, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>9</sup> Correspondence dates 20 November 1912 and 3 December 1912, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>10</sup> Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO. By this time, the temporary weir was referred to as the 'Lower Canning Weir'.

were raised regarding the Government's authority to do this, given that the area was not a declared irrigation district.<sup>11</sup>

Progress stalled until late 1916, when delegates from the Jandakot, Queens Park and Gosnells Road Boards again discussed the proposal and inspected several sites along the river. They recommended a site at the foot of Kent Street. In early January, the PWD agreed that the Kent Street site was preferable and this was where the 'temporary weir was already in place'. However, the Water Supply Department advised that the Government intended to impound water further up, and that it was therefore against the interests of the Government to encourage any permanent arrangements for using water from the Canning River for irrigation purposes.<sup>12</sup> There were also concerns that the Government had no right to either grant permission for the construction of a temporary weir, or to build a permanent weir, as it may interfere with riparian rights of landowners. Advice from the Solicitor General was that although the Government had no right to authorise or construct a weir, the weir itself did not interfere with landowners' water rights.<sup>13</sup>

The gardeners and farmers were not pleased with this advice, and soon forwarded another petition for a weir at Kent Street signed by 44 residents. Meanwhile, the temporary weir remained in place and when permission was granted for the re-erection of the temporary weir in 1919, the PWD expressly stated that they took no responsibility for it. Officers went so far as to say that the weir had nothing to do with them, or their Department.<sup>14</sup>

In November 1919, Mr Lawson, an engineer with the Harbour and Rivers Department of the PWD, stated that the issue had been going on long enough and that as plans and estimates had been prepared, he requested permission to start on the permanent weir immediately. Again, the issue of riparian rights stalled work.<sup>15</sup>

Residents were sufficiently exasperated to call a public meeting in the Queens Park Town Hall on 10 October 1921. There were 50 persons present, including representatives from the Gosnells and Jandakot Roads Boards. The meeting went over old ground. Five alternative sites were discussed. Some favoured a site at Kent Street or between Kent Street and Nicholson Road, others argued for Salters Point. After several motions and amendments, a motion for a Nicholson Road site was carried but it was still undecided, with some saying that if all those who had signed earlier petitions were there, Kent Street would have been the favoured site.<sup>16</sup>

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<sup>11</sup> Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>12</sup> Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO. Although damming the Canning River was proposed in the 1890s and again in the 1920s, Canning Dam was not built until the early 1930s when the Government utilised unemployment relief labour during the Depression.

<sup>13</sup> Correspondence dated 16 March 1917, Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO. Riparian water rights (or simply riparian rights) is a system based on English common law, whereby water is allocated among those who possess land about its source. All landowners whose property is adjacent to a body of water have the right to make reasonable use of it, including for access for swimming, boating and fishing.

<sup>14</sup> Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>15</sup> Canning River – Kent Street Weir, Met WS Papers, Cons 82, Item 1942/803, SRO.

<sup>16</sup> *West Australian*, 14 October 1921. The sites were Nicholson Road (£555); between Wharf Street and Kent Street (£725); Bungaree Road (£1,010); Watts Road (bridge with flood gates; £4,750); and, Salters Point (£2,560)

Meanwhile, the PWD and Minister for Works continued to receive enquiries as to when the weir would be built. All were advised that a decision had not yet been made. The Queens Park Road Board were lobbying for a site at the foot of Kent Street, the Jandakot Road Board thought it should be at Salter's Point, while the Harbours and Rivers Engineer thought that it should not be any lower than the Nicholson Road Bridge.<sup>17</sup>

In November 1921, local residents signed an agreement that they would guarantee £42 per annum towards the upkeep of the weir if it was built at Kent Street. It was at this time that the Metropolitan Water and Sewerage Supply Engineer agreed that the Kent Street site was viable as it was the preference of the settlers, despite it being a more expensive option. However, both the Chairman of the Irrigation Commission and the Secretary for the Metropolitan Water Supply would not recommend that the weir be built under the *Rights in Water and Irrigation Act*. It was decided that the Government would not tackle the problem and that a lack of funds be given as the reason.<sup>18</sup>

However, the matter did not rest there and the Minister for Water Supply continued to meet with delegations from the local community. In January 1922, Minister George advised one delegation that he had set out the project to the Premier, but was yet to receive a response. He told them 'if money could be found and there was no legal lion in the path, the weir would undoubtedly be a great boon to the people of the district.'<sup>19</sup>

The statutory provisions under which the Government built a permanent weir continued to be the sticking point for many years. In mid-1922, the Crown Solicitor advised that there was no reason the weir could not be built under the Rights in Water and Irrigation Act, provided that the area was declared an irrigation district first. In September 1922, the Minister for Water Supply instructed his staff to notify landowners that the Government intended to build a weir at Kent Street 'with the object of keeping the fresh water for purposes of irrigation only. It was proposed to declare the area an irrigation area, and that the price per acre per annum for interest, sinking fund and maintenance was probably 15 shillings.'<sup>20</sup> When Minister George was advised that if the area was declared an irrigation district, then the Government would be responsible for laying pipes and pumping and providing water, he declared that he felt quite humiliated that it was so difficult for the Government to do such a seemingly simple thing.<sup>21</sup>

At this time, there was also a lot of concern and apprehension about the effect of locking or damming the Canning River on the adjacent land and Perth's water supply. Engineer Lawson found most of the statements preposterous.

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17 Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 689, Item 1926/1968, Volume 1, SRO.

18 Correspondence dated 29 November 1921, Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 689, Item 1926/1968, Volume 1, SRO. By this time, all of the Canning River had been reserved for the Metropolitan Water Supply.

19 *West Australian*, 18 January 1922.

20 Correspondence dated 27 September 1922, Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 689, Item 1926/1968, Volume 1, SRO.

21 File note from Minister George, 11 November 1922, Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 689, Item 1926/1968, Volume 1, SRO.

In June 1923, Minister George advised the Premier that he thought the work should be done immediately under the Metropolitan Water Scheme. By this time, plans had been prepared for a steel sheet piling and timber weir across the Canning River at Kent Street under the Public Works Act (not the Irrigation Act). Despite Minister George's intention, the Lower Canning Irrigation District was declared in October 1923. The Government's intention to build a weir at Kent Street was advertised in the same issued of the Government Gazette.<sup>22</sup>

In January 1924, Engineer Lawson asked for immediate approval to commence construction of the weir. Approval was not forthcoming and when he was asked to start on it four months later, he refused as the winter rains were imminent. Meanwhile, agreements had been signed by the majority of the affected landowners, agreeing to an annual fee for the provision of the weir and fresh water for irrigation, and allowing pipes to be laid across private land so that more distant farmers could benefit. By January 1925, many farmers had put in pumps in readiness on the strength of the Minister's advice that the work would go ahead.<sup>23</sup>

However, the Chief Engineer began to take an interest in the matter and discovered that further investigation was needed to determine the possibility of flooding. Further investigation also revealed that there was some confusion about the proposed site of the weir.

Meanwhile, the Canning Road Board was getting increasingly frustrated. A deputation met with Mr Clydesdale MLA and the Minister for Works on 20 March 1925 and pointed out that the sand bag weir had been in place for over ten years and there had been no claim for damages due to flooding. Minister George said that there had been a lot of misinformation – plans had not been prepared and there was very little data to go on. The Canning Road Board urged that the weir be built in time for the following summer.

In January 1926, the Engineer in Chief, PWD, finally agreed to get on with the work, and as it would come under the *Metropolitan Act*, he would do it through the Harbours and Rivers Branch. New authorisation was gazetted on 11 June 1926, and PWD Plan 24625 was prepared. Extensive flooding in mid-1926 led to adjustment of the scheme, and the area of waterway was extended into an old clay pit owned by the Canning Road Board.<sup>24</sup> The amended scheme was gazetted on 15 October 1926.

In November 1926, Engineer J Stevenson Young from the Harbours and Rivers Department advised the Chief Engineer that he was ready to commence the work. The cost was now estimated at £1,200 and the total cost of the of the sinking fund, interest and maintenance was £128 per annum, to be divided equally between all landowners between Kent Street and Royal Street on both

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<sup>22</sup> Correspondence dated 15 June 1923, Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 689, Item 1926/1968, Volume 1, SRO; Government Gazette, 3 October 1923. The authority to build the weir was gazetted under both the Public Works Act and the Irrigation Act, but the Irrigation Commissioners remained uncomfortable with the proposal.

<sup>23</sup> Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 689, Item 1926/1968, Volume 1, SRO.

<sup>24</sup> This involved the transfer of land from the Canning Road Board to the State Government. The land was referred to as the 'recreation ground' in a letter dated 30 September 1926, Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 689, Item 1926/1968, Volume 1, SRO.

sides of river, in proportion to the acreage of each holding. This required new agreements with the 97 affected owners. Of these, 72 were in favour and 4 were definitely against the scheme. As the rest were largely absentee landowners, it was decided to proceed with the work.

Engineer J Stevenson Young of the Harbours and Rivers Department oversaw the design drawings for the proposed weir.<sup>25</sup> Construction of the weir commenced on 10 November 1926 and was completed by 26 March 1927.<sup>26</sup>

The problem of addressing changes in water level and preventing flooding behind the weir in the winter months had been solved by using a set of removable planks at the top of the weir wall and Engineer Stevenson Young suggested that a local committee be formed to arrange for the removal and stacking of boards each wet season, and to see to general maintenance. However, delay in the formation of the committee was caused by concerns with the construction of the weir. When the Engineer inspected the weir, he found the defects to be only minor and they were soon repaired. However, in June 1927, the four northern bays of the weir collapsed due to a sump in the old clay pit. Repairs were authorised immediately.

The local committee appointed to control the stop boards commenced in June 1927 and comprised A S Cameron, H S Packer, James Richards and Thomas McLean. However, Mr Cameron was not satisfied with the performance of the weir, writing to the Undersecretary for Works in April 1928 that the quantity and quality of water had improved, but not enough and some producers' crops had been damaged over the summer months. Repairs were made to the weir in November 1930.<sup>27</sup>

Disagreement over the height of the weir proved troublesome, and several settlers defaulted on the annual charge, claiming that the weir did not perform as promised. The question of maintenance of the weir had also to be settled, a problem exacerbated in 1931 and again in 1933 when poachers, taking advantage of the pool formed behind the weir, dynamited for fish, causing structural damage to the weir.

By October 1932, the weir's performance was not satisfactory. Salt water was getting above the weir at certain times of the year. The Canning Road Board and local settlers made annual complaints to the PWD, with no avail until 1938, when a deputation of local farmers and the Road Board waited on the Minister for Works, Mr Millington, stating that the existing weir needed reconditioning and that other weirs were needed on the Canning River. *Kent Street Weir* was inefficient and did not prevent salt water from going up river. Minister Millington promised that the matter would be looked into.<sup>28</sup> After several more delegations and promises from the local settlers that they would pay for the weir if a proper one were built, plans were drawn up by Engineer Stevenson Young.

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25 PWDWA 24625, Drawing No. 3, dated 15 September 1926, Canning Road Board District – Weir near Kent Street, Cons 4481, Item 24625, SRO.

26 Annotations on PWDWA 24625, Drawing No. 2, Canning Road Board District – Weir near Kent Street, Cons 4481, Item 24625, SRO.

27 Annotations on PWDWA 24625, Drawing No. 2, Canning Road Board District – Weir near Kent Street, Cons 4481, Item 24625, SRO.

28 *West Australian*, 13 January 1938.



At this time, there were 375 acres under kitchen and market garden production in the Gosnells and Canning Districts, and the Gosnells District had 41 acres of potato crop, and 464 acres under fruit trees, including 341 acres of orange, mandarin and lemon trees and 62 acres of stone fruit, as well as 100 acres of vineyards. This represented a considerable amount of produce for the local market.

The Government's intention to build a new weir was announced at the Canning Show in October 1939. It was stated that the old weir was damaged in several places and salt water percolated through, causing damage to fruit and vegetables upstream. It was estimated that the new weir would cost £2,500 and it was now up to the landholders to indemnify the Government against possible damage, and to agree to the costs associated with construction and maintenance.<sup>29</sup>

After all arrangements were put in place,<sup>30</sup> the work was gazetted on 17 November 1939. It was proposed that the new weir be built immediately upstream of the existing weir:

The lower section of the weir will consist of a concrete wall 5' 0" wide on the base which will be carried down to a suitable foundation in the river bed. The top of this wall will be brought up to a height of 1'0" above low water mark. From this wall, the upper section consisting of 18 concrete piers 15" wide and 10'0" apart will be constructed to a height of 6'0" above low water mark, and on top of which will be built a timber footway. Provision has been made for the insertion of removable timber stop boards between piers with an improved wedging and sealing arrangement. The top level of the boards will be 4'3" above low water and these boards will be removed during the winter months. Four 12" diameter sluice valves will be suitably placed in the lower wall for scouring. The river bed has already been widened at the weir site to provide an equivalent area of waterway as existing upstream.<sup>31</sup>

Work commenced in February 1940 and the steel sheeting from the original weir formed one side of the coffer dam in which the new concrete weir was built. The earthen bank on the western side of the river was also strengthened and paved with concrete slabs. The new weir was the same length as the old and provided for much the same river flow (which was designed to be equivalent to the original cross section of the river at that point).<sup>32</sup>

The work was completed by 20 June 1940 and provided a much more substantial and efficient lock. The new Kent Street Weir was officially opened by the Minister for Works, Mr Millington, on 5 July 1940.<sup>33</sup>

As with the previous weir, the orchardists and market gardeners along the river who benefited from the scheme were required to contribute to the sinking fund and interest on an annual basis. The Harbours and Rivers Branch of the PWD

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<sup>29</sup> *West Australian*, 30 October 1939.

<sup>30</sup> Of the 71 settlers affected by this scheme, 63 signed the agreement.

<sup>31</sup> Correspondence dated 5 February 1940, Canning River including Kent Street Weir, Harbours and Rivers Department, PWD, Cons 5682, Item 001I, Volume 1, SRO.

<sup>32</sup> Memo dated 2 July 1940, Canning River including Kent Street Weir, Harbours and Rivers Department, PWD, Cons 5682, Item 001I, Volume 1, SRO.

<sup>33</sup> *West Australian*, 6 July 1940.

continued to rely on advice from the local Kent Street Control Committee and Canning Road Board as to when the boards had to be removed and replaced.<sup>34</sup>

By the summer of 1960/61, *Kent Street Weir* was showing signs of failure. In November 1961, the engineers at the Fremantle Harbour Works (who remained responsible for the maintenance of the weir) reported that there were leaks between the old sheet piling and the concrete sill and that the catwalk was held on by rusty bolts into concrete.<sup>35</sup> Work to remedy the situation cost nearly £7,000 and was completed in the summer of 1961/62.<sup>36</sup>

The pool at the weir was also dredged in order to 'improve the conditions for use of the public'. The Shire of Canning cleaned up the area above the weir, and it was noted that 'The area is now a very attractive swimming area, the main pool is about 50 yards x 40 yards and the river itself is about 25 yards where it runs into the pool.'<sup>37</sup> The *West Australian* commented on the work, declaring that co-operation between the PWD and the Shire of Canning had resulted in Perth's biggest swimming pool.<sup>38</sup> By this time, the Canning Road Board had built swimming amenities, including change rooms and concrete steps into the pool.<sup>39</sup>

By late 1965, the Shire of Gosnells considered *Kent Street Weir* to have outlived its usefulness as it was no longer required for irrigation purposes. However, the Public Works Department advised that they had discussed the matter with the Shire of Canning, which did not want the weir removed as there were 'settlers who still rely on this fresh water supply for irrigation and stock purposes.'<sup>40</sup> At this time, the boards were still removed each winter and replaced again at the start of summer.

The Inspector also reported that the weir was well patronised by swimmers of all ages, although hooliganism was a continuing problem. He had seen many bad cuts from broken bottles in the pool.<sup>41</sup> In 1970 and again in 1973 the catwalk and handrails had to be repaired as they had been damaged by swimmers swinging on and diving from the handrail.<sup>42</sup>

There was little activity at Kent Street Weir in the 1970s and 1980s, aside from removing and replacing the boards each year and general maintenance. Damage

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<sup>34</sup> Various correspondence, Canning River including Kent Street Weir, Harbours and Rivers Department, PWD, Cons 5682, Item 0011, Volume 1, SRO; F G Carden, *Along the Canning: A History of the City of Canning, Western Australia*, City of Canning, Cannington, 1991, p. 160. There were initially 47 contributors.

<sup>35</sup> Correspondence dated 27 November 1961, Canning River including Kent Street Weir, Harbours and Rivers Department, PWD, Cons 5682, Item 0011, Volume 2, SRO. The contributory scheme was dropped at this time.

<sup>36</sup> Ibid. The annual fee was £5 in the mid-1950s.

<sup>37</sup> Memos dated 15 February 1962 and 23 March 1962, Canning River – Kent Street Weir Area, Swan River Conservation Board, Cons 4075, Item 1962/001, SRO.

<sup>38</sup> *West Australian*, South Suburban Section, 17 April 1962.

<sup>39</sup> Memo dated 20 July 1957, Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 6364, Item 1955/923, SRO.

<sup>40</sup> Correspondence dated 21 September 1965 and 4 November 1965, Canning River – Kent Street Weir Area, Swan River Conservation Board, Cons 4075, Item 1962/001, SRO.

<sup>41</sup> Inspector's Report, 25 November 1966, Canning River – Kent Street Weir Area, Swan River Conservation Board, Cons 4075, Item 1962/001, SRO.

<sup>42</sup> Inspectors' Reports, 27 March 1973 and 14 August 1973, Canning River – Kent Street Weir Area, Swan River Conservation Board, Cons 4075, Item 1962/001, SRO.

to the catwalk rails by swimmers was a continuing concern for the Harbours and Rivers Branch, who undertook repairs on behalf of the Irrigation and Drainage Branch of the PWD.<sup>43</sup>

The impact of the weir on the environment has long been a consideration of the government and local residents. Some objected to the construction of the weir as it was thought that it would flood nearby land. In the late 1950s, there was a call from some residents to remove the weir as they thought it contributed to algae growth upstream (although Engineer Stevenson Young did not think that the weir had anything to do with it).<sup>44</sup>

In 1989, following the Bicentennial and the upgrading of parts of the Canning River Regional Park, the top of the weir, previously accessed by way of a boardwalk, was upgraded by the provision of a concrete bridge.

Between 1994 and 2004 there were approximately 15 outbreaks of algal bloom in the vicinity of *Kent Street Weir*. In a document released in 2002, it was confirmed that the Kent Street Weir 'creates an impounded body of water upstream of the Weir during summer. Low flow and insufficient mixing of the water column combined with high nutrient levels leads to conditions favourable to toxic blooms.'<sup>45</sup> However, since the early 2000s there has been a substantial management effort in improving the quality of the water delivered to and within the weir pool, and the problem of increased salinity has become a more recent challenge for managing this section of the river.<sup>46</sup>

With the importance of maintaining fresh water in the weir pool, the Swan River Trust and the Department of Water are currently (in 2011) looking at the suitability of the existing weir structure in maintaining its original design function in preventing salt water from intruding upstream. In 2011, low stream flows and high tides have resulted in the water in the weir pool becoming entirely salty, which has had a significant effect on the ecology of the weir pool and adjacent foreshore areas, which have adapted to a fresh water environment since the 1920s. Therefore, the environmental conditions which would have informed the original weir design are no longer current. With the frequency of low stream flows and high tides likely to increase in future years, the current weir structure may need to be modified or even replaced.<sup>47</sup>

*Kent Street Weir* continues to provide a popular picnic spot, and access to both sides of the river within the Canning River Regional Park.

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<sup>43</sup> Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 6364, Item 1955/923, SRO.

<sup>44</sup> Canning River – Kent Street Weir Construction, Harbours and Rivers Branch, PWD, Cons 6364, Item 1955/923, SRO.

<sup>45</sup> Swan River Trust, 'Caring for the Canning: A plan to revitalise the Canning, Southern and Wungong Rivers', supporting document to the Swan-Canning Clean-up Program Action Plan, Water and Rivers Commission, August 2002, p. 28.

<sup>46</sup> Correspondence received from the Swan River Trust, dated 1 April 2011.

<sup>47</sup> Ibid.

## 13.2 PHYSICAL EVIDENCE

*Kent Street Weir* is located across the Canning River in a picturesque setting at approximately the mid-point between the Nicholson Road Bridge and Shelley Bridge within the Canning River Regional Park. *Kent Street Weir* is a timber, steel and concrete weir and bridge structure spanning across the Canning River.

The *Kent Street Weir* is located in a picturesque setting surrounded by parklands, playing fields and natural bush at the end of Kent Street, in the Canning River Regional Park, Wilson.

The banks of the river are natural with bush land on the western side. To the eastern side, the banks are natural upstream of the weir and there are limestone walls, boardwalks and a small beach downstream.

The approach to the weir from Kent Street arrives at a series of carparks with the recently completed Wetland Education Centre building to the left and playing fields to the right. Closer to the waters edge there are large open grassed areas with a shelter, seating and children's playground.

A station for the Castledare miniature railway is located downstream of the weir on the eastern side of the river.

The weir itself is a steel, concrete and timber structure. It is understood that the base of the weir consists of a concrete wall 5' 0" wide at the base with piles into the river bed. This concrete wall continues up 1' 0" above the low water mark.

Above the base wall the upper section of the weir consists of 18 concrete piers which are 15" wide at 10' centres. This section was constructed to approximately 6' 0" above the low water mark. Removable timber stop boards are located between the piers. The top of these boards are approximately 4' 3" above the low water mark. In order to prevent flooding in the winter months these boards are removed. There are concrete side support structures either side of the weir.

Following the Bicentennial and the upgrading of parts of the Canning River Regional Park, the top of the weir, previously accessed by way of a boardwalk, was upgraded by the provision of a concrete and steel bridge.

The construction of the Bridge is in timber with metal checker plate to allow access to the weir planking directly below. This would allow for removal of the stop boards to be carried out.

The hand rail and balustrading to the Bridge is vertical posts at the same intervals of the weir supports below, with each section subdivided into three, with cross balustrading in timber. On the top of the hand rail there is a fixed metal plate to allow for the spread of the load from the equipment which lifts the planks out of the weir.

A recently completed high steel post and mesh link fence has been added to both side of the bridge to prevent people diving and jumping from the bridge into the river.

### 13.3 COMPARATIVE INFORMATION

There are 254 Dams or Reservoirs on the HCWA database, 13 of which are on the State Register of Heritage Places. The majority of these Dams/Reservoirs were constructed to provide water storage for irrigation purposes or to supply the railways with water. Although it was called a 'weir', Kent Street Weir actually functioned as a floodgate, which is the basis for the following comparative analysis.

#### Floodgates

There are 4 Floodgates listed on the HCWA database. One is on the Register;

- P16727 *Site of Ballarat Bridge, Vasse Floodgates & Wonnerup Floodgates* (1871, c.1896), which formerly comprised Ballarat Bridge, a timber structure that was originally built as a railway bridge, *Vasse Floodgates* (c.1907, 1929, 1942, 1991) and *Wonnerup Floodgates* (c.1907, 1929, 1942, 1991), which spanned the Vasse and Wonnerup Estuaries, built by the Public Works Department of Western Australia. In 2004 *Ballarat Bridge* was removed, *Vasse Floodgates* were replaced and *Wonnerup Floodgates* were replaced except for the south abutment and infill wall.

Other Floodgates include;

- P17466 Locke Swamp Floodgates (1923) Busselton - In 1948, the Locke Swamp Gates were completely re-built, approximately 150 metres to the south of the 1923 gates. The 1948 gates remain in situ and do not appear to have been altered since construction.
- P17467 Lennox River Channel Weir (1940-1990) – A historic floodgate across the Carbanup River. The structure is located in a rural environment which is composed of farmland and natural bush. The downstream sides of the river bank are inclined and faced with concrete. Short side walls, constructed from concrete, extend out from both sides of the river bank and in between these are the stop boards and floodgates. Running across the width of the river is a concrete sill. The timber stop boards run from the western riverbank to across to the eastern side. There are five sets of stop boards which are supported between grooved steel uprights. The two floodgates are constructed with a steel frame which has been covered with vertical Oregon boards. The tall gate levers are constructed from steel. A steel mesh crosswalk was a new addition in the 1990s and it is a cantilevered platform supported by timber beams. The style of these floodgates and the weir is not the same as Locke's Swamp or those that were found at Vasse or Wonnerup.
- P05674 Floodgates – Storm surge barrier (1980), Located alongside Koombana Drive bridge at the narrow entrance to the Leschenault Inlet – the floodgates comprise a concrete and steel structure with a set of mechanical gates placed across the front of the inlet, which automatically monitor water levels. After cyclone Alby in 1978, the floodgates were erected to alleviate the chance of flooding to low lying areas east of Bunbury during severe weather conditions.

*Kent Street Weir* is unique in the metropolitan area, in that it was originally constructed to prevent the ingress of salt water upstream into agricultural areas when the lower reaches of the Canning River became saline.

#### **13. 4 KEY REFERENCES**

No key references.

#### **13. 5 FURTHER RESEARCH**

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