EXPERIMENTAL CONCRETE HOUSES

Location
324-326 HOWE PARADE PORT MELBOURNE, Port Phillip City

Municipality
PORT PHILLIP CITY

Level of significance
The Housing Commission of Victoria was established in 1938 to improve housing conditions for low-income people. The first Housing Commission estate was built on 55 acres of reclaimed wasteland at Fishermen's Bend and initially re-housed families from South Melbourne and Port Melbourne. In February 1939 the Housing Commission announced a competition for a layout design for the Fishermen's Bend estate and architectural designs for the houses. The specifications for the competition were prepared by the architect Marcus Barlow. The competition was won equally by the architects Ballantyne & Wilson and the surveyors Tuxen & Miller. It was Saxil Tuxen's design that was finally used for the Fishermen's Bend estate. It reflected his knowledge of American suburban estate design as well as English Garden City planning and included cul-de-sacs, a community centre and playgrounds.

The Commission had decided not to appoint staff architects but to appoint a panel of consultant architects to be paid on a commission basis. It was intended that the winners of the competition would be included in the panel. Both the winner, E C Jackson, an architect with the Commonwealth Department of Works and the runner-up, Eric Andrew, a Sydney architect, declined to leave their positions to join the panel. The panel was finally appointed in May 1939 comprising John Scarborough as Chairman, Arthur Leith, Frank Heath and Best Overend: all partners in well-established Melbourne architectural and engineering firms.

The single-storey pair of houses at 324-326 Howe Parade were the first to be built at the Fishermen's Bend estate in 1939. They were designed by the panel as an experiment in precast reinforced concrete construction. They were built using a system devised in the 1920s by T W Fowler, a retired surveyor and farmer of Werribee. The use of concrete in this way reduced both costs and construction time.

After this pair of houses were built, a further 58 concrete houses were built at the estate in 1940. The roofs of the subsequent houses were of a steeper pitch in combinations of hipped or gabled form.

The Experimental Concrete Houses are of historical, social, scientific and architectural significance to the state of Victoria.

The Experimental Concrete Houses are of historical significance as the first pair of houses to be built by the newly established Housing Commission of Victoria. The Housing Commission implemented a massive program
of providing low-cost public housing in Victoria after the Second World War. The houses are the first physical
manifestation of an official response to the housing crisis of the 1930s and the growing concern about the
conditions under which some working class people lived. The houses provide a tangible link with the slum
abolition movement of the early 20th century which was the catalyst for the formation of the Commission.
Individuals such as F Oswald Barnett, social reformer and later member of the Housing Commission, and
organisations like the government appointed Housing Investigation and Slum Abolition Board (HISAB) set up in
1936 played pivotal roles in the move towards government acceptance of its social responsibility. The
establishment of the Housing Commission was a direct outcome of HISAB's research and findings into the slums
of Melbourne.

The Experimental Concrete Houses are of social significance as the forerunner of the Housing Commission's
post-war Concrete House Project which, culminating in the high rise flats of the 1960s and 1970s, had wide
reaching implications for Victorian society. The social, cultural and economic influences that had shaped the
policies of the Housing Commission in the 1930s and led to the construction of the concrete houses had shifted
by the 1960s. The Commission's concern with slum clearance and high rise development became increasingly at
odds with community concerns about social dislocation, inner city redevelopment and the social problems of high
density, high rise living. Pressure from community and interest groups ultimately led to a change of public
housing policy.

The Experimental Concrete Houses are of scientific (technical) significance as important early examples of the
Fowler precast concrete system. This technique involved casting a complete wall section, with doors and window
openings, conduits and other features, on an elevated flat metal table. When it was set, the wall was tilted to a
vertical position and then held by adjustable jacks and moved on rollers onto concrete piers. The technique had
been used since the 1920s by T W Fowler before it was used as a prototype at Fishermen's Bend and then
adopted by the Housing Commission who refined and developed it over the next 30 years. These technical
developments in the precast concrete system culminated in the high rise blocks built by the Commission,
including the landmark, 30 storey Park Towers at South Melbourne built 1965-69.

The Experimental Concrete Houses are of architectural significance as one of the few modern examples of
architectural design subject to mass production line principles. The modern movement in architecture espoused
the aesthetic of mass production in the machine age and claimed to embrace such qualities in design. The
simple form of the concrete houses and their construction technique reflect the modernist interest in technology
and functionalism.

Permit Exemptions

General Conditions:
1. All exempted alterations are to be planned and carried out in a manner which prevents damage to the fabric
   of the registered place or object.
2. Should it become apparent during further inspection or the carrying out of alterations that original or
   previously hidden or inaccessible details of the place or object are revealed which relate to the significance of the
   place or object, then the exemption covering such alteration shall cease and the Executive Director shall be
   notified as soon as possible.
3. If there is a conservation policy and plan approved by the Executive Director, all works shall be in accordance
   with it.
4. Nothing in this declaration prevents the Executive Director from amending or rescinding all or any of the
   permit exemptions.
Nothing in this declaration exempts owners or their agents from the responsibility to seek relevant planning or
building permits from the responsible authority where applicable.

Exterior
* Minor repairs and maintenance which replace like with like.
* Removal of extraneous items such as air conditioners, pipe work, ducting, wiring, antennae, aerials etc, and
  making good.
* Installation or repair of damp-proofing by either injection method or grouted pocket method.
* Repainting in appropriate colours.
* Demolition, alteration or removal of buildings not specified in the extent of registration.
* Repair of fences and gates.
* Laying, removal or replacement of paving in the back garden.
* Regular garden maintenance.
History

HISTORY

Contextual History:

During the early 20th century, there were a variety of initiatives from local government and private philanthropists to improve the standard of housing for workers and to clear slum areas in Melbourne. At first most schemes sought to provide low cost housing for owner purchase with loan assistance. Among the first such schemes to come to fruition was the State Bank homes scheme at Fishermen’s Bend, where building started in 1928. These houses resembled inter-war British council housing, semidetached and on small blocks. These were reasonably spacious, if staid and repetitive. Even with the loan assistance, only the steadily employed artisan class could afford to buy.

The 1930s depression saw an increase in overcrowding, and a virtual standstill in construction and repairs, which resulted in a housing crisis. Increasingly, social reformers, town planners and sections of the labour movement called for government intervention.

There were strong differences in opinion on how the issue of housing reform should be tackled. The Building Industry Congress was formed in 1931 with a membership of 47 diverse groups associated with the building industry, including employer groups, unions, real estate agents and architects. This group advocated slum clearance and government subsidies for builders to provide low-cost housing as a way of stimulating the economy.

The Victorian Town Planning Association argued that housing should be part of a broad town planning approach to urban change rather than a single issue and that local councils should be responsible for re-housing schemes approved by a central authority. The South Melbourne Council initiative in Montague and Gladstone Streets c1936 was a realised example.

The Barnett Slum Study Group had a different outlook again. This group was formed in 1934 by F. Oswald Barnett, a public accountant, member of the Methodist Church and housing reformer. He had instigated the Methodist Babies’ Home in 1929 which was based on the 19th century child-rescue philosophy of removing children from slum environments and adopting them out to Christian families in the suburbs. Barnett was an environmentalist not a eugenicist. Barnett lobbied for slum clearance and for provision of rental housing by a state wide central authority.

Slum abolition became a major issue in the 1935 State election. In 1936 the Premier set up the five members Housing Investigation and Slum Abolition Board (HISAB) to report and make recommendations on the abolition of slums. Barnett was the Deputy Chairman. The Board undertook its own research and visited slum areas, rather than relying on the evidence of others. It found that 3046 houses out of a total 85,779 houses within a five mile radius of the GPO were uninhabitable, most of these being tenanted. The occupiers of these were mostly among the lowest paid and most unskilled of workers. A disproportionately large number of the 3046 worst houses were located in Port Melbourne. [U’ren & Turnbull 1983, p.245] Despite its attack on slum landlords and its physical and social survey of the slum areas, the Board's recommendations did not fully address the major problems of inner suburban housing: rents, repairs and the housing shortage. It recommended that a central statutory housing authority be set up and that a short term programme of slum reclamation and re-housing be carried out by the State.

The Housing Act of 1937 made provision for the establishment of a Housing Commission along the lines recommended in the HISAB report. The objects of the Commission were to be the improvement of existing
housing conditions and the provision of adequate and suitable rental housing accommodation for persons of limited means.

An initiative by the Dunstan government in 1936 had already resulted in a small estate of 40 houses in Port Melbourne, in Griffin Crescent and Southward Avenue. These two storey semi detached houses in a Tudorbethan style and were to be let at low rents. They were soon to be handed over to the newly formed Housing Commission.

The Housing Commission was initially made up of four members: a full-time chairman, John O'Connor and three part-time specialist commissioners, F Oswald Barnett, Os Burt (who had also contributed to the HISAB report) and Frances Penington, a social worker and tutor. The Commission had powers to declare houses unfit for habitation and to order demolition or repair of such houses. It could also determine standards with which new houses must comply, and could recommend building regulations covering such factors as sites of houses, drainage, sanitation and ventilation. These state-based powers in relation to building regulations were resented by the local councils who already enforced their own building by-laws.

The first and model estate for the Housing Commission was to be laid out along Garden City principles on 55 acres of reclaimed sandy wasteland at Fishermen's Bend, within the municipality of Port Melbourne. The large areas of open Crown land at Fishermen's Bend had already been the subject of a number of previous proposals for housing and industrial developments. For example the War Homes Commission had proposed a development there in 1918-19, though this was not carried through. The State Savings Bank's Garden City project was located there in 1926.

The 55 acres of Crown land at Fishermen's Bend acquired for Housing Commission use would accommodate 376 houses. It was intended to be used to re-house families who had been living in substandard conditions in South Melbourne and Port Melbourne. [Howe 1988, p.20-39]

CONCRETE CONSTRUCTION IN VICTORIA UP TO 1939

Houses were built in reinforced concrete in Victoria as early as 1912. Early examples were usually cast in situ and often built by owner enthusiasts. Some of these are represented on the Victorian Heritage Register eg: the Higgins House in Beaumaris. Such examples are generally isolated “one-offs” and either experimental in nature or the product of an adventurous owner builder, and they remain as exceptions amongst conventional forms of construction. Prefabrication of concrete in such examples was usually confined to preparation of relatively small repetitive items such as lintels.

A number of reinforced concrete building systems which more economical and required less skilled labour were developed in Australia after World War One. In the 1920s, S.B. Marchant built houses in Adelaide using his “Monolyte” system which was subsequently used experimentally for housing by the State Savings Bank of Victoria in 1924-25. The State Bank also experimented with concrete block construction and used it at the Garden City estate on Port Melbourne in the 1920s. Also in the 1920s an inventor named Arnold devised a precast reinforced concrete wall system where panels were cast on site, raised to vertical and welded together, a system essentially similar to the tilt up so commonly used today. The Arnoldite system is reputed to have been used in hundreds of houses. [Lewis 1988, p104].

The Fowler precast system was developed and patented by Thomas Walker Fowler at his property in Werribee South, possibly in alliance with his brother J. B. Fowler, who was a draftsman in the Railways Department [Context & Kellaway, 1997, p445]. The Fowlers built concrete houses, sheds and silos on their property in the 1920s [Lewis 1988, p104]. They developed an efficient system of building single storey dwellings with on-site prefabricated concrete panels. In this system the walls were cast as 76mm steel reinforced concrete slabs on raised steel tables next to the place of erection. Door and window frames were set in place on the table before the concrete was poured. The tables were tilted up to release the cured slabs, which were then moved on trolleys on rails to their final location, jacked up and set vertically on spaced precast concrete piers. The need for continuous foundations and foundation walls was eliminated, as the wall slabs acted as beams to span between the piers. Speed of construction and ability to use largely unskilled labour were considered as among the most important benefits of the system. [Building, 25 November 1940, p.25-28,67]

Two Fowler concrete villas were built in the Werribee area and another at Laverton c1937. At least two architects adopted the Fowler precast system for some of their houses. A. C. Matthews had designed a Fowler system house in 1924. Leslie Perrott had been designing and writing about concrete houses from the end of World War One. Perrott was among a number of architects who advocated concrete houses as a solution to the shortage of housing for low income earners, citing examples in North America, England and Europe. In 1937
Perrott designed an attached pair of Fowler system houses at Brighton in conjunction with the Australian Cement Company and with the cooperation of Brighton City Council to test the possibilities of reducing building costs by the use of concrete and unskilled labour. Perrott saw the raw materials of concrete as more readily available than any other commodity (This was to prove very true during wartime and post war shortages). He flagged the relevance of such systems to the outcome of the pending report of the HISAB. Criticising the recent Dunstan housing in Port Melbourne, Perrott stated that radical changes will have to be made in both planning and materials if new homes are to be associated with the rental figure at which the low-wage owner can be housed. Fowler himself promoted his system as suitable for slum-rehousing programmes.

History of Place:

In February 1939 the Housing Commission announced a competition for a layout design for the Fishermen’s Bend estate and for architectural designs for the houses. The specifications for the competition were prepared by the architect Marcus Barlow. The competition for the layout design was won equally by the architects Ballantyne & Wilson and the surveyors Tuxen & Miller. It was Saxil Tuxen's design that was finally used for the Fishermen’s Bend estate. It reflected his knowledge of American suburban estate design as well as English Garden City planning principles. It included cul-de-sacs, a community centre (never built) and playgrounds. Many of the features of these estate layouts would be incorporated into later housing estates in Melbourne.

The Commission decided not to appoint staff architects but to appoint a panel of consultant architects to be paid on a commission basis. It was intended that the winners of the competition for the house designs would be included in the panel. This panel system accorded with the Premier's desire that the Commission not become a large government department.

The winner of the housing design section of the competition, E C Jackson, an architect with the Commonwealth Department of Works and second place-getter Eric Andrew, a Sydney architect, both declined to leave their positions to join the panel. The panel was finally appointed in late May 1939 (Howe 1988, p.38-39) The Chairman of the Commission, J.N. O’Connor, announced the appointment of a panel of architects comprised of John Scarborough as Chairman, Arthur Leith, Frank Heath and Best Overend. All were partners in well-established Melbourne architectural and engineering firms.

Reclamation of the site was planned to finish by the end of June 1939. Eight old houses on part of the land facing the water-front were demolished. [Argus 17/5/1939 p8] Although the government was under pressure from public housing lobbyists to construct rapidly, the Housing Commission decided that eight (four pairs) of experimental or experimental houses would be built first at Fishermen’s Bend. Fishermen’s Bend was to be the first model housing settlement, and these would be the model houses within that settlement. The intention was that there would be no grave mistake in constructing the full 376 houses intended for the site. [Argus 29/7/1939 p.5]

Each experimental pair was to be of a different design and size and was to use different combinations of the materials that had been recommended by the prize-winners in the competition. The first two placegetters in the competition had used the Fowler system in their designs. [Leith & Boyce 1948, p.3] The experimental pairs were to be of brick, brick and (a form of concrete block using coke as aggregate), all and all concrete. The experimental houses were to be tested from the viewpoints of planning, practicability, and economy of construction. [Argus 24/6/1939 p.3] The contract price for the pair in concrete was £1100. They were built by T.W. Fowler himself, though officially the contractor was the Melbourne firm W. A. Watts because Fowler was not a recognized Metropolitan builder. [Argus 2/8/1939 p.2; Leith & Boyce 1948, p.3; Building 1940, p.25, Semple p.13] Building of the experimental houses began in early August 1939. Clerks of works were appointed by the Commission to supervise these, and later building operations to ensure that works were undertaken properly. [Argus 8/8/1939 p.6]

Initial progress on the Fishermen’s Bend estate as a whole was slow, as full infrastructure had to be installed. As the experimental houses were built, critics emerged who claimed that they fell short of the standard required for workers homes. The experimental concrete house was criticised for such features as the relatively flat roof, the tinted rather than painted internal walls, and poor insulating qualities. When new estates were initiated by the Commission at Preston and Brunswick, including concrete houses by Fowler based on the Fishermen’s Bend experiment, the skillion roofed brick houses at Preston were described in Parliament as glorified cowsheds. [Argus 15/12/1939 p.5; U’Ren & Turnbull 1983 p.249; Legislative Assembly 1939] Chairman of the Commission, O’Connor, defended the housing in general, and the Fishermen’s Bend houses in particular, stating that these houses have been built to last 50 years. They are superior to the standard of most houses in Melbourne, and are fully up to the standard of homes occupied by people with middle
In fact the Commission considered the experimental houses a little extravagant for the programme of the magnitude of that to which the commission is committed. The built-in furniture and flush panel doors used in the experimental houses were deleted from further houses, and none were installed in the Preston project. As the pair of concrete houses had single skin walls, an important part of their testing was for penetration of dampness. The test consisted of hosing the walls continuously for 36 hours. There was no sign of moisture penetration.

The first tenant at Fishermen’s Bend was one of those whose house had been demolished by order of the Commission. They moved in to the first completed of the experimental houses on 22 December 1939 at a rent of 18 shillings 6 pence per week. A further 58 concrete houses were built at the estate in 1940. The design of these houses was modified on the basis of the experience of the experimental house. The roofs were more conventional, generally tiled, with steeper pitches and in hipped or gabled form. Ultimately a total of seventy concrete houses were built here.

Fowler continued to use the original equipment for a number of houses at Fishermen’s Bend and Brunswick. [Housing Commission of Victoria 1941, p.8]. The Commission acquired his equipment after his death in 1942 and formed a day labour gang of operatives to continue the erection of these houses. [Housing Commission of Victoria 1944, p.23] However, modifications were then introduced to the system, which was now described as the mobile mechanical plant. The modifications included simplification of the precast concrete stump foundations, introduction of trussed casting tables, which could be easily rolled over to plumb the wall slabs and the use of a pneumatic vibrator. A mobile crane replaced the hand operated rail system used by Fowler. [Leith & Boyce 1948, p.5-7; Housing Commission of Victoria 1944, p.22-5] This refined and streamlined precasting system was used on a number of other Housing Commission estates built in the 1940s, including estates at Brunswick, Newport, Williamstown and Oakleigh. A total of 450 concrete houses were built by the Commission using on-site casting up until 1946. [Housing Commission of Victoria 1946, p.24]

In 1946 the Commission acquired the former tank turret factory at Holmesglen which became the centralised concrete panel production facility for what was to become known as the Concrete House Project. Here greater mechanisation and scientific control of the process was possible. Greater accuracy allowed a number of useful modifications to the detailing. [Leith & Boyce 1948 p.7] The factory operated until the 1970s and produced panels for thousands of houses and flats. By the 1950s the Commission was building precast concrete 4 storey walk-up flats and in 1960 the first of the high rise Commission flats was built in South Melbourne [Allom Lovell & Ass. 1995, p.124]

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Plaque Citation

This pair of experimental houses were built in 1939 by the Housing Commission of Victoria using T W Fowler's on-site pre-cast walling system. These were prototypes of thousands of prefabricated concrete houses produced by the Commission.

Assessment Against Criteria

Criterion A
The historical importance, association with or relationship to Victoria's history of the place or object.
The experimental concrete houses are of historical significance as the first pair of houses to be built by the newly established Housing Commission of Victoria. The Housing Commission implemented a massive program of providing low-cost public housing in Victoria after the Second World War. The houses are the first physical manifestation of an official response to the growing concern about the conditions under which some working class people lived and provide a tangible link with the slum abolition movement of the early 20th century.

Criterion B
The importance of a place or object in demonstrating rarity or uniqueness.

Criterion C
The place or object's potential to educate, illustrate or provide further scientific investigation in relation to Victoria's cultural heritage.

Criterion D
The importance of a place or object in exhibiting the principal characteristics or the representative nature of a place or object as part of a class or type of places or objects.

Criterion E
The importance of the place or object in exhibiting good design or aesthetic characteristics and/or in exhibiting a richness, diversity or unusual integration of features.
The simple form of the concrete houses and their construction technique reflect the modernist design features and exhibit its characteristic interest in technology and functionalism.

Criterion F
The importance of the place or object in demonstrating or being associated with scientific or technical innovations or achievements.
The experimental concrete houses are of scientific (technical) significance as important early examples of the Fowler precast concrete system. The technique had been used since the 1920s by T W Fowler before it was used as a prototype at Fishermen's Bend and then adopted by the Housing Commission who refined and developed it over the next 30 years, eventually resulting in the construction of high rise blocks of flats.

Criterion G
The importance of the place or object in demonstrating social or cultural associations.
The experimental concrete houses are of social significance as the forerunner of the Housing Commission's post-war Concrete House Project which, culminating in the high rise flats of the 1960s and 1970s, had wide reaching implications for Victorian society. The Commission's later concern with slum clearance and high rise development became increasingly at odds with community concerns about social dislocation, inner city redevelopment and the social problems of high density, high rise living. Pressure from community and interest groups ultimately led to a change of public housing policy.

Criterion H
Any other matter which the Council considers relevant to the determination of cultural heritage significance

Extent of Registration

1. All the buildings marked B1 and B2 on Diagram 1863 held by the Executive Director.

2. All the land marked L1 and L2 on Diagram 1863 held by the Executive Director being the land described in Certificates of Title Vol. 8250 Folio 355 and Vol. 9211 Folio 083.
This place/object may be included in the Victorian Heritage Register pursuant to the Heritage Act 2017. Check the Victorian Heritage Database, selecting ‘Heritage Victoria’ as the place data owner.

For further details about Heritage Overlay places, contact the relevant local council or go to Planning Schemes Online [http://planningschemes.dpcd.vic.gov.au/](http://planningschemes.dpcd.vic.gov.au/)