Local Heritage Places

Heritage Citation

Caswell Street Pumping Station

Key details

Addresses	At 1015 Stanley Street East, East Brisbane, Queensland 4169
Type of place	Pumping station
Period	Postwar 1945-1960
Style	Functionalist
Lot plan	L1_RP65734
Key dates	Local Heritage Place Since — 1 January 2004 Date of Citation — April 2002
Construction	Roof; Walls: Face brick

People/associations	Frank Costello (Architect)
Criterion for listing	(A) Historical; (B) Rarity; (D) Representative; (E) Aesthetic; (F) Technical; (H) Historical association

A major component of the Norman Creek Diversion Sewer which was integral to the expansion and upgrading of the sewerage infrastructure in the 1940s, the Caswell Street Pumping Station is important for its association with the development of sewerage infrastructure in Brisbane. This pumping station is important as one of only two pumping stations designed by City Architect, F.G. Costello and is distinguished as a fine example of a utility building designed in a Modernist idiom. The Caswell Street Pumping Station is important in demonstrating the principal characteristics of an automatic unattended diversionary sewerage pumping station. A Modernist interpretation of the urban palazzo distinguished by its austere elevations with vertical arrays of windows and a colonnaded piano nobile, the Caswell Street Pumping Station stands as a prominent landmark on a busy urban thoroughfare. Of considerable engineering complexity, the pumping facilities are accommodated within an innovative structure of reinforced concrete. The Caswell Street Pumping Station stands as a fine example of the civic work of F.G. Costello, Brisbane City Architect 1941-1952.

History

Following the formation of Greater Brisbane Council in 1925 and its subsequent responsibility for the provision of water and sewerage services from 1928, Brisbane City Council faced major challenges in the continued development of these public utilities during the 1930s and 1940s.

The stringent economic circumstances of the 1930s Depression hampered the provision of extended services, although some work was undertaken using subsidised State government loans and cheap labour under unemployment relief schemes. The onset of the Second World War brought further problems as wartime conditions precluded development, while the increased population due to the influx of military personnel placed heavy demands on existing systems.

In 1940 the main sewer servicing the inner city suburbs collapsed. The newly formed Metropolitan Works Board, responsible for city planning, municipal works, water supply and sewerage, faced three major problems: the deterioration of the main sewer; the inadequacy of the existing sewerage system; and the need to provide services for the rapidly expanding city.
The immediate response was to replace the deteriorating section of the main sewer with a high level rising sewer linked to a new pumping station at Eagle Farm. Work commenced in 1941 with the large pumping station, designed by City Architect Frank Costello, completed in 1948.

However, continuing concerns over storm water further overtaxing the system prompted an investigation of the present and future requirements of the City's sewerage system. The option of constructing diversion sewers was chosen over systems of duplification or interceptor mains. Proposals were adopted to augment and divert sewers in the Norman and Breakfast Creek catchments, to expand the Kedron Brook sewer, to divert sewers in South Brisbane and Toowong while providing new services for Sandgate and Wynnum.

Work on the Norman Creek diversion sewer began in October 1946. Section 2 comprised a 1.83 metres x 1.52 metres (6 feet by 5 feet) tunnel, 365.76 metres (1200 feet) long with a depth of 12.8 metres (42 feet) from Didsbury to Caswell Street. Designs for the Pumping Station were completed by Frank Costello in 1947-48 and by mid-1948 preparations for the excavation of the pump wells were well advanced. In 1949 tenders were invited to supply three 300kVA three phase 50PPS outdoor type distribution transformers for the Caswell Street Pumping Station. In 1950, Melbourne company, Magnus Industrial Equipment, successfully tendered to supply the overhead travelling crane for the Pumping Station.

By 1952 the reinforced concrete pump well and below ground walls, floors and other elements were complete and construction started on the reinforced concrete pump house.

The shell of the building was completed in December 1953 and the travelling gantry and crane installed. The finishing of the building was undertaken by the Planning and Building Department of Council and the brick facing was complete by mid-1954. By 1956 the building was complete. The fixtures were painted and the pumps and valves installed. By mid- 1957 the pumps had been “operating automatically for some time, pumping filtration and gland water only”. The station could not be fully operational until “automatic penstock doors [were] installed in the wet well controlling the incoming sewers”. This was done in the following year and by mid 1959 it was reported that the Caswell Street Pumping Station, “an automatic unattended station of considerable size, having 300HP motors installed over and above complex ancillary equipment” was operating satisfactorily.

Frank Costello – Brisbane City Architect 1941-1952 and Brisbane City Planner 1946-1952 The Caswell Street Pumping Station is characteristic of the work of F.G. Costello Brisbane City Architect 1941-1952 and appears to have been built to a design by him. Costello was City Architect at the time plans were completed, and preliminary drawings which have been located are signed by him. According to Chasling,

“Costello’s architectural legacy to the city of Brisbane was the development of a ‘modern’ architectural style new to Brisbane City Council”. “Costello contributed to the development of the use of reinforced concrete within buildings” and his “experimentation with cantilevered concrete, seen in his air raid shelters and his use of flat concrete roofs within the buildings he designed, illustrate some of the most radical uses of concrete in Brisbane buildings during the 1940s”.

Costello studied architecture at the Sydney Technical College from 1922 whilst gaining working experience in architectural and/or building firms. He completed his studies in 1928 and was awarded a scholarship of £100 by the NSW Board of Architects. Costello used the scholarship to travel to England and Europe on a working holiday. While in London Costello worked at various architects’ offices whilst studying Town Planning and Civic Design at London University in the evening. Here Costello developed an understanding of the ideals of the Garden City Movement and on completion of the course in 1933, received the University Certificate for Town Planning and the Hunt Bursary for Housing and Town Planning. The latter he used to travel and study in Italy. He also visited Paris, Northern Spain, Holland and Germany.

In Holland he was greatly impressed by the architecture, particularly the work of Willem Dudok, who has been described as being one of the first sources of Modernism in Australia. Costello returned to Australia in 1936 and lectured part time at the Sydney Technical College while working for himself and an architectural firm. He applied and was accepted for the position of City Architect with the Brisbane City Council in 1941.

The Caswell Street Pumping Station is part of an architecture employing the language of vertical and horizontal volumes, masses set against voids, floating flat roofs and monumentality. From 1920 there was an increasingly wide understanding that building forms must be determined by their functions and materials if they were to achieve intrinsic significance or beauty in contemporary terms, without resorting to traditional ornament. The

leading innovators of modern architecture considered a building to be a volume of space enclosed by thin curtain walls and resting on slender piers. The visual aesthetic of modern architecture was largely inspired by the machine and by abstract painting and sculpture.

A number of architects, including the firm of Lucas and Cummings, had begun to introduce Modernist influences into Brisbane buildings but the Second World War precluded further development. Brisbane City Council buildings for infrastructure such as water, sewerage and electricity were not subject to wartime restrictions on material and labour thus allowing Costello to develop civic infrastructure buildings in Brisbane in a modern idiom. His architectural legacy was largely dictated by the state of war and Council's policy of preserving existing assets, conserving finances and preparing for postwar reconstruction and development. Thus the bulk of Costello's work involved the design and construction of infrastructure buildings, particularly related to water, sewerage and electricity.

Many of these buildings, particularly the electricity and tramway substations, the Eagle Farm Pumping Station and the Mt Crosby Water Filtration Plant directly reference Dutch architect Dudok's work in the design details such as the use of brick cladding, the interplay of horizontal and vertical rectangular building masses and a geometric rhythm of windows. Costello also employed innovative elements such as the use of metal plated roofs and cantilevered roof structures and incorporated roof overhang shadows to visually lighten the roof.

Of Costello's body of work, the Eagle Farm Pumping Stations and Ashgrove Substation are considered to be outstanding examples of the Modern Functionalist idiom in the design and detailing. The Caswell Street Pumping Station is also an example of work in this genre. Typical of this idiom, the detailing is simple and includes attention to brick pattern at the parapet, careful placement of vents and exposed concrete slab. Other characteristic elements include attention to proportions and vertical and horizontal lines particularly in rhythmical placing of windows. The main representative elements are traditional and monumental, the piano nobile signifying the large volume motor floor area and the vertical arrays of windows giving the building a sense of harmony and order.

Costello received a Meritorious Award for Architecture for the Mt Crosby Pumping Station in 1951. Costello's application of modernist styling reflected his idea that architecture was integral to a civic sense. Costello's careful manipulation of scale and proportion gave utilitarian infrastructure buildings a civic presence.

Frank Costello's work as City Architect includes:
• Second World War Air Raid Shelters throughout Brisbane
• 17 electricity and tramway substations including those at Moorooka, Breakfast Creek, Queensport, Eagle Farm, Salisbury, Fortitude Valley, Hamilton, Newmarket, Sherwood, Annerley, Stafford, Wynnum, Hendra, Lota, Holland Park, New Farm
• Eagle Farm and Caswell Street Pumping Stations
• Mount Crosby Water Filtration Plant
• Mount Coot-tha Lookout
• Botanical Gardens Orchestra Shell, Albert Park Bandstand and toilets
• Numerous dressing sheds, public toilets, shelters and sheds in parks including those in Heath Park, Creek Street, Ithaca Baths, Gregory Park, Hawthorne Park, Oxenham Park, Hamilton Park, Story Bridge toilets, Brunswick Street, Albert Park, Mt Coot-tha • Anzac Square Memorial Shrine Crypt

Description

A large freestanding rectangular prismatic building clad in brown face brick, the Caswell Street Pumping Station stands on a wedge of land to the southwest corner of Stanley Street East and Caswell Street, East Brisbane.

In the northwest elevation the monumental stylised concrete columns form a giant order colonnaded piano nobile above a flat roof porte-cochère. The elevation is given vertical emphasis by the arrays of openings flanking the colonnade. All openings are distinguished by protruding cement rendered surrounds. Further vertical emphasis is given by the large rainwater head and downpipe extending the full height of the building to each end of the elevation. The flat concrete roof of the porte-cochère carries three transformer units. The southeast elevation resembles the northwest elevation. The colonnaded piano nobile sits above a blank lower level and is flanked by vertical arrays of four windows with protruding rendered surrounds. The top window, a louvred vent, is rectangular and smaller than the other square windows. The verticality is reinforced by the large rainwater heads and downpipes to each end of the elevation.

The southwest elevation has a blank narrow tower protruding at the west edge and extending above the roof level. The tower houses the ventilation duct for the wet well. To the south of the elevation, a double height roller shutter door to the truck bay is emphasised by a protruding face brick surround and sheltered by a narrow flat concrete slab awning. The grid-like geometry of the northeast elevation is comprised of three vertical arrays each of four windows with protruding rendered surrounds. The top rectangular openings accommodate louvred vents and are smaller than the others, which are square.

A small, low rectangular structure to the roof top houses the tank room.

The building is a structural shell of concrete clad with a skin of bricks to the exterior. At the roof slab the brickwork steps in and the exposed concrete slab has a small overhang beyond the face of the building.

The building houses a wet well and a dry well in chambers below ground and a lobby and motor floor above ground. The motor floor area is a double height space housing the overhead gantry and pump and switching equipment. A plaque recording that the pumping equipment was designed and manufactured by Thompsons (Castlemaine) Ltd Castlemaine Victoria 1956 is fixed to the wall to the stair from the lobby to the motor floor area. A separate valve pit housed within a concrete shell lies to the northeast of the pumping station. A semicircular driveway travels from Stanley Street East into the porte-cochère. Another driveway travels from the west entry/exit to Stanley Street East around the rear of the building to Caswell Street. A row of oleanders stands to the west boundary.

The Caswell Street Pumping Station is a fully operational sewerage pumping station. The station is substantially intact. The sewage pump motors and starters have been removed and replaced with upgraded equipment. External doors to the wet well have been replaced with metal doors with more effective seals than the earlier doors. The existing columns supporting the flat roof to the porte-cochère have replaced an earlier arrangement of piers.

A brief visual inspection reveals that generally the exterior of the building is in a satisfactory condition but suffers from damage by vandals and show signs of the effects of weathering. A number of the rendered surrounds to openings in the northwest elevation are broken and there is graffiti in a number of locations around the exterior of the building. Some window glazing has been penetrated by projectiles and has holes and cracks. The soffit to the porte-cochère roof shows signs of water penetration and has broken edges and some exposure of

reinforcement.

The lobby area is unkempt and presently accommodates loose furniture and equipment.

Statement of significance

Relevant assessment criteria

This is a place of local heritage significance and meets one or more of the local heritage criteria under the Heritage planning scheme policy of the *Brisbane City Plan 2014.* It is significant because:

Historical

CRITERION A

The place is important in demonstrating the evolution or pattern of the city's or local area's history

as a major suburban sewerage pumping station designed in the 1940s.

Rarity

CRITERION B

The place demonstrates rare, uncommon or endangered aspects of the city's or local area's cultural heritage

distinguished by its design in a modernist idiom and as one of only two pumping stations designed by City Architect F.G. Costello.

Representative

CRITERION D

The place is important in demonstrating the principal characteristics of a particular class or classes of cultural places

as a large automatic unattended diversionary sewerage pumping station.

Aesthetic

CRITERION E

The place is important because of its aesthetic significance

as a utilitarian building distinguished by its design in a modernist idiom standing as a prominent landmark on a busy urban thoroughfare.

Technical

CRITERION F

The place is important in demonstrating a high degree of creative or technological achievement at a particular period

as a complex diversionary pumping facility accommodated within a structure incorporating an innovative use of reinforced concrete.

Historical association

CRITERION H

The place has a special association with the life or work of a particular person, group or organization of importance in the city's or local area's history

as a fine example of the civic work of City Architect F.G. Costello.

References

1. Brisbane City Council - City Assets Branch *Conservation Management Study* Stage 1 Report. November 2002

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Note: This citation has been prepared on the basis of evidence available at the time including an external examination of the building. The statement of significance is a summary of the most culturally important aspects of the property based on the available evidence, and may be re-assessed if further information becomes available. The purpose of this citation is to provide an informed evaluation for heritage registration and information. This does not negate the necessity for a thorough conservation study by a qualified practitioner, before any action is taken which may affect its heritage significance.

Citation prepared by — Brisbane City Council (page revised September 2020)

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