BRISBANE GPO

STONEWORK SURVEY
QUEEN STREET FACADE



FOR

AUSTRALIA POST
QUEENSLAND

MAY 98

MICHAEL KENNEDY ARCHITECT
2 MARTHA STREET
PADDINGTON 4064

IN ASSOCIATION WITH

PETER DARE
STONEMASON

1. SUMMARY 1

2. INTRODUCTION 5

3. HISTORY OF STONEWORK 7

4. CHRONOLOGY 27

5. SIGNIFICANCE 29

6. SURVEY OF STONEWORK 31

7. STONEWORK CONDITION 34
7.1 GENERAL 34
7.2 ALTERATIONS 35
7.3 PREVIOUS INDENTS 37
7.4 PREVIOUS REPAIRS 38
7.5 TOPS of CORNICES & COPINGS 40
7.6 STRUCTURAL PROBLEMS & CRACKS. 42
7.7 JOINTS 44
7.8 SALT DAMAGE-BLISTERING 46
7.9 INSERTS & ATTACHMENTS 47
7.10 MORTAR REPAIRS 48
7.11 CLEANING 49
7.12 GRAFFITI 51
7.13 CARVING & DECORATION 52
7.14 BIRD CONTROL 52
7.15 PROTECTIVE COATINGS 53

8. CONSTRAINTS 55
8.1 CONSERVATION POLICIES 55
8.2 STRUCTURE OF STATEMENTS 56
8.3 PRINCIPLES 56
8.4 MANAGEMENT 57
8.5 MAINTENANCE AND REPAIR 57
8.6 RECORDS OF REPAIR 57
8.7 RETENTION OF ORIGINAL FABRIC 58
8.8 REPLACEMENT SANDSTONE 58
8.9 STRATEGIES & OPTIONS FOR CONSERVATION 59
8.10 RECOMMENDED WORK 60
8.11 STAGING THE WORKS 60
8.12 DOCUMENTATION 60

9. BIBLIOGRAPHY 62

DRAWINGS

1. SUMMARY

1.1 INTRODUCTION

This study was initiated and funded by Australia Post, to establish, report, and comment on the condition of the stonework on the external facade of the GPO in Queen Street. The study includes the arcade fronting Queen Street but does not include the rear facade on Elizabeth Street.

1.2 HISTORY OF STONEWORK

Sandstone for the building was supplied from Breakfast Creek quarry at Albion in Brisbane and from Murphy's Creek quarry near Helidon. The porphyry was obtained from Spring Hill. The building was constructed in two stages commencing in 1871 & 1876 and involved the supply and working of a huge quantity of stone. The stonework was well executed and has been reasonably well maintained by Australia Post and State and Commonwealth Works Departments since its construction.

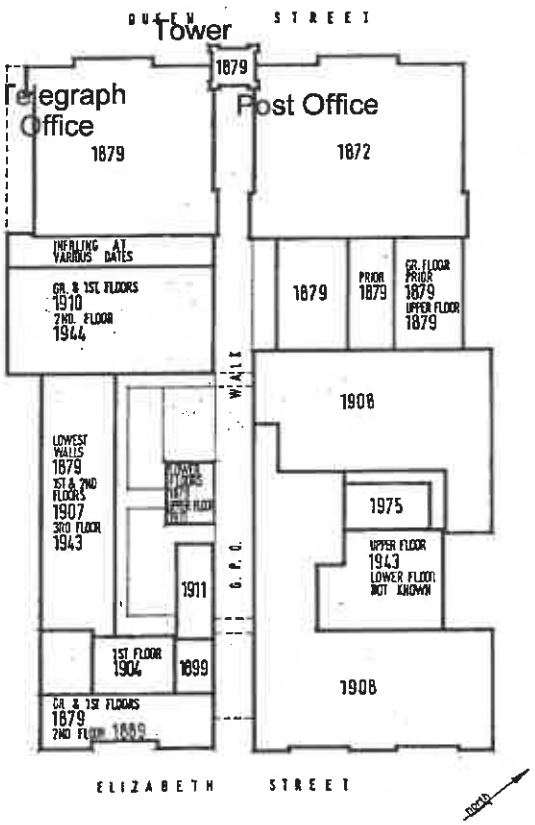
1.3 SIGNIFICANCE OF STONEWORK

The stonework was found to be significant for:

- ◊ its architectural design.
- ◊ the use of local materials and labour.
- ◊ the use of Breakfast Creek & Murphy's Creek sandstone, and Spring Hill porphyry.
- ◊ the quality and extent of the ornamentation and sculpture.
- ◊ its symbolic and aesthetic qualities.

1.4 SURVEY OF STONEWORK

CAD drawings of all the stone surfaces studied were produced. The building was divided into bays for convenience and individual stones were numbered. The site survey was undertaken from cherry pickers



Development stages of the GPO.

and from the ground. The results are contained in a data base along with photographs of damaged stone. Overall there is some 470 photographs.

1.5 STONEWORK CONDITION

1.5.1 STONE REPAIRS

Overall the stone is in fair to reasonable condition although it is need of immediate repair. It is recommended that major repairs be undertaken within 2 years to repair damage to the tower and other areas, and to cover cornices and copings with lead.

1.5.2 URGENT MAINTENANCE

Includes the repointing of several open joints on the coping and cornices.

1.5.3 POINTING

The pointing is thought to have a life span of 10-15 years, however consideration should be given to replacing pointing during the major work outlined above. In this way the building will have a life span of 20-30 years before needing major remedial work.

1.5.4 SALT DAMAGE

There is minor salt damage to the building which will require desalination during repairs.

1.5.5 CLEANING

The building does not require further cleaning. A method of removing graffiti should be put in place which does not rely on abrasive means which might be harmful to the stone.

1.6 CONSERVATION STRATEGIES

1.6.1 CONSTRAINTS

Because the building is listed under the Heritage Act 1992 approval has to be sought from the Dept of Environment prior to undertaking stonework repairs to the building.

1.6.2 CONSERVATION POLICIES

a) any conservation or work to the stone facades should conform to the requirements of the Burra Charter.
b) the policies and recommendations of this report be accepted as a guide for future stonework.
c) management of the conservation of the stonework should be clearly defined.
d) a clearly defined maintenance program should be established which should include regular inspection. This should include a physical inspection of all overhanging masonry surfaces, at least every 12 months.
e) a preventative maintenance program should be put in place to ensure the proper conservation of the structure particularly to seal open joints in cornices.
f) prompt but considered attention should be given to any repair work required.
g) that all maintenance or repair work be under the supervision of a person or persons qualified and experienced in conservation work, and with a knowledge of stonework.
h) accurate records should be kept of all work done to the stonework.
i) stonework should be preserved where possible.
j) any replacement stone used in the building should be from the original quarry if possible and should match in all ways.

1.6.3 STRATEGIES AND OPTIONS FOR CONSERVATION

The recommended strategy for the long term conservation of the building is to reconstruct the top of the tower which has deteriorated, and, if necessary, the pediments, and to cover copings and cornices with lead. Since this will require the whole building to be scaffolded it is recommended that other stone repair work be undertaken at the same time. In summary the following work is recommended:

a) Rebuild the top of the tower

b) Cut out defective stone to cornice edges and indent with new stone, pin existing stone, or patch with mortar repairs. Cover the cornices with lead.
c) Replace existing mortar repairs as necessary with stone indents or new epoxy mortar repairs.
d) Repair defective stonework on the building by a combination of stone indenting and or epoxy mortar repairs. Rebuild pediments as necessary.
e) Remove existing pointing material to the parapet stones above the top cornice and repoint joints. Repoint all other open joints or defective joints throughout the building. An alternative strategy and one recommended is to repoint all joints throughout the building.

Consideration could also be given to the reconstruction of the missing steps on the northern side of the front facade, and the verandah and arcade on the southern side of the Telegraph Office. The reconstruction of the verandah and arcade however is conditional upon the supply of suitable stone and the future development on the adjacent property. In this regard it is recommended that the Brisbane City Council be made aware of the situation so that any adjoining development has sufficient set back to maintain the heritage significance of the GPO.

1.6.4 STAGING THE WORKS

Work preferably should be undertaken in one stage but if necessary the work could be staged in three - the Post Office facade, the Tower, and the Telegraph Office facade.

1.6.5 DOCUMENTATION

The recommended sequence of documentation is to prepare schedules of work based on the information gained from this survey and a detailed provisional bill which would be adjusted after the contractor is on site and the scaffold is erected.

provide for it.[18]

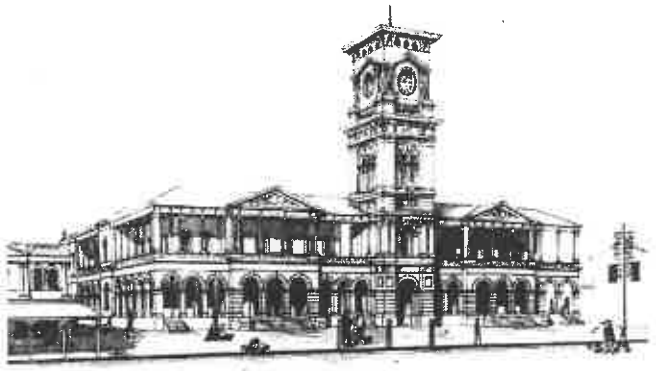
The structure, the *Brisbane Courier* claimed, was undoubtedly a *very handsome and imposing one* and once the Telegraph Office was completed on the adjacent site it was anticipated that the effect would be *very striking*. Stanley's choice of site was applauded as the best that could be selected for the purpose in Brisbane, situated in the centre of the city with its principal entrance to Queen Street, the chief business thoroughfare. The style was Italian as it was considered the most suitable for the climatic conditions. The feature *most worthy of remark* was the architect's attention to the climate.[19] The building, with its frontage of 90' and a depth of 88', provided sufficient accommodation designed to moderate the heat of summer. The ceilings were lofty (18' on the lower floor and 17' on the upper floor) and a colonnade was provided on three sides of the building to provide protection from heat and rain.

3.6 BUILDING THE TELEGRAPH OFFICE

A decision to house the telegraph office under the same roof as the GPO prompted FDG Stanley to commence plans and specifications for the new Telegraph Office. Since 1861 the telegraph office had been located in a disused church in William Street. This building was soon inadequate and in 1868 the Telegraph Superintendent, WJ Cracknell, asked Parliament to consider the desirability of erecting permanent offices in a more central location. A more urgent plea was issued in 1874 *no time should be lost in erecting a suitable building within easy distance of the principal Government offices in the centre of the city.*[20] The office could no longer cope with the growing workload of the telegraph office and could not accommodate the 44 staff.

Tenders were called in 1876 for the excavation of the site adjoining the Post

Office, including the removal of the Police Court, and tenders were called later that year for the construction of the new building. The Telegraph Office was similar in elevation to the Post Office and was arranged to form one wing of a uniform front which would be connected by a central block comprise a clock tower and arcade.[21]



An illustration of the completed building including the tower published by the Dept of Works in *Buildings in Queensland* in 1888. The drawing was produced under the direction of the Colonial Architect J J Clark. Although the tower was clearly part of Stanley's original design no drawings have been located which document it, and it is not known if the tower design published in 1888 is Clark's or a reproduction of Stanley's original design.

Contractors were asked to submit two prices, one for the completed tower and another for a tower up to the ridge level.[22] The latter alternative was chosen and John Petrie's tender was accepted on 12 December 1876. According to the specification hardstone was to be obtained from the Spring Hill or the Hospital quarries. This was to be used for the base and steps to match the Post Office. The sandstone in the arcade front, with the exception of the columns, frieze and the pediment, was to be from Breakfast Creek quarries. The columns, capitals, frieze and pediment of the arcades were to be stone from Mr Lyons quarries near Goodna. The pilasters, columns, pediment and entablature in the arcade front, and the tower were to be from Murphy's Creek with a chiselled finish to match the old work.[23] Stanley's design incorporated acanthus leaves, vine wreaths, and the honeysuckle "anthemions" of antiquity, which were to carved by a suitable craftsman under the Colonial Architect's supervision.



An artist's impression of the GPO with the completed Telegraph Office and central tower in *Views of Brisbane*, circa 1886.

Construction of the new wing and clock tower commenced in 1877 and by April 1878 Stanley was able to report that the building had reached full height.[24] The building was completed in August 1879 and occupied in November that year.[25] However, the planned 110' clock tower, designed to resolve the duality of the complex, was left incomplete. The clock which was imported from England it was found to be unsuitable

for the reduced tower, as the weights and pulleys did not fit. The clock, which featured Roman numerals and a dial 4' in diameter, was subsequently built into the pediment of the Post Office and illuminated by gas light. Bells were installed on the ridge of the roof under a small semi-circular covered recess.

In 1885 the intention to rebuild a large clock tower was revived with the Colonial Architect's plan for a 100' clock tower. Estimated to cost £2,800, the plan was shelved through economic constraints. Criticism that the clock in the pediment was difficult to read, prompted the attachment of a clock to the existing tower in circa 1908. The original clock space in the pediment was filled in with bricks.



The General Post Office and Telegraph Office in 1897 from the *Jubilee History of Queensland* showing the clock in the pediment of the GPO wing. A clock was specially imported from England for installation in the Post Office tower. However, once it was arrived it was found to be unsuitable for the reduced tower and the clock face had to be built into the pediment.

.

3.7 RESPONSE TO NEW SERVICES AND TECHNOLOGY

Physical changes to the GPO were often prompted by the need to respond to technological change. In 1876 the Brisbane GPO installed a system of locked boxes. Although extensively used throughout the USA, Brisbane was the first Australian Post Office to introduce this system.[26] In 1880 a telephone exchange was added to the Telegraph Office and by 1881 there were 125 instruments and a further fifty were added the following year.[27] The Brisbane GPO also assumed responsibility for the collection and dissemination (via the telegraph) of meteorological data which required the installation of new equipment.

3.8 EXPANSION OF THE GPO AND TELEGRAPH BUILDINGS

In order to accommodate future expansion, Stanley had incorporated "blind arches" into his design which enabled the infill panels to be removed for an extension.[28] However, these extensions were needed prior to the

completion of the telegraph wing and extensive additions were made to the ground floor of the GPO in 1879. Subsequent additions were made to the first floor with the arcade forms being repeated on both levels. These additions provided increased accommodation but also allowed flexibility of use. Columns and beams replaced ground floor walls and on the upper floors wider openings were made in the wall to increase light.[29]

Constant additions were also made in the yard as stores and stables were added over the years. The substitution of bicycles for ponies for the telegraph boys allowed the removal of some of the stables and the construction of additional closets.[30] By contrast the Telegraph Building remained relatively unchanged until 1908-9.

3.9 DISPOSAL OF THE BUILDING?

Despite these alterations in 1885 the Post Master reported in 1885 that as the work was ever increasing further additional accommodation was required and he recommended the construction of a large central building behind the post and telegraph offices and the addition of another storey on the existing buildings for the telegraph operating room.[31] Four years later the Post Master called for the disposal of the existing *inadequate* structure and the construction of a new GPO on the site of the Normal School which was nearer to the railway station.[32] Instead, additional accommodation was provided by the erection of third storey on the building facing Elizabeth Street, which was occupied by the Stores Branch.

By 1896 the staff were complaining of the *great want of adequate space* for the increasing business of the Department. A request was made to extend the main building 80' and built to provide two stories and a basement. With the exception of the verandah fronting the lane all others were to be enclosed to

provide additional office space.[33] Possibly referring to the ad hoc nature of previous alterations it was suggested that these extensions should be well considered and in *accordance with a definite plan.*[34] Until now, the Under Secretary complained, the GPO had grown by *patchwork.*[35]

Government Architect Andrew Brady had estimates and plans prepared in 1897 but these were rejected. In March 1898 the Under Secretary and Superintendent of Telegraphs informed the Department of Public Works that there is *no use patching up the present inconvenient tenement.*[36]

It was agreed that the government should design a new post and telegraph office which would accommodate the needs of the department for the next twenty to twenty five years. Referring to interstate post offices which were constructed on the corner of two main thoroughfares, the Post Master reiterated his earlier request for the GPO to be relocated to the site of the Normal School.[37] Alternatively others called for a new street to be opened to provide a corner site or for the Brisbane GPO to be moved.[38] The notion of a new street gained acceptance and the construction of a 33' wide right of way to the north east boundary of the site was incorporated in the future design requirements.[39]

The government launched an architectural competition on 27 February 1900 for the design of a new Post and Telegraph Office. The competition closed on 31 July 1900 and prizes were offered for first prize (£400), second prize (£300) and third prize (£200). Twenty eight entries were received from throughout Australia including those from Richard Gailey, J Marks and Son and John Buckeridge as well as the winning entrants John Barr (first), Hall and Dods (second) and GD Payne (third).

The competition entries were rejected and the Government Architect adapted the plans and sent three alternative schemes to the

Secretary of the Commonwealth Department of Home Affairs in Melbourne. The plans for a new complex did not proceed and between 1907 and 1911 a series of additions and alterations were made to the existing complex to provide additional accommodation.

Plans for additions to the GPO were drawn in 1906 by the Thomas Pye of the Department of Public Works (on behalf of the Commonwealth Government which funded the project). The subsequent additions extended the mail room and the accountants office thereby adding another three bays to the arcade that faced Post Office Lane. A new four storey brick building was constructed facing Elizabeth Street to provide an area for Parcels Post and Dead letters at the ground floor level. The operating room on the ground floor of the Telegraph Office was to be extended but this plan was modified to provide a two storey new building after demolition of the existing operating room. The Queen Street building was remodelled to provide an improved amenity for the public and staff. Electricity was installed throughout the building and an electric lift was installed.[40]



Designed by Thomas Pye, this additional wing was built in 1906 at the rear of the GPO but facing Elizabeth Street. The building was constructed on a porphyry plinth and with red brickwork was relieved with Helidon stone dressings. The building's construction created the courtyard first proposed by Tiffin in the 1860s. The Elizabeth Street building was decorated with ornamental stonework including carvings of a paw paw and mango tree and the coat of arms.

The Elizabeth Street building and the new operating room were of modern design and were finished externally in red facing bricks with buff brick band courses. The polychrome brickwork of the Federation style replaced the classicism of the earlier structures. In keeping with the modern style the interior provided large interior spaces by incorporating heavy timber framing with large spans via a row of intermediate columns. External walls were load bearing brickwork relieved with Helidon stone dressings. The Elizabeth Street building was constructed on a porphyry plinth.[41]

The Elizabeth Street building was an L shape with one leg of the L connecting it with the

older building. The enclosed space was to provide a courtyard for mail carts. Construction of the new building required the removal of a number of sheds, stables and stores from the yard. This building created the arcade proposed by Tiffin many years earlier.

Reflecting the spirit of the Arts and Crafts movement, Pye looked to the vernacular for his building ornamentation and incorporated the Paw Paw and Mango tree, each supported by a base of swirling roots, into the pilasters that supported the pediment with its Imperial Crest.[42] The wording *Dieu-et-mon-Droit* was inscribed above the coat of arms.

This extension did much to alleviate the problems of space and at the same time removed the possibility of building a new Post Office.

In 1907 two additional floors were built on the one of the rear telegraph buildings and in 1910 a matching building was constructed behind the original Telegraph Wing. Constructed on a porphyry base, this building was originally two stories high.[43] In 1910 an additional floor was added to the building immediately behind the 1879 Telegraph Office. Since then an additional floor has been added to the Electrical Engineers Department and then subsequently removed. An infill building has been added to the space between the Telegraph Building and Operating Room and a new lift replaced the original Elizabeth Street building.

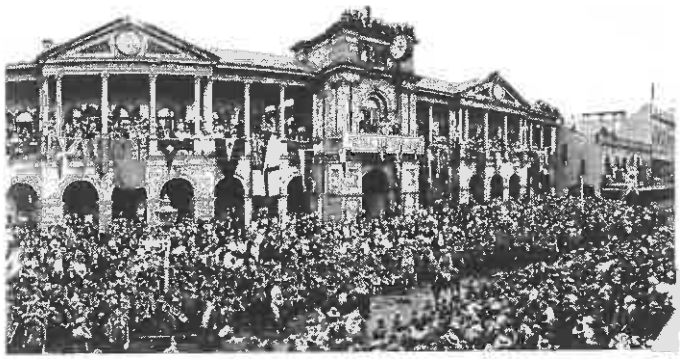
Responding to criticisms that the clock in the GPO pediment was difficult to read, in 1909 the clock was removed from the pediment and the space was bricked in. The clock was then attached to the tower by brackets.

3.10 STONEWORK REPAIRS

In 1907 EH Alder, Inspector of Works, reported that the *stone to the lower portion of the* Queen Street facade, especially on the piers and areas exposed to the weather had *badly perished* and in many places fallen away. This required several piers and a considerable quantity of other stonework to be cut out and replaced with sandstone to match the existing.



The stone walls also required cleaning and coating with two coats of Szerelmey liquid.[44] Tenders were called and the lowest tender of stonemason and contractor William Kitchen of £795 was accepted.[45] Kitchen had to underpin the GPO, a task he claimed was one of the most difficult of his long career.[46] Kitchen replaced the three bottom stones on each external arcade column which are distinguishable as the new stone was darker than the original stone walls.[47] Kitchen also cut new mouldings for the stone pedestals, refaced the kerbs and fixed new reinforced granolithic top treads to the steps. The original kerbing was replaced with Helidon brown stone. A total of £795 were spent on repairs to the stone facade in 1908.[48]



At the first Anzac Day anniversary on 25 April 1916 the salutury base of the military base was opposite the opposite the GPO. As a major civic building in Brisbane, the GPO was frequently host at public events such as military and victory parades.

3.11 A NEW GPO RECONSIDERED

Throughout much of its history the GPO has been plagued by constant campaigns to replace the building, frequently initiated by postal staff agitating for better accommodation, all of which have been abandoned. In 1922 the idea of building a new GPO was again raised but the idea was dismissed by Commonwealth Government Architect, JS Murdoch as the existing buildings were structurally sound and the expense of a new building could not be justified.[49]

In 1924 the Postmaster General received a deputation of Queensland Federal Members requesting the construction of new seven storey building. During their meeting they expressed discontent that since Federation Queensland had been neglected and that unlike other states it was denied a GPO in which they could be proud.[50]

This scheme did not eventuate and in 1937 a new proposal was devised. The new GPO was to be constructed on the building alignment of Queen Street, the lane to



In 1927 construction commenced of the seven storey Commonwealth Bank building adjacent to the Telegraph Office. It was completed in 1931. The Commonwealth Bank was constructed on the building alignment and hard against the Telegraph Office. To facilitate this, the arcaded verandah on the southern side of the Telegraph Office was demolished although the ground floor and steps from Queen Street were retained. Photo 1982 GPO Museum

Elizabeth Street would be removed and the building would provide seven storeys of accommodation and a flat roof for staff recreation.[51] Financial stringency by the Commonwealth Government forced the abandonment of these plans.[52]

In the 1940s plans were again mooted for the construction of a new GPO to cope with the Department's increased work load. During the war, further *very great expansion in all departmental activities* occurred, creating immediate need for new facilities.[53] Although the construction of a new GPO was regarded as a high priority as part of the war effort, as it was anticipated that this would not happen for many years, alterations were undertaken instead. In 1943 an additional story was added to a rear section of the telegraph wing and to a section behind the 1908 Elizabeth Street building. The following year a second floor was added to the telegraph battery room (built in 1910). Minor changes included the provision of an overhead cover in the laneway to protect from air attack and the construction of toilets to cope with the increased numbers of female staff employed while the men were fighting overseas. These changes did not quell the demands for a new building and in 1946 plans commenced for a *new ultra modern* GPO which would take advantage of the latest developments overseas.[54] These too did not eventuate.



The General post Office in 1927 with the relieving postal staff outside the building.



The constant need for additional accommodation prompted the development, in 1934, of a scheme whereby the land to Elizabeth Street would be removed and a seven storey building would be constructed on the site. Instead the building was added to in almost an 'ad hoc' manner along the central arcade, which ran from Queen to Elizabeth Street, shown here in 1934.

3.12 STONEWORK REPAIRS

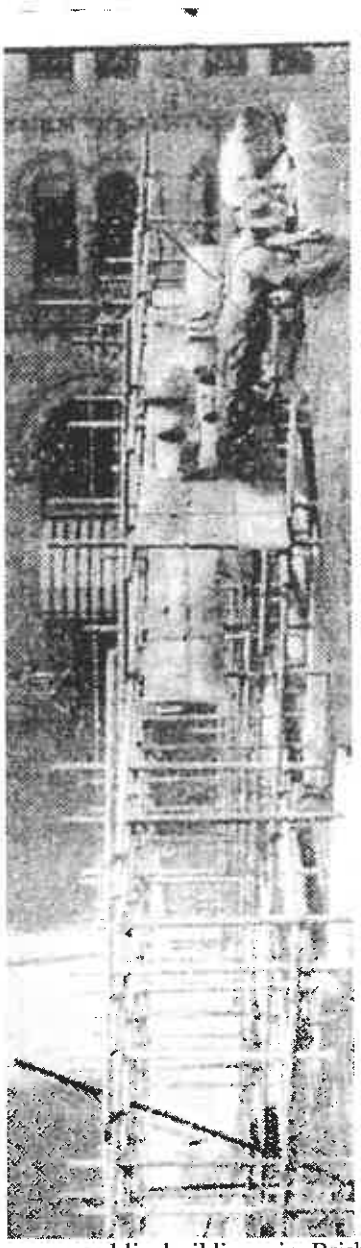
In preparation for the visit of Queen Elizabeth II in March 1954 many of Brisbane's public buildings were cleaned and the GPO was no exception. In 1953 the stonework of the GPO was renovated and although the building had weathered *very little* and was *generally in good shape*, a few eroded sections had to be replaced.[55] The sandstone cornice moulds above the main steps were badly *pitted by sulphuric acid* which was carried up behind the mould by rain. Some of the bases of the columns in the

arcade had been *fretted by acid and weather.* The work was undertaken by John Petrie, great grandson of the original builder who cleaned the building with water, using no detergent. Each stone was scrubbed with brushes and rubbed with carborundum stone to remove obstinate stains.[56] Further repair work was undertaken in circa 1961 when large portions of the main cornice and arcade capitals were replaced. In addition, decayed stone on the top cornce of the central tower was removed.

3.13 MODERNISATION IN 1960s

In the interests of efficiency and modernisation, in the 1960s plans were implemented for the conversion of the ground floor of the 1872 building into a postal hall which would allow all postal activities to be conducted in one central place. The interior was modernised and much of the original fabric was removed.

In 1969 a GPO beautification scheme was introduced to improve the forecourt of the GPO and a committee was formed headed by the Lord Mayor of Brisbane. Owing to a shortage of landscape architects in Brisbane proposals were called for including the plans compiled as a class project for QIT Postgraduate Landscape Architecture Post graduate students. Thirteen designs were submitted and that of B Ryan, a partner with Bligh, Jessup, Brentnall and Partners, Architects, was adopted. His plans included an ornamental pool and water sculpture in front of the GPO deigned by sculptor, Nicholaus Sefferin, the tiling of the colonnades and the building of seats and planting of ornamental trees. This was proposed to harmonise with the Brisbane City Council's beautification programme for the city and the construction of the new Anzac Square opposite the GPO. The plans also included paving the main entry to the GPO with an aggregate finish comprising pink grey granite from the Ashgrove Quarry owned by the Readymix Group, with some



Like many public buildings in Brisbane at the time, the GPO facade was cleaned in anticipation of Queen Elizabeth's visit to the city in 1954. The work was undertaken by John Petrie, the great grandson of the original builder of the GPO. Photo CM 25/6/1953.



The restored Queen Street facade in March 1954 ready for the visit of Queen Elizabeth II. Note the ERII signs on the pediment.

sections relieved in grey tones to relieve the monotony.[57] The beautification scheme was completed in 1971.

Three tulip wood trees (harpulia pendula) were planted in front of the GPO, transplanted from Cornwall Street to make way for the expressway. The middle tree died within six months and was replaced. Subsequently others died and on investigation it was found that the subsoil was unsuitable for tall trees.[58] However, new trees have been planted subsequently in the GPO forecourt.

The Post Office Historical Society had its own plans for beautification and on 19 August 1970 the resolved to request that the Department increase the size of the tower and install a clock as it was felt that the existing tower did not balance the appearance of the building nor compliment its architecture.[59] This did not occur.



In 1969 a GPO beautification scheme was introduced which included the planting of ornamental trees and the construction of a water feature. This work as completed in 1972. These photos, taken in 1972, show the Tulip Trees which were transplanted from Cornwall Street to make way for the expressway.

3.14 RESTORATION IN THE 1970s

To commemorate 100 years since the construction of the GPO Australia Post launched its plans to open a postal museum in the Telegraph Building. In May 1974 a contract was let to Owen Booker and Company, Brisbane, for the restoration of the Telegraph Building in preparation for the museum and upgrading of accommodation and service areas. This work included the restoration of the front portion of the building facing Queen Street, alterations to the interior of the Telegraph Wing, restoration of a verandah near the clock and the introduction of new services such as fire stairs, toilets and air conditioning. The existing clock which was mounted on the clock tower in circa 1908 was removed and fibreglass replicas of the 1872 lamps were placed at the Queen Street steps. The museum area was to be restored to its original layout and the ground floor of the southern 1879 wing was restored.[60]



In 1972 the GPO celebrate its centenary. To commemorate the event a postal museum was opened in the Telegraph Building. A portion of the Queen Street facade was also cleaned and the verandah near the clock was restored.

The restoration programme included the re-installation of the clock. CA Tonissen quoted $5000 to re-instal the clock in the tower and $3000 to install a new clock in the northern pediment.[61] A new clock, a replica of the original, was installed in the northern pediment in November 1976.

Proposals for the redevelopment of the GPO in 1977 took into consideration the building's listing with the National Trust and Cabinet and the community's *sentimental pride* in the building's unique appearance.[62] Consequently the Queen Street building with its depth of between 90' towards Elizabeth Street was to be retained and refurbished. This work was to include the restoration of the stonework.

In June 1977 a report was prepared by JM Herriot detailing necessary restoration work required at the GPO. With regards to stonework he reported that the although the stonework was very good, consideration should be given to protecting it from further corrosion. Of particular concern was that water was penetrating the cornices and pediments causing mouldings to drop away in small sections. This situation could be improved, he believed, by dressing the top of cornices and pediments with "Gunac" or a similar material. Herriot maintained that a thorough cleaning of the stonework was *highly undesirable* and that the black deposits should be treated with a fungacide and then the whole building washed with a hose and scrubbing brush using a little biodegradable detergent. Herriot reported that the stonework was eroding and needed to be replaced in places, particularly in the arcade behind the tower. He recommended that the building be coated with clear "formstar'. The building needed to be repointed and he recommended that the original pointing should be replicated. Cement pointing used for repairs in the past should be removed as it would cause long term damage. In particular he referred to approximately 200 holes in the stonework (mainly on the tower) where signs had been affixed and subsequently removed.



The 1976 restoration programme included the removal of the clock from the tower and the installation of a new clock, a replica of the 1879 model, was installed in the pediment of the GPO building.

This 1981 photograph shows the new clock in the GPO pediment and the water feature installed in Queen Street as part or the beautification scheme.

Some of these had been "repaired" with cement which should be removed and the holes repaired with crushed Helidon stone mixed with clear epoxy resin. Herriot also advised that paintwork on the stone behind the tower should be removed with a chemical remover suitable for stone.

Herriot's report also addressed both the columns and Corinthian capitals which were in need of restoration. A number of the cast iron columns had lost some of their stone finish and he suggested that crushed stone and epoxy resin might be a suitable finish. A number of the Corinthian capitals, with the crushed stone finish, required cleaning. Others behind the tower, which had painted bright colours, were to be left untouched as he believed paint remover would damage the capitals.[63] It is thought that this work did not proceed.



As part of a three stage programme of works for the GPO the Queen Street facade was cleaned and the front steps were upgraded as shown in this April 1980 photograph.

A three stage programme of works was devised for the upgrading and redevelopment of the GPO. In 1977/8 a limit of $20,000 was provided to clean and refurbish the stonework on the northern wing (Queen Street), upgrade the front steps and establish gardens facing the Colonial Mutual Life building. Stage Two (1977-9) included the removal of the tin roof over the middle of the central lane and the refurbishment of the stone arches in the central lane. The stonework in the southern wing on Queen Street was to be refurbished in Stage Three (1980). The front steps were to be upgraded, the southern gardens built and the pavement and footpath finished with pebble aggregate to match King George Square.[64]

Preliminary investigations of the stonework found that some of the sandstone was crumbling and required replacement. To ascertain the full extent of work required, in November 1978 Australia Post commissioned the Toowoomba masonry firm of JH Wagner and Sons to compile a report.[65]

The resultant stonework restoration was undertaken by the State Government

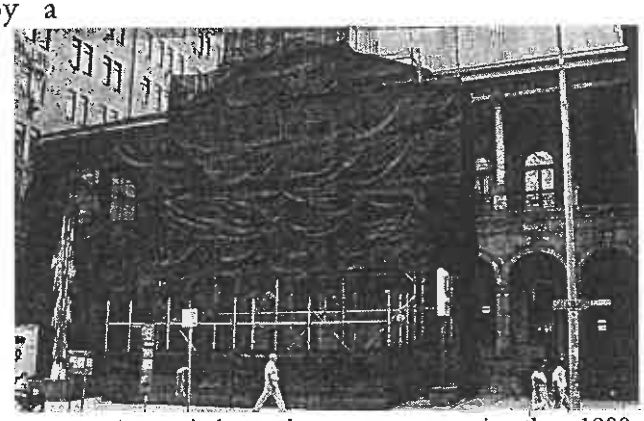
Stonemasons and the work included repairs, realignment of stones, veneering, replacing badly worn stones and cleaning of the Queen Street elevations. The pediment and Helidon sandstone ornamentation on the 1908 Elizabeth Street building were also cleaned and repointed and the stone arcades on the ground level of the central arcade and the stone and cast iron columns on the first floor of the central area were also restored. The walls and stone arcades were finished as on the Queen Street frontage. The stonemasons' work was completed in November 1985.[66]

In 1980 the metal deck roof over part of the Queen Street end of the GPO walkway and the floor structure linking the two wings, both of which had been erected in circa 1965, were demolished with the intent of improving the appearance of the building whilst providing natural sunlight.[67] The courtyard amenities block and the third floor of the rear wing adjacent to the Bank land was also demolished by Myola Contracting.[68] Excavation work in the GPO lane during this redevelopment uncovered problems of rising damp which was causing a deterioration of the lower stone work and plastered masonry walls. This moisture was caused by a *condition of significant foundation moisture, sealed in by impervious internal flooring and external paving and unrelievd by a subsoil drainage system.*[69] A solution required replacement of the quarry tiles in the arcade and restoration of the colonnades.

In 1985 the stairs facing Queen Street, formerly sandstone treads with porphyry risers and now concrete render, were replaced.[70] Further work was also undertaken in 1987/88 to repair the stone cornice on the clock tower.



In the 1980s the State Government stonemasons were commissioned to undertake stone work repairs. Photo 1984.



A capital works programme in the 1980s involved the repairing, cleaning and realigning the stone work, replacing damaged stones and repointing and veneering. Stage Two involved the restoration of the clock tower and the remaining stages involved restoration work to the other facades. This photograph from the Australia Post Staff Journal in March 1985 shows work underway on the Queen Street facade.

4. CHRONOLOGY

1859	Colony of Queensland declared and Postal Department created. Post Office accommodated in a single story building on the corner of Queen and George Streets
April 1861	Telegraph introduced in Queensland and Telegraph Department formed
1861	Colonial Architect, Charles Tiffin, commissioned to design the proposed new post office
6 March 1863	Land at the corner of Queen and Edward Streets (allotment 33 of section 30) acquired by Postal Department Previously the site of the female convict barracks
1865	Citizens petition for new Post Office in Queen Street
21 Sept 1865	This land, an area of one acre, one rood and ten perches, was reserved as a postal reserve on 21 September 1865 and included two lanes, Post Office Lane (now Edison Lane) from Creek Street and Arcade Lane from Edward Street.
October 1865	Tiffin submitted new plans for Post Office
June 1866	Tiffin submitted new plans for a post office on Burnett Lane which did not eventuate
1871	Tiffin replaced as Colonial Architect by FDG Stanley who commenced plans for a General Post Office
1871	Present site levelled and cleared. John Petrie contracted to build new GPO
Dec 1871	Alterations made to GPO plans
28 Sept 1872	Completed GPO handed over to Postal Department
1876	Tenders called for Telegraph Office on adjoining site in Queen Street. Construction included a central clock tower
Dec 1876	John Petrie's tender for the Telegraph Office was accepted
1877	Construction of the new wing and clock tower commenced
April 1878	Building had reached full height
August 1879	Building completed with the exception of the clock tower which remained unfinished. Additions made to Post Office
1879	Post and Telegraph Departments combined
1880	Telephone introduced in Brisbane and a telephone exchange was added to the Telegraph Office
1885	Colonial Architect revived plans to build the 100' clock tower. Plan abandoned because of cost
27 Feb.1900	Competition for the design of a new Post and Telegraph Office launched
31 July 1900	Competition closed. Results: John Barr (first), Hall and Dods (second) and GD Payne (Third). Plans never implemented

1901	Queensland Post and Telegraph Department abolished after Federation. Commonwealth Department established
1907 to 1911	Series of additions and alterations were made to the existing complex to provide additional accommodation
1906	Plans for additions to the GPO were drawn in 1906 by the Thomas Pye of the Department of Public Works. Elizabeth Street building added to complex
1907	Two additional floors were built on the one of the rear telegraph buildings
1908-9	Stone work repairs to facade completed by William Kitchen
c. 1908	Clock attached to tower
1910	Matching two storey building constructed behind the original Telegraph Wing
1913	Commonwealth Government acquired the Brisbane GPO
1922	New GPO proposed but rejected by Commonwealth Government Architect, JS Murdoch
1927	Southern arcade and verandah of Telegraph Office demolished to make way for the new Commonwealth Bank which was completed in 1931.
1937	New GPO again called for but rejected
1943	Additional story added to a rear section of the telegraph wing and to a section behind the 1908 Elizabeth Street building
1944	Second floor added to 1910 telegraph battery room (built in 1910) Overhead cover added to laneway to protect from air attack and female toilets constructed
1946	Plans for GPO drawn but did not eventuate
1953	Stonework repairs in preparation for Queen Elizabeth II's visit in 1954
1960s	Interior of GPO modernised
1969 to 1971	Forecourt paved and water features and trees were added as part of a city beautification scheme
1974	Facade restored and interior of Telegraph Office altered to provide museum. The clock was removed from the tower.
Nov 1976	Clock installed in the northern pediment
1977	Three staged programme of works introduced. The stonework on the northern wing (Queen Street) was cleaned and refurbished, front steps upgraded and gardens facing the Colonial Mutual Life building were planted. Stage Two (1977-9) included the removal of the tin roof over the middle of the central lane and the refurbishment of the stone arches in the central lane. Stage Three included the restoration of the stonework in the southern wing
1985	Repairs to stonework completed

5. SIGNIFICANCE

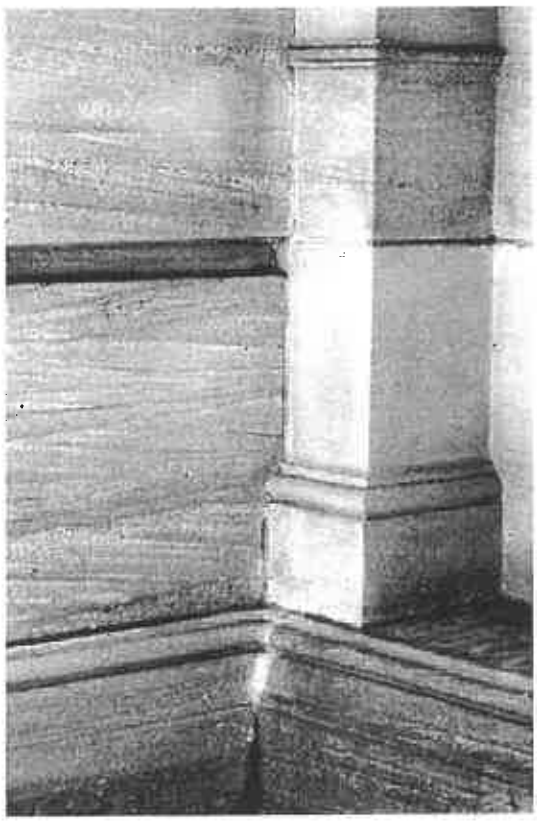
5.1 THE STONEWORK

The Brisbane - General Post Office Conservation Analysis & Guidelines undertaken in 1987, identified why the building is significant, however, the study relates to the building as a whole and does not comment in detail on the stonework. This report discusses those things about the building that are of particular significance to the stonework. These include:

- ◊ **its architectural design.** The building is a classical style building in the Italianate style and is considered to be an important example of the work of the architect FDG Stanley. Considerable attention has been paid to the detail of individual elements including cornices, mouldings, arches, columns, pilasters, and capitals. This detail includes not only elements of aesthetic excellence, but practical and efficient measures to protect the stone from the extremes of climate. Such detail is of considerable significance.
- ◊ **the use of stone.** The building contains a massive amount of sandstone of high quality. The sandstone used in the construction of the original building is from two different sources - Breakfast Creek and Murphy's Creek. The Breakfast Creek stone is a distinctive redish brown banded stone from a quarry thought to be used almost exclusively by Andrew Petrie and later by his firm under the control of his son John. Given that most stone used on government buildings in Brisbane came from Helidon, the use on the Breakfast Creek stone on the GPO is rare, if not unique, a situation now given more weight by the fact that the quarry no longer exists. Murphy's Creek stone was used on the old Museum building in William Street, for the arcades at Parliament House and for cornices and columns at the GPO building. Although



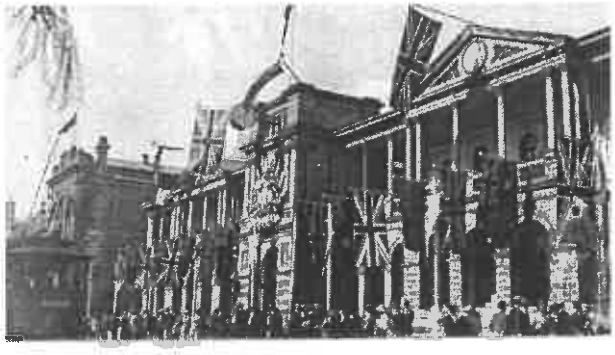
Banded distinctive Breakfast Creek stone in the arcades of the General Post Office. This stone is from a quarry no longer in existence and is rare. Photo #028.



Murphy's Creek stone, used in the tower, entablature, pediment, cornices and capitals, is a reedy white stone of high durability. Photo #119.

it was considered a superior stone it was not used much after 1890 when, for aesthetic reasons, use was made of brown Helidon stone instead. Its use in the GPO for the tower, in lieu of the Breakfast Creek stone which structurally was considered inferior, demonstrates the high regard in which the stone was held, and its use is of historical significance. Although Murphy's Creek stone is still available, the quarry where this particular stone came from is no longer operational. The base of the building contains porphyry stone from Spring Hill quarry, which also is no longer in operation.

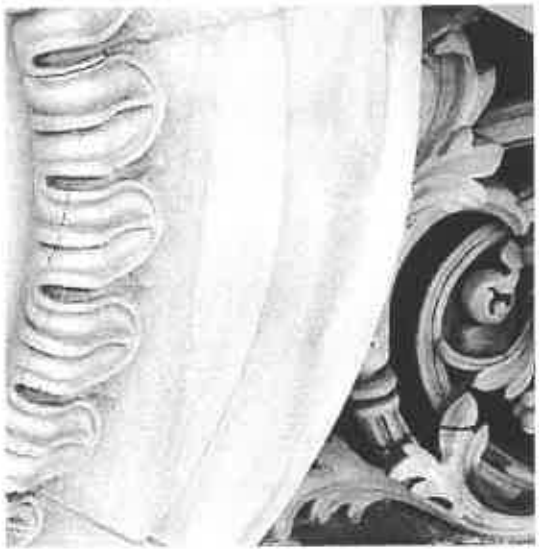
- **the quality of the ornamentation.** Ornamentation of the building includes mouldings, capitals, and egg and dart decoration. All is of good quality and in reasonable condition. The decoration in the two tympanum is delicate and finely carved and both are particularly elegant pieces of decoration.
- **its symbolic and aesthetic qualities**. The building had enormous symbolic significance and was regarded as the center of the city. It was used for generations as the saluting base for parades through the streets of Brisbane and was arguably the best known government building. The use of stone was considered prestigious and was a conscious decision at the time to give the building the significance it deserved. The building now conveys a symbolic value of durability and quality befitting a Government building of the period.



The GPO during World War Two



Stone capital of Telegraph Office. Photo #061.



Entablature decoration in Telegraph Office. Photo #037.

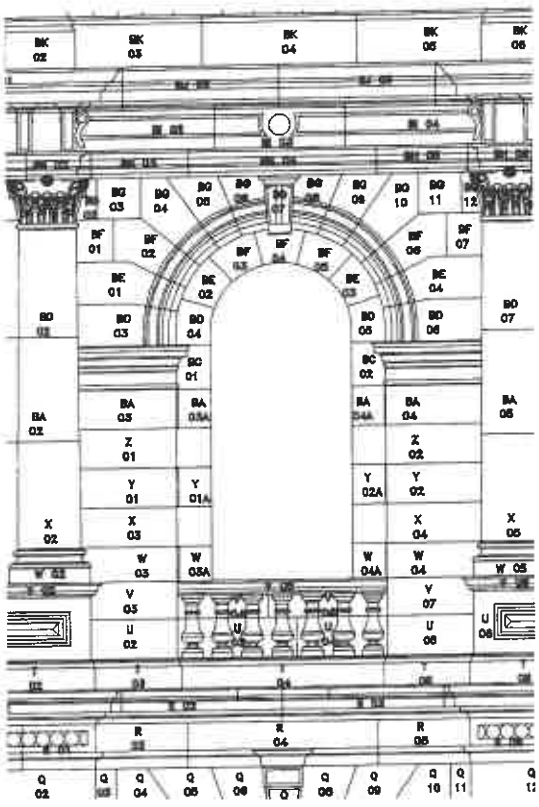
6. SURVEY OF STONEWORK

6.1 DRAWINGS

New CAD drawings were drawn as part of this study of the front facade of the building, arcade, and other sandstone surfaces including all returns. These drawings were produced by interpolation of the original drawings, and from photogrammetric drawings undertaken in 1983 and by measurement on site.

The building was divided into a number of bays, labelled A to H. Individual stones in each bay were given a unique number which consists of alphabetical identification of the course vertically, and numeric identification of individual stones from left to right.

Copies of these CAD drawings were plotted at a scale of approximately 1:50 and were used during the condition survey to identify individual stones. Copies of these drawings are appended to this report. They are not to scale and have been reproduced to fit on A4 sheets as a matter of convenience for this report.



Example of drawing and numbering system. Part of front facade tower - Bay D. The drawings for all the stone surfaces of the building have been reduced and appended to this report.

6.2 FIELD SURVEY

The condition survey was undertaken from mobile tower cranes and from the ground. It was conducted mainly in November and December 1997. The mobile cranes were employed early on Sundays, so as to cause the minimum disturbance to traffic in Queen Street. All external stone surfaces of the facade fronting Queen Street, including the arcade, were inspected.

6.3 OBSERVATIONS

Observations on the condition of stones were recorded in a field note book. Observations on each stone included where warranted:

- ◊ the number of stone patches or small, medium or large indents
- ◊ the number of mortar patches, or small, medium or large mortar repairs
- ◊ the extent of cracks
- ◊ the type of cracks
- ◊ the number of steel, plastic, or timber inserts
- ◊ the occurrence of salt damage and its degree of severity
- ◊ the occurrence of spalling (exfoliating) or fretting (blistering) stone surfaces
- ◊ the presence of open joints
- ◊ or any other matters considered necessary to comment on.

All badly damaged stone, including most cracks, were photographed using standard 35mm colour print film. Overall approximately 1300 observations were made and 470 photographs taken of the building.

SIZE OF INDENTS AND MORTAR REPAIRS

Patches - up to 50x100mm

Small - 50x100mm to 100x200mm

Medium - 100x200mm to300x200mm

Large - larger than 300X200mm

SIZE OF CRACKS

Fine	less than one (1)mm
Medium	typically one (1)mm
Large	over one (1)mm

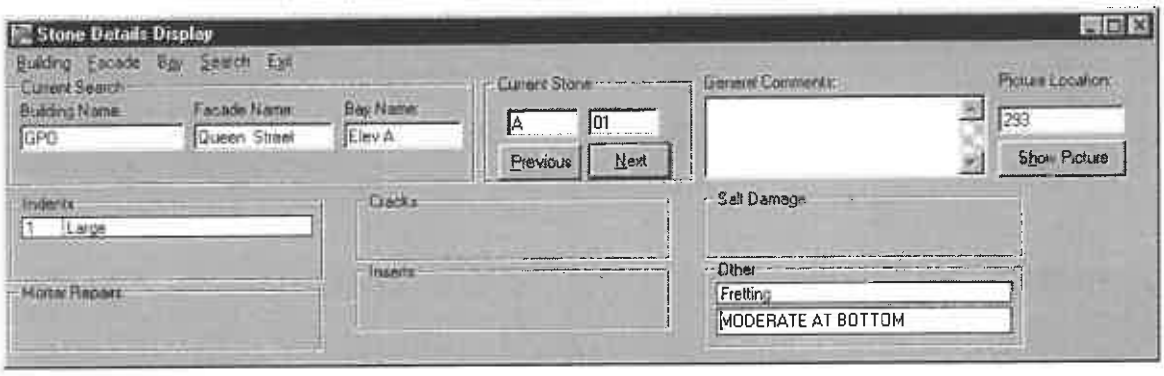
6.4 RESULTS

Observations on the condition of individual stones from the field survey were entered on to a Microsoft Access data base running in Windows 95. The information was recorded, where possible, by pull down menus to ensure consistency. A modified form of the data base with searching facilities for individual stones is included on #2 CD which accompanies this report. This is a stand alone data base specially written for this project that does not require any program for support.

Each photograph was scanned using a Umax Vista S6E flatbed scanner and processed by Binuscan Photoperfect. The scanner was set to scan in true colour at 150dpi. Photographs were then manipulated in Paint Shop Pro and stone numbers and other observations, including the extent of cracks, identified on the images. These digital images are stored as BPM files and are linked to the data base and

form part of it. They are also included on the CD which accompanies this report and can be viewed through the data base described above. CD #1 holds photos 1-380 and CD #2 holds photos 381-471.

Example of data base screen. The data base contains the results of the condition survey. It has search facilities and is linked to two CDs which contain the photographs.



7. STONEWORK CONDITION

7.1 GENERAL

Overall the stone is in fair to reasonable condition. The Breakfast Creek stone has weathered well except where it has been exposed to excessive moisture such as the base of columns on the front arcades where it has deteriorated and been replaced with Helidon stone.

The tower is entirely Murphy's Creek stone which was also used for the pediment, cornices and other exposed surfaces throughout the facade. This has performed well with the exception of some cornices which have deteriorated. Much of this deterioration has been replaced by indenting with new stone in the past, but some of this work has been poorly executed and new damage has occurred which now needs further attention. This is evident on stones in the pediments particularly on the pediment of the Telegraph Office. However, by far the most outstanding damage to the Murphy's Creek stone has occurred to the top of the tower where the front edge of the top cornice deteriorated and was removed in c1961.



Overall the damage that has occurred has not particularly been due to failure of the stone



Breakfast Creek stone has decayed in the bases of the arcade columns fronting Queen Street and has been replaced. The three bottom courses were replaced in 1908 with pure brown stone from Wrights Quarry at Helidon. In 1984 the bottom column stone and the kerb stone underneath were replaced with light brown Helidon stone from Ziggler's quarry which has blackened slightly. Photo #246.

Damage to the Murphy's Creek stone in the top of the tower where the drip mould and moulding under was removed from the cornice in 1961. Photo #096.

itself, rather it is due to lack of maintenance or poor maintenance. In the past this has allowed water to penetrate joints and caused minor deterioration to the adjacent stone surfaces particularly to the soffits of cornices. The problems encountered are described and discussed as follows.

7.2 ALTERATIONS

7.2.1 CONDITION

Stonework alterations include the removal of the front steps on the northern side of the Post Office, and changes to levels in the arcade and its entrance in Queen Street. These however are relatively minor alteration compared with the removal of the southern arcade and verandah of the Telegraph Office. This was executed in 1927 to facilitate the construction of the Commonwealth Bank hard against the alignment of building and has resulted in the width of the southern bay being reduced from three to two arches on the front elevation.

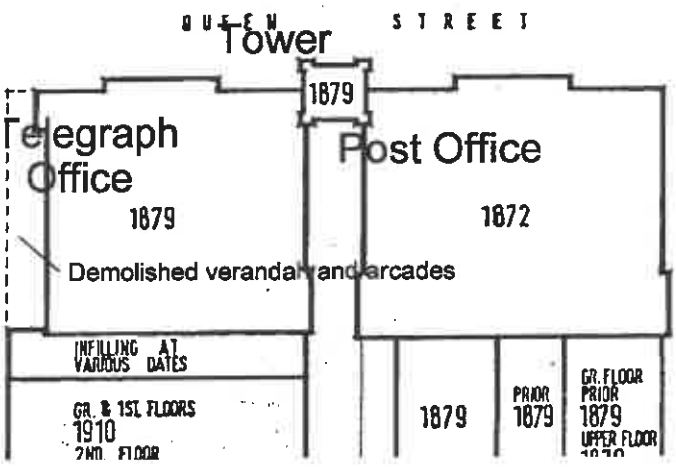


The GPO c1911 showing the original symmetrical arrangement of arcades.

7.2.2 DISCUSSION

The alteration to levels in the arcade and its entrance is of little importance and does not affect the significance of the building. The removal of the northern stairs does affect the symmetry of the front elevation and would be best reversed if feasible in the future.

Likewise the removal of one of the arches in the southern bay has made the design of the Telegraph Office unsymmetrical. The alteration is however well executed and on casual observation would seem part of the original design.



Verandah and arcade which was demolished in 1927.

While it would be desirable to reconstruct the original scheme it may not be practical to do so due to the fact that Breakfast Creek

sandstone is no longer available. While it is possible to indent and replace individual isolated stones in the building with stone from Helidon without unduly noticing, to rebuild the front and side arcade in Helidon stone would, in all probability, be most noticeable. The reconstruction should only be attempted if stone to match can be located, or sufficient Breakfast Creek sandstone can be salvaged from other building sites to carry out the work.

There is a further complication because the arcade is on the alignment and is dependent on the development of the adjoining site which is currently vacant. There would be little point in reconstructing the verandah if the adjoining site was developed on the building alignment. In this regard the Brisbane City Council should be advised of the situation so that consideration can be given under the Town Plan, to ensure that any adjoining development has sufficient set back to maintain the heritage significance of the GPO.

7.2.3 RECOMMENDATION

7.2.4 Consideration be given to the reconstruction of the front stairs on the Post Office

7.2.5 Consideration be given to the reconstruction of the southern arcade of the Telegraph Office subject to the availability of suitably stone. In the interim the Brisbane City Council should be advised of the situation so that they can consider the matter in the assessment of any adjoining development.



The arcades on the Telegraph Office are unsymmetrical there being two arches on the southern side where there was originally three. Photo 1959.

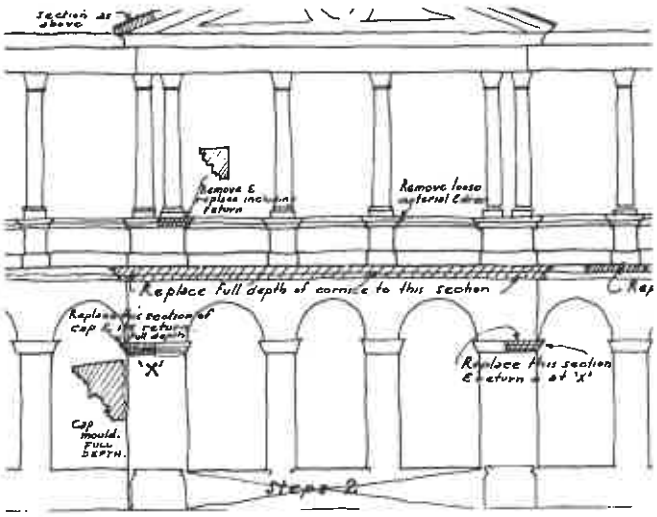
7.3 PREVIOUS INDENTS

7.3.1 CONDITION

The building has been subjected to previous stone repair. Known repairs which have included indents are as follows:

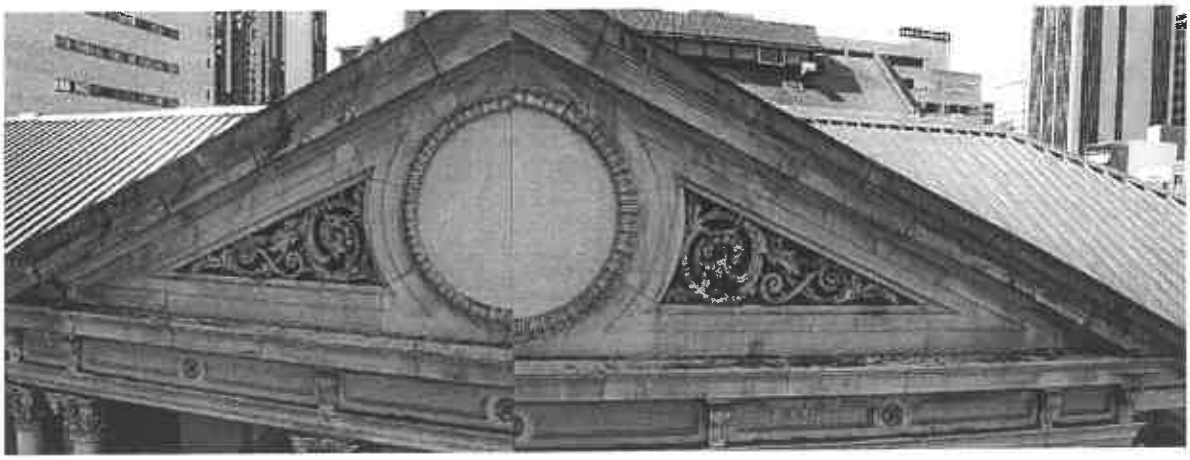
- ◊ 1908 the bases of arcade columns
- ◊ 1961 repairs mainly to cornices[71]
- ◊ 1978...refurbishment of arcade
- ◊ 1984 additional repairs to the base of arcade columns and to the ground floor kerb stones around the building.

Repairs were documented in 1974 but it is unclear if these occurred or if they occurred in their entirety as documented.[72] In addition it is thought that repairs to the pediment may have been carried out in 1953 when the building was cleaned. It is possible also that additional repairs were carried out between 1908 and 1953 although no archival record has been found.



The 1961 repairs are well documented and included indenting large amounts of cornice and decayed mouldings. Comm Dept of Works Drawing QA61/733C1.

Stone indents range from small patches to whole stones. The quality of stone indents on the building is mixed. Some match the original material closely, others poorly. Recent indents using banded Helidon stone are particularly noticeable. The pediment of the Telegraph Office is heavily indented, so much so it is difficult to determine which stone is original in the top moulding under the coping and it would appear that even some indented stones have been re-indented in part.



The top pediment on the Telegraph Office has been heavily indented. Photo #040&041.

7.3.2 DISCUSSION

Two particular failures of the existing indents are that many have either been too small or they been placed into the building without regard to the original jointing pattern. The effect of both is that the extra or new joints alter the original design in an unnecessary way.

To preserve the original jointing pattern it is by far better to indent full stones or parts thereof and to respect the original joints.

7.3.3 CONCLUSIONS

7.3.4 That stone indents respect the original joint pattern of the building and be large enough so that they do not give a piecemeal effect.



Small noticeable indents in the face of the cornice in the pediment of the Telegraph Office. It is preferable that indents be taken full height to avoid a piecemeal effect. Photo #059.

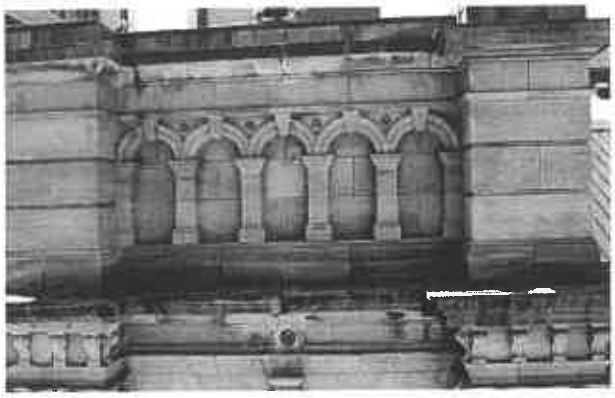


Indents to the lower cornice of the arcades of the Post Office where a new stone has been indented in the top of the cornice across the original joint. Photo #180.

7.4 PREVIOUS REPAIRS

7.4.1 CONDITION

Repairs thought to have been carried out in 1961 included the removal of decayed stone under, and on the face of, the top cornice of the tower. This work may have been supplemented by the removal of additional material in subsequent remedial work. The effect is that the moulding, detail and form of the cornice is missing and this is noticeable from the ground.



The top cornice of the tower has been severely altered. Photo #121. See also previous photo in Section 7.1

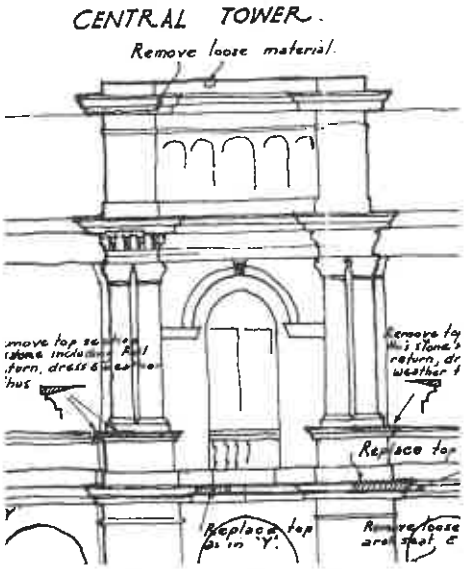
Likewise the drip mould was reduced on part of the lower cornice of the tower and also on part of the Telegraph Office. This was probably to remove decayed stone or stone that was in danger of falling because it had cracked.

7.4.2 DISCUSSION

The removal of stone from the tower cornice may have been a cost effective means of ensuring decayed stone would not fall from the building but it is an action which is not reversible and one that has compromised the original design of the tower.

It is recommended that the cornice be reinstated to its original state. This work will involve the dismantling of the tower above the cornice and the replacement of most, if not all, of the whole cornice stones. In addition some of the parapet stones which have cracked or are salt damaged will need to be replaced.

The face of cornices where drips have been removed likewise compromise the original design of the building and are noticeable from the ground. Drips also provide a functional means of directing water away from the wall or stopping it from running under the cornice and their absence will facilitate further decay of stone. They should be reinstated by indenting with new stone. Preferably these should be full size.



The 1961 repairs to the tower. Part of Commonwealth Dept of Works Drawing QA61/733C1.



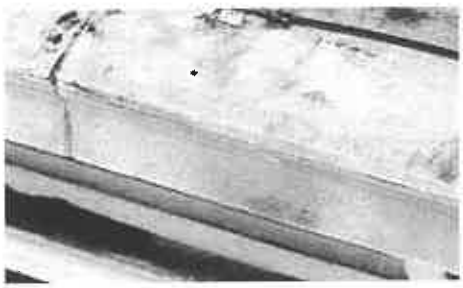
The lower portion of the cornice which forms a drip and stops water from running under the cornice has been removed on some stones on the lower cornice of the Tower and Telegraph Office. Photo 356& 137 below.



7.4.3 CONCLUSION

7.4.4 The top of the tower should be disassembled and rebuilt, the top cornice replaced with Murphy's Creek stone to match the original, and the coping and cornice covered with lead.

7.4.5 Lower cornices which have had their drips reduced in height on the tower and in the Telegraph Office should be repaired by indenting with new stone.



Fine cracks along the edge of cornice BJ05 Elev G, photo #47.

7.5 TOPS of CORNICES & COPINGS

7.5.1 CONDITION

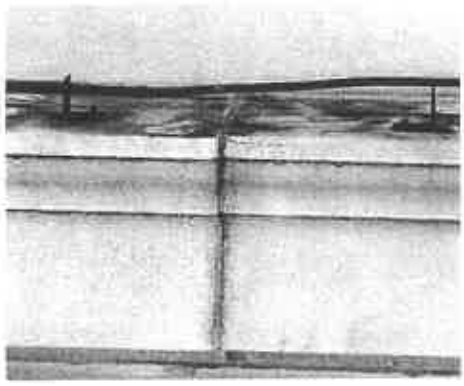
The major damage that has occurred to the stone facades of the building has occurred to projecting surfaces, mainly copings and cornices. Much of the damage is due to cracking of cornices and the failure of joints in cornices and copings.



Fine cracks along joint on cornice BJ06, Elev G, photo #39.

Cracking in cornices has been an ongoing problem which has been repaired many times in the past. Typically the front edges of the cornices have cracks which run lengthways along the top edge, face, or drip mould. Generally the cracks are reasonably fine (less than 1mm), various lengths and of indeterminate depth. Although some cracking is now evident on the building it is relatively minor compared with the problem in the past where large amounts of cornices had to be replaced.

Open joints in cornices allow the entry of water which in turn causes salt damage. This likewise has caused much deterioration to sandstone surfaces under cornices and copings and has in the past necessitated major repair. Salt damage is evident in several locations. It is associated with decayed stone and often evident on stone surfaces by a powdery layer of white salt or efflorescence. The layers sometimes have brownish crusts that are the result of crystallisation of salt solutions formed by the movement of water through the stone.



Fine cracks to the top edge of cornice BJ03 Elev B, photo #189.

7.5.2 DISCUSSION

Cornices and copings are the most important components of the weather protection system of a sandstone building. They are detailed to shed water and protect the walls below.

Thus it is essential that joints be waterproofed and cracks repaired. While it is possible to waterproof joints with appropriate sealants, the repair of cracks is more problematical.

In the past cracks have been cut out and indented with new stone. This action is successful in the long term only if the indent is large enough to cover the whole surface of the original stone otherwise more joints are introduced into the top of the stone which has the potential to allow the entry of water and exacerbate the situation.

There is also an ongoing problem in that the cracks are likely to appear in time in the indented stone as well. In general cracking on cornices and copings is a problem with local sandstone which has a high clay content and is evident on other Brisbane buildings including the Treasury Building, Hotel Conrad, City Hall, Family Services Building and Parliament House. Generally cracks occur where the stone is relatively thin and are thought to be the result of stresses set up in the stone from extremes of climate.

Bearing in mind that indents have to be made full width and for appearance they should be taken down to the depth of the first moulding on the face of the cornice so that they are not visible from the ground, they are expensive.

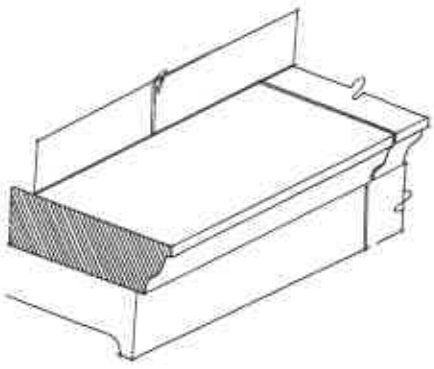
A more practical solution for repair is to cover projecting surfaces with lead. This is common practice throughout Australia and is extensively used on Sydney's sandstone buildings. While it detracts slightly from the significance of the building as the lead is not an original detail, it is a practice widely accepted by conservation practitioners as the only long term practical means of preserving sandstone buildings. It is also cost effective



Crack in the face of coping stone BL03 on Elev B, photo #187.



Crack through stone moulding to arcade capital. Stone J12, Elev F, photo 13.



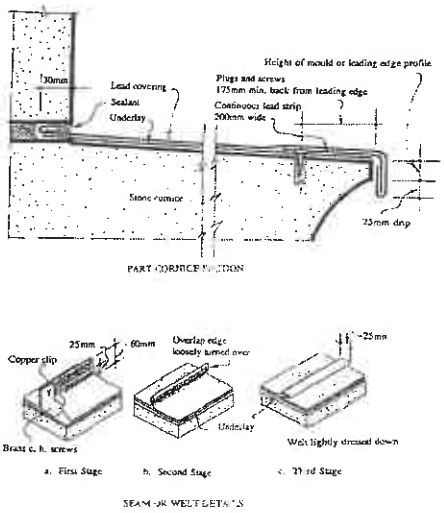
Indents should be full width and length to avoid vertical joints and be taken down to the first cornice moulding to make them invisible from the ground.

and can give 30 years plus of problem free usage, with the minimum of maintenance.

In Brisbane, cornices on the Family Services Building were covered with lead in 1990 and the Brisbane City Hall and Parliament House are currently being done.

Prior to covering with lead the cracks along the edge of cornices or other fractures need to be repaired. Small cracks can be filled with epoxy and anchored with stainless steel pins, or in some instances damaged stone can be patched with epoxy mortar. Larger cracks, however, need to be cut out and indented with new stone. As the stone will not be exposed at the top surface it need not be full width but it should be taken to the first moulding on the face of the cornice to avoid detection from the ground. Depressions in the tops of cornices can be filled with mortar to make level prior to covering with lead.

Overall few cracks were found on the building, none of which are considered to present a problem or immediate threat to the building. However, until remedial work is undertaken to the building, cracks on cornices should be regularly checked for soundness.



Typical lead covering detail.

7.5.3 The tops of projecting cornices and copings should be repaired by indenting or mortar repairs and the whole cornice or coping covered with lead.

7.5.4 Until remedial work is undertaken to the building, cracks on cornices should be regularly checked for soundness.

7.5.5 As a temporary means open joints in cornices, (where there is obvious moisture penetration and salt damage under), should be filled with an appropriate sealant such as Sikaflex L15.

7.6 STRUCTURAL PROBLEMS & OTHER CRACKS.

7.6.1 CONDITION

Structurally the building would appear to be in good condition. There is no sign of excessive movement or structural cracking. There is minor cracking which in all

probability was caused by settlement shortly after construction. All such stones were identified during the condition survey so that future inspections will reveal if this is the case or if cracking is still occurring.

The 'reedy' nature of the Murphy's Creek stone has meant that, that in some instances, cracks or fractures have developed. 'Reedy' stone is one that displays pronounced bedding often with clay inclusions. The cracks or fractures are a result of stresses set up by climatic changes and are due to the composition of the stone rather than stress set up by movement or settlement. Typically they occur on exposed areas of relatively thin stone which is subjected to cyclic conditions of wetting and drying.

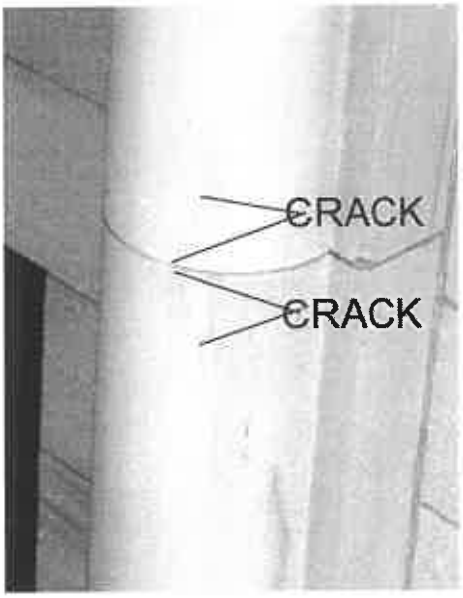
These cracks are evident on the faces of cornices and on the bases of columns and although not widespread, are of concern as they may in time spall and fall from the building. They are often caused by water penetration from leaking cornice joints.

Weathered cracks are those where soft material in the stone has been eroded by natural process. The weathering is indicative of slightly inferior stone although no case was found in the building where weathered stone was structurally unsound. They occur in the Murphy's Creek sandstone and in the porphyry base to the building.

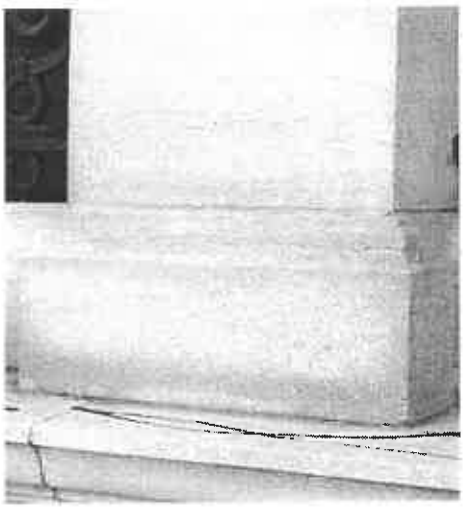


7.6.2 DISCUSSION

Both the weathered fractures and the fine settlement cracks are not considered to present any problems structurally. If they are in situations where water ponds they



Fine cracks probably due to settlement in columns. Photo #168.



ABOVE. Typical fracture to Murphy's Creek stone. Such fractures are a result of weathering of the stone and are due to the composition of the stone rather stresses caused by movement. Photo #81

LHS. Crack on the face of a cornice which need careful attention to ensure that it does not fall from the building. Photo #25.

removed with the graffiti by the application of hot water and mild abrasion. It would appear to allow the stone to breathe and is non glossy. It is at present being trialed on sandstone at several locations in Australia.

7.12.3 CONCLUSION

7.12.4 Consideration could be given to trialing the sacrifical polysaccharide PSS 20 on selected areas on the building if necessary.

7.12.5 Graffiti should be removed from stone surfaces quickly by appropriate means.

7.13 CARVING & DECORATION

7.13.1 CONDITION

There is a reasonable amount of fine carving on the building. This includes the column capitals, entablature decoration, console brackets and vermiculated surfaces. All is in excellent condition and is in need of minor repair only.

7.13.2 DISCUSSION

Quality carving on a building cannot be replaced and should be conserved with great care. No action should be taken to do any work (other than items of minor maintenance) without advice and supervision from a person qualified in stonework conservation.

7.13.3 CONCLUSION

7.13.4 The carving on the building is in reasonable condition but should be carefully and professionally conserved.

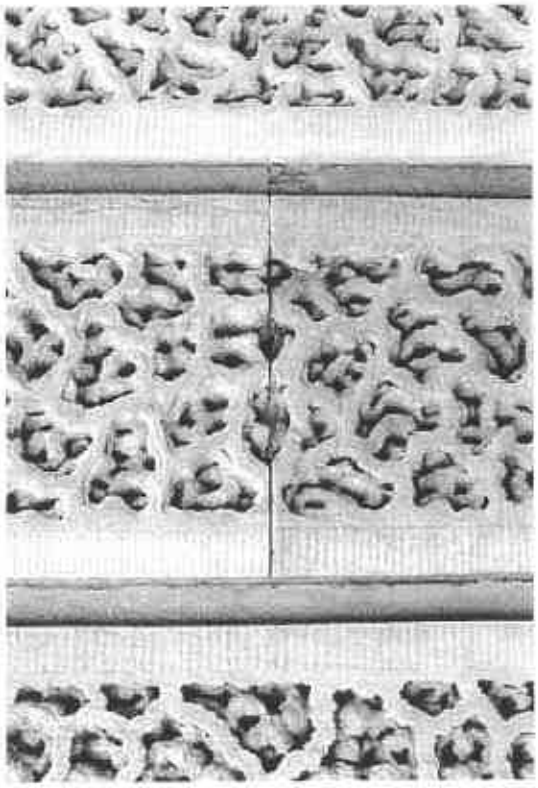
7.14 BIRD CONTROL

7.14.1 CONDITION

There is little evidence of bird excreta on ledges or of pigeons roosting on the building. However, there is evidence of the problem in the past. Many of the cornices are covered with bituminous bird repellent which is either *Roost No More* or *Hot Foot.* In addition, the top of columns on the southern



Fine carving in the pediment of the Telegraph Office. Photo #50.



Vermiculated or 'worm like' tooling on stone surface. Photo #378.

side of the building have been rendered to form a splayed ledge to prevent pigeons roosting.

7.14.2 DISCUSSION

The problems of pigeon control is a vexing one with no one simple solution. It is fortunate that pigeons are not a problem as they are elsewhere in the city. On the Brisbane City Hall they are a considerable problem perhaps because the building is adjacent to King George Square which is an easy source of food for the birds.

If pigeons become a nuisance in the future, wires, spikes and protecting nets could be used to deter birds from roosting on the building. Under no circumstances should sticky substances such as *Hot Foot* gels be used. However, a trapping program may represent, in the long term, the best solution to the problem.

The remnants of the existing bituminous bird repellent should be removed from the building at a convenient time, perhaps when major work is being undertaken or the building cleaned. It is easily dissolved with *Shellsol T* spirits.

7.14.3 CONCLUSION

7.14.4 That the remnants of the bituminous bird repellent be removed by dissolving with Shellsol T.

7.14.5 That the pigeon population at the GPO be monitored and steps be taken to ensure that they do not become a problem on the building.



Splayed render on columns to stop pigeons roosting on the southern side of the building. Photo #002.



Remnants of sticky bituminous bird repellent on cornices and capital caps. Photo #038.

7.15 PROTECTIVE COATINGS

7.15.1 CONDITION

There is mention made of the application of preservative solutions to sandstone surfaces of the building. In 1907 the building was coated with two coats Szerelmey preservative coating. It is not known if other coatings were applied at other times. In 1977 it was proposed to coat the stone with Formstar, an

acrylic coating, but this work did not proceed.

7.15.2 DISCUSSION

The effectiveness of applying such preservatives is unknown. Spry concluded that there is evidence that silicone solutions are effective water repellents for up to three years or longer, and that they will help to prevent the absorption of rain water in sandstone.[76] Other popular writers on conservation techniques such as Ashurst, however, suggest they have little effect and are an unnecessary expense.[77] A technical paper by the Warren Centre for Advanced Engineering at the University of Sydney in 1989 recommended against using silicone water repellents because of the potential for damage from salts within stones.[78]

Given the weight of current evidence it is questionable whether it should be used again on the stone in the GPO building. However, the history of the use of Szerelmey's coating on the building would seem to indicate that it has not had an adverse effect on the stone and has possibly had a beneficial effect.

7.15.3 CONCLUSION

7.15.4 That consideration be given to undertaking research into the effectiveness of using silanes and other preservatives on the building to determine the benefit of their use.

8. CONSTRAINTS

Other documents, including *The Brisbane - General Post Office Conservation Analysis & Guidelines* undertaken by Australia Construction Services and Don Roderick Architect in 1987, have commented on the constraints arising from the *Australian Heritage Commission Act 1975*. The building is also listed under the *Queensland Heritage Act 1992* and the Brisbane City Council Town Plan.

This report does not seek to duplicate the advice given in the *Conservation Analysis & Guidelines* or other documents, other than to point out that it is necessary under *Queensland Heriage Act 1992* to obtain approval prior to undertaking any stonework on the building, other than minor maintenance works, or works of an urgent nature.

8.1 CONSERVATION POLICIES

8.1.1 EXPLANATION

The purpose of these policies is to provide general guidelines for the conservation of the stonework so that its significance can be retained.

8.1.2 TERMS

The terms used in this report are taken from the Australia ICOMOS Charter for the Conservation of Places of Cultural Significance - The Burra Charter as revised in 1988.

- **Fabric** means all the physical material of the place.
- **Conservation** means all the processes of looking after a place so as to retain its cultural significance. It includes maintenance and may according to circumstance, include preservation, restoration, reconstruction and adaptation, and is often a combination of more than one of these.

◊ **Maintenance** means the continuous protective care of the fabric, contents, and setting of a place, and is to be distinguished from repair. Repair involves restoration or reconstruction and it should be treated accordingly.

◊ **Preservation** means maintaining the fabric of a place in its existing state and retarding deterioration.

◊ **Restoration** means returning the existing fabric of a place to a known earlier state by removing accretions, or by reassembling existing components without the introduction of new material.

◊ **Reconstruction** means returning a place as nearly as possible to a known earlier state and is distinguished from restoration by the introduction of materials (new or old) into the fabric. This is not to be confused with either re-creation or conjectural reconstruction which are outside the scope of this Charter.

◊ **Adaptation** means modifying a place to suit proposed compatible uses.

◊ **Compatible use** means a use which involves no change to the culturally significant fabric; changes which are substantially reversible; or changes which will have a minimal impact.

8.2 STRUCTURE OF STATEMENTS

Policies are set out and numbered with the accompanying text by way of explanation.

8.3 PRINCIPLES

As a general rule the following principles should apply:

8.3.1 Any conservation or work to the stone should conform to the requirements of the Burra Charter.

8.3.2 The policies and recommendations of this report should be accepted as a guide for future stonework.

8.4 MANAGEMENT

To avoid ambiguity in decision making or in management, the procedures of management and roles of individuals should be clearly defined. Preferably, the management should be under the control of one person who has a good understanding of the building and the stonework. The manager should be aware of the requirements of the *Heritage Act of 1992*, and the *Australian Heritage Commission Act 1975* and policies contained in this document.

8.4.1 Management of the conservation of the stonework should be clearly defined.

8.5 MAINTENANCE AND REPAIR

Regular maintenance and repair are essential for proper conservation of the stonework. Until such time that the building is subjected to a major campaign of repair, an inspection should be made via a mobile tower crane, at least once a year, of all overhanging surfaces for damaged stone which could be in danger of falling. Such stone should be removed by an experienced stone mason.

8.5.1 A clearly defined maintenance program should be established which should include regular inspection which should be at least once a year.

8.5.2 A preventative maintenance program should be put in place to ensure the future conservation of the structure.

8.5.3 Prompt but considered attention should be given to any repair work required.

8.5.4 All maintenance or repair work should be under the supervision of a person or persons qualified and experienced in conservation work and with a knowledge of stonework.

8.6 RECORDS OF REPAIR

It is essential for the future understanding of the stonework, and for efficient management, that accurate records be kept of all maintenance work. This should include a log and detail of work undertaken, as well as

records of regular inspections. Consideration should be given to using a modified form of the data base produced as part of this report for this purpose. The procedure of keeping records should be clearly defined and under the responsibility of one person. Copies should be kept in at least two places.

8.6.1 Accurate records should be kept of all work done to the stonework.

8.7 RETENTION OF ORIGINAL FABRIC

All the original stonework is of significance and every attempt should be made to preserve it. As a general rule in maintenance work stone should be repaired rather than replaced, particularly the Breakfast Creek stone which is no longer available and is rare. Should replacement be necessary, great care should be exercised in the selection of new material.

8.7.1 Stonework should be preserved where possible.

8.8 REPLACEMENT SANDSTONE

The Breakfast Creek quarry is though to have existed on the hill behind Breakfast Creek. It is a distinctive stone and is difficult to match. The best match will be obtained from pink/mauve stone from Helidon but it will have to be selected with care. Consideration could be given to salvaging suitable Breakfast Creek stone from demolition sites.

The Murphy's Creek quarry has been recently re-opened and good matching white stone of good quality is available.

8.8.1 Any replacement Murphy's Creek stone used in the building should be from quarries in the Murphy's Creek area and match the existing stone.

8.8.2 If the salvaged Breakfast Creek stone cannot be found, stone from Helidon should be used in lieu.

8.9 STRATEGIES AND OPTIONS FOR CONSERVATION

The GPO stonework on the Queen Street facade should be conserved by a planned maintenance program implemented immediately. Open joints in cornices should be waterproofed urgently with sealant, and immediately attention given to permanently waterproofing cornices and copings with lead coverings to prevent further decay.

The practicalities of covering cornices and copings in lead necessitate the scaffolding of the whole building. This is a relatively expensive undertaking and for this reason other stone repairs should be carried out at the same time. Typically such work will include cleaning, indenting of new stone, pinning of stone and mortar repairs. It will also include the repointing of any open joints and all the joints in the parapet stones.

More importantly the top cornice of the tower should be replaced which necessitates its dismantling to cornice level and its reconstruction. In addition, similar rebuilding work may have be done to part of the coping to the pediments particularly the pediment of the Telegraph Office.

If this work is done within the next 5 years it is conceivable that the building would not need major work for a further 10 -15 years. It is then possible that pointing material would need total replacement. Alternatively a decision may be made to repoint the building at the same time as carrying out the above work. In this case the life expectancy of major repair work could be extended to 25 -30 years.

Further scenarios of major repairs to the buildings should be based on materials having the following minimum life span:

Lead coverings	30 years
Epoxy mortar repairs	20 years
Pointing	30 years

8.10 RECOMMENDED WORK

In summary the following work is recommended to be undertaken immediately:

8.10.1 Repoint as necessary open joints in cornices and copings as recommended in 8.9.

When the building is scaffolded the following major work is recommended:

8.10.2 Rebuild the top of the tower

8.10.3 Cut out defective stone to cornice edges and indent with new stone, or pin existing stone, or patch with mortar repairs. Cover the cornices with lead.

8.10.4 Replace existing mortar repairs as necessary with stone indents or new epoxy mortar repairs.

8.10.5 Repair defective stonework on the building by a combination of stone indenting and or epoxy mortar repairs. Rebuild pediments as necessary. Cover copings with lead.

8.10.6 Remove existing pointing material to the parapet stones above the top cornice and repoint joints. Repoint all other open joints or defective joints throughout the building, or

8.10.7 Replace all existing pointing totally

8.11 STAGING THE WORKS

The work could be staged if necessary. Three stages are consider appropriate: the Post Office Facade; the Tower; and the Telegraph Office.

The extent of work is dependent on the budget allocation and to a lesser extent by the availability of skilled masons and lead workers. Notwithstanding, it should be possible to comfortably undertake the whole of the works in 40 weeks using a relatively small team consisting of 2 lead workers and three masons with adequate support.

8.12 DOCUMENTATION

Each elevation has been divided into bays for this survey and this division is considered to be suitable also for documentation. Documentation drawings should utilise the drawings prepared for this study and be at a

scale of 1:50. The stone referencing numbers should be maintained.

The recommended sequence of documentation is:

8.12.1 The preparation of schedules of work based on the information gained from this survey and contained in the data base.

8.12.2 Production of detailed drawings of stone repairs and other lead coverings

8.12.3 The preparation of a detailed provisional bill and specification.

8.12.4 The calling of tenders on these documents, with the successful tender to be responsible for all the works ie to erect scaffold etc.

8.12.5 On the basis of a detailed inspection after the scaffold has been erected, adjust the extent of work and modify documents accordingly.

8.12.6 Log and measure the works as they are done.

A more accurate method of documentation would be to initially scaffold the building and carry out a detailed inspection to determine the extent of works. But this has a serious drawback as the scaffold would need to be erected on the building for a considerable time and the scaffold would be the responsibility of persons other than the stonework contractor.



GPO 1998.

9. BIBLIOGRAPHY

9.1 OFFICIAL DOCUMENTS

Annual Report Colonial Architect

Annual Reports of Post and Telegraph Department

Annual Reports of the Department of Public Works.

Queensland Government Gazettes

QUEENSLAND STATE ARCHIVES

SUR A 24. 1760/65.

LWO A 18

LWO A 26

LWO A 32

TRE A4

WOR P 11/1906

LAN/A 46

Tenders for Brisbane Post Office, 20 December 1871. James Beal, Government Printer, 1871.

WOR/A 402-5559

WOR/A 661

WOR/A 1883-2715

WOR/A 1906-6316

AUSTRALIAN ARCHIVES

BP 229/1 Vol 2

BP 229/S1 Vol 1

BP 260/1 IB 1944/312

BP 269/1 1885-8

BP 269/1 1886/12

Drawings:

QA 61/ 733C1

AUSTRALIA POST RECORDS

Photographs held by Postal Museum

Drawings held by Postal Museum

History files held by postal museum

Central Records Files:

17-7-365-2

17-6-408-3

17-7-365-1

17-6-421-1

Specifications 1872, 1874, 1876, 1878, 1882, 1883, 1885

9.2 NEWSPAPERS

Brisbane Courier, 3 October 1872.; 4-10-1924.September 1937: 18; February 1938: 15.

Courier Mail, 1 September 1937; 23-6-1953; 25-6-1953; 8-7-1953; 15-2-1969.

The Inner City Times, 30 November 1978.

Telegraph, 9-4-1979.

9.3 BOOKS, REPORTS AND ARTICLES

A & B Journal, 7-9-1923: 30.

Ashurst, J., and N. Stone Masonry, Vol 1, Practical Building Conservation, English Heritage Technical Handbook, England, 1988.

Baker, I.O. A Treatise on Masonry Construction, 10th Edition, New York, 1910.

Feilden. B M., Conservation of Historic Buildings, Butterworth, London, 1982.

Gibbons G.S. Masonry Renovations, Technical Information Sheet 2, The Heritage Council of NSW.

Heiman, J The Use of Chemical Consolidants in the Preservation of Sandstone Paper presented at ICOMOS Conference Sydney, NSW 1992.

Heiman, J. Mortars quality control of mixes. Heritage Group, State Projects, N.D.

Heiman,J., Dragovich,D., Graham,J., Cllimo, R., Taylor, R., Allsopp, P. Masonry, Technical Papers, Economic Recycling and Conservation of Structures, Chapter 7, Draft, The Warren Centre for Advanced Engineering, The University of Sydney,1889.

Heiman, J. Stone Restoration Parliament House, Brisbane, , an unpublished report for Q Build 1992

Hofmann, G. W., Trezise, D.L., Muller, P.J., Extractive Resources and Urban Land Suitability in the Pine Rivers Shire and City of Redcliffe, Moreton Region, Queensland, Geological Survey of Queensland, Record 1976/2.

Kerr, J.S. The Conservation Plan, National Trust New South Wales, Sydney, 1990.

Lucas Clive Preservation of Masonry Walls, Aust council of National Trusts, Sydney 1982.

McKay, Judith. Brisbane Sculpture Guide. Society of Sculptors Queensland, Brisbane 1988.

Progress Report from the Select Committee on the Sandstone Quarries of the Southern Districts of the Colony, 6-11-1888

Rea, Malcolm. An Australia Post History of the Brisbane General Post Office. Brisbane: Australia Post, 1979)

Richards H.C. Building Stones of Queensland published in Proceedings of the Royal Society of Queensland , Volume XXX No 8, August 6th 1919.

Richards H.C., Helidon Sandstone - Fine Record - article published in Courier Mail March 2nd 1931.

Spry, A, The Cleaning, Restoring and Preserving of Stone in Historic Buildings and Monuments, Amdel Report, National Estate Program 75/2953,1977.

G. Steele, Brisbane Town in Convict Days 1824-1842.

Willmont, W.F. Revision of Industrial Rock and Mineral Resources of Gatton Shire, Geological Survey of Queensland, Record 1987/30.

K.W. Wolff, Queensland Building and Monumental Stones. Department of Mines, Government Printer, Brisbane, 1957.

Principles of Cleaning Masonry Buildings. Australian Council of National Trusts and National Trust of Australia (Victoria), Melbourne, 1982.

Progress Report from the Select Committee on the Sandstone Quarries of the Southern Districts of the Colony; together with the minutes of evidence, the proceedings of the committee and appendices, Government Printer, Brisbane, 1888.

The Plumbers Handbook Published by the Lead Development Association, London 1971.

Votes and Proceedings of the Legislative Assembly 1865, 1309, Colonial Architect Report.

9.4 OTHER

Photographs held by John Oxley Library

Department of Environment file and citation #600148

Endnotes

[1] Roderick Don. *Brisbane - General Post Office Conservation Analysis and Guidelines*. Report for Australian Construction Services, 1987: 7.

[2] Report of the Post and Telegraph Department for the Year 1863.

[3] Murray Prior, 27 May 1864 cited in Malcolm Rea, *An Australia Post History of the Brisbane General Post Office*. Brisbane: Australia Post, 1979: 7.

[4] Lord Russell, 6-2-1840. Historical Records of Australia, Series 1.

[5] Tiffin, Colonial Architect, 7-7-1861. Col A/19.

[6] Roderick: 25-6.

[7] Petition to MacAlister MLA, LWO 18. Reproduced in Roderick: 28-9.

[8] ibid.

[9] Surveyor General, 10-5-1865. SUR A/ 24. 1760/65.

[10] Tiffin, October 1865, LWO A/ 26.

[11] *Government Gazette*, 18-2-1871. Vol XII, No 16: 228.

[12] *Brisbane Courier*, 21-9-1872.

[13] *Brisbane Courier*, 21-9-1872.

[14] Tenders for Brisbane Post Office, 20-12-1871. James Beal, Government Printer, 1871.

[15] Specification, 1872.

[16] *Brisbane Courier*, 3-10-1872.

[17] *Brisbane Courier*, 19-9-1872 and 3-10-1872.

[18]Annual Report of the Post and Telegraph Department, 1873.

[19] *Brisbane Courier*, 3-10-1872.

[20] Rea:16.

[21] Colonial Architect Annual Report 1876.

[22] Specification, April 1876.

[23] Specification, April 1876.

[24] Colonial Architect Annual Report 1878: 511.

[25] Colonial Architect Annual Report 1880: 1007.

[26] Colonial Architect Annual Report 1876.

[27] Roderick: 17.

[28] Roderick: 44.

[29] Roderick:45.

[30] Roderick: 46.

[31] Annual Report of Postmaster General, 1885: 22.

[32] Annual Report of Postmaster General, 1899: 1.

[33] Under Secretary Post & Telegraph Department, 9-10-1896. WOR/ A 402-5559.

[34] R Scott, Superintendent of Mail, 7-10-1896. WOR A 402- 2749.

[35] Under Secretary Post & Telegraph Department, 9-10-1896. WOR/A 402-5559.

[36] US Superintendent of Telegraphs, March 1878 WOR A/ 402-6833.

[37] Annual Report of the Post Master General 1898: 17 & 1899:1.

[38] Brady, 14-10-1899 and 28-7-1899 WOR/A 497.

[39] Roderick: 50.

[40] Roderick: 59.

[41] Department of Public Works Annual Report 1906-7: 3 & 1908: 3-4.

[42] Roderick: 135.

[43] Richards, HC. "Building Stones of Queensland". *RHSQ Journal*, July 1918: 144.

[44] EH Alder, Inspector of Works, 9-1-1907. WOR/A 661-289.

[45] Schedule of tenders, 18-10-1907. WOR/A 661-6893.

[46] *A& B Journal*, 7-9-1923: 30.

[47] *A& B Journal*, 7-9-1923: 30.

[48] Department of Public Works Annual Report, 1908: 8.

[49] JS Murdock in Roderick: 63.

[50] *Brisbane Courier*, 4-10-1924.

[51] *A & B Journal*, September 1937: 18 & *Courier Mail*, 1-9-1937.

[52] *A & B Journal*, February 1938: 15.

[53] Acting Deputy Director, Post and Telegraph, 12-4-1945. AA IB 44/312.

[54] D Cameron, PMG Department, 8-7-1946. GPO File 17-7-365-1

[55] *Courier Mail*, 23-6-1953 & 25-6-1953.

[56] *Courier Mail*, 8-7-1953.

[57] Supt, Buildings and Properties, 5-6-1970, GPO File 17-5-245-1 and Bligh, Jessup, Brentnall & Partners, 14-2-1969. GPO File 17-5-345-1. *Courier Mail*, 15-2-1969.

[58] *The Inner City Times*, 30-11-1978.

[59] Rea to EF Lane, Director, Posts and Telegraphs, 13-1-1971 GPO Museum file.

[60] Gordon Poulter, Post Office Public Relations Officer, 4-7-1974. GPO Museum file.

[61] CA Tonissen, 11-11-1976. GPO 17-6-408-2.

[62] KB Haffenden, Manager P & TS Department, 8-2-1977.

[63] JM Herriot, 17-6-1977.GPO Museum files.

[64] GPO Upgrading and Development Memo, GPO file 17-7-365-1.

[65] JN Arnold, Acting Director, Department of Construction, 28-11-1978 & *Telegraph*, 9-4-1979.

[66] L Albrecht, Public Relations Officer, GPO, 26-11-1985 & Australia Post Staff Journal, March 1985. GPO Museum file.

[67] K Urquhart, Acting Manager, Planning and Technical Services Department, 3-7-1980. GPO Museum file.

[68] Malcolm Rea, Press release, 23-1-1980. GPO Museum file.

[69] CA Tonissen, Director Department of Housing and Construction, 2-12-1980. GPO file 17-6-408-3.

[70] Minutes of the Postal Properties Committee, 27-6-1984. GPO file 17-7-365-2.

[71] Commonwealth Dept of Works Drawings, QA61/733C1, 9.11.1961.

[72] Drawings by Blackburne & Associates Architects, held in GPO historical section. Drawing No 72-3317.

[73] Spry, A, The Cleaning, Restoring and Preserving of Stone in Historic Buildings and Monuments, Amdel Report, National Estate Program 75/2953, 1977.

[74] This observation was reported on by Dr H D Hensel from Hensel Geosciences. See *Report on the darking of sandstone on parts of the Brisbane GPO*, Unpublished held by author.

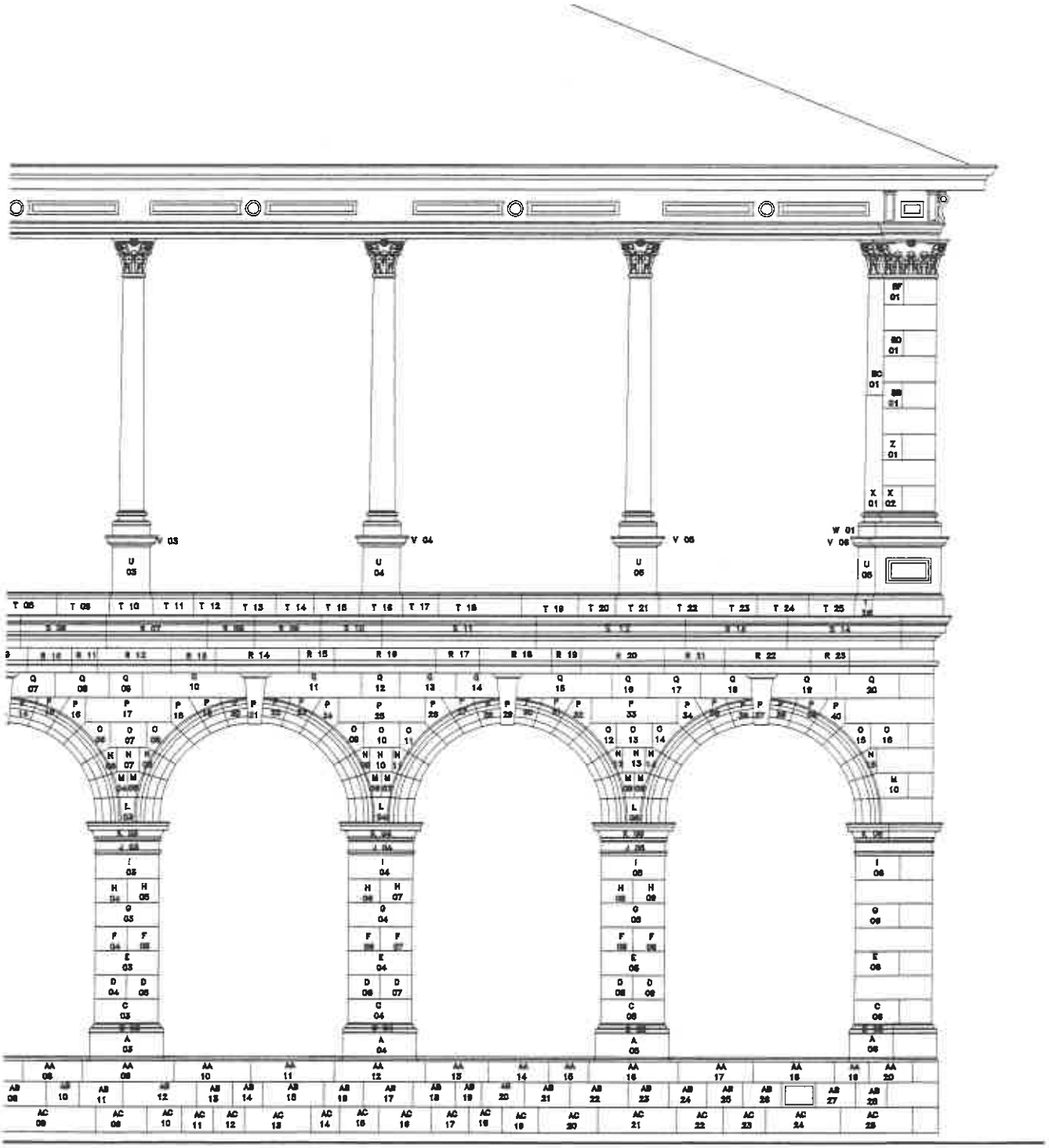
[75] see Spry: 77 and Heiman et al.: 7-39.

[76] Spry: 157.

77 Ashurst, J & N., Practical Building Conservation, Vol 1 Stone Masonry : 94.

[78] Technical Papers, Economic Recycling and Conservation of Structures, Vol 7 Masonry, Draft copy unpublished. Waren Centre, Uni of Sydney, October 1989.

LEGEND:

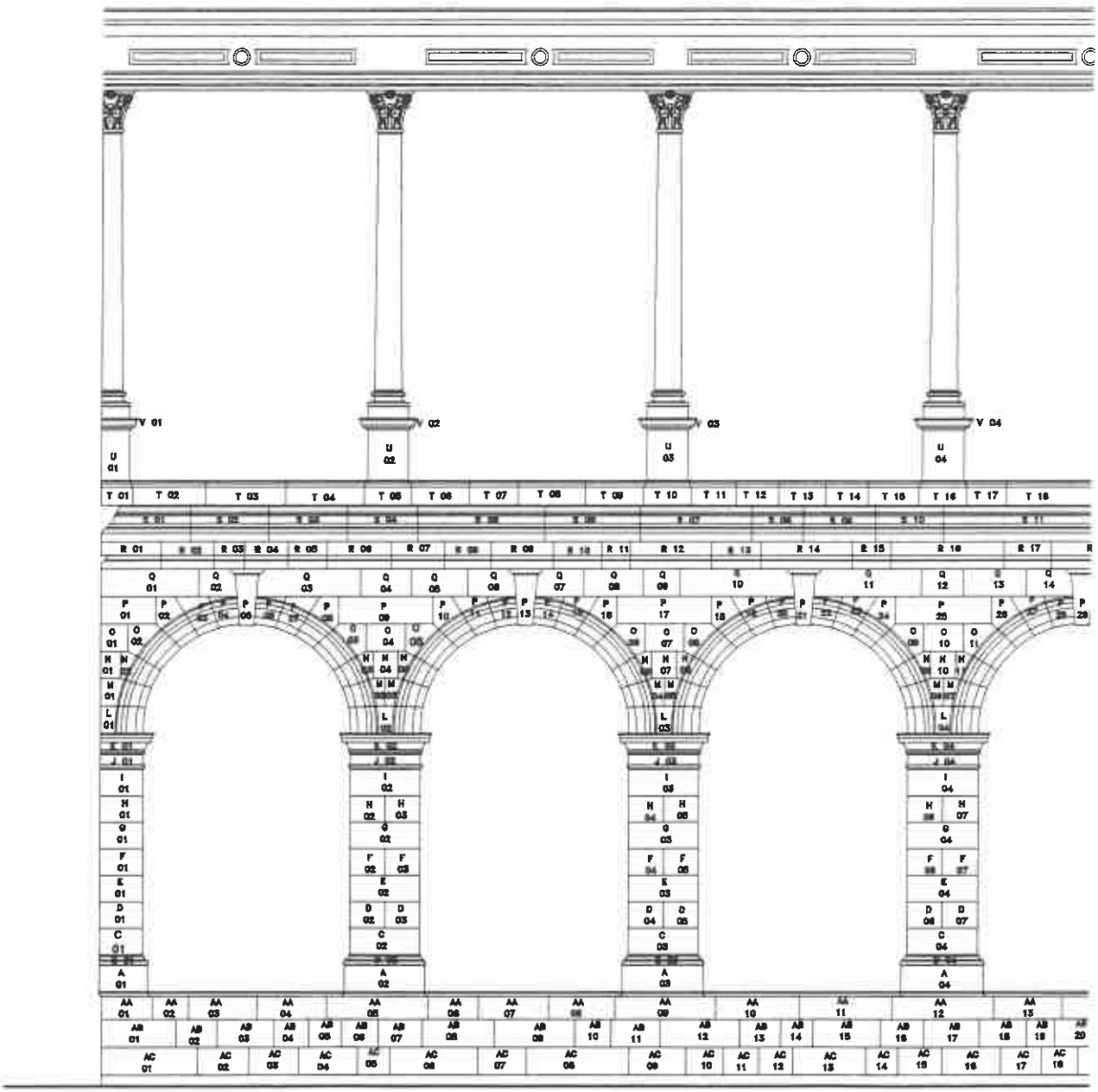


SHEET 2 ADJOINS

EXTENT OF SHEET 1

DRAWING: ELEVATION A SHEET 1	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. M.Env.St.(Conv.)NSW PO BOX 592 PADDINGTON 4064. PHONE 07 35762322 FAX 07 35762366	DRAWN: VR / CHECKED: MK APPROVED / SCALE: 1:50 DWG No: GPO-A-1 / ISSUE: A / DATE: 10/97	

LEGEND:



EXTENT OF SHEET 2

SHEET 1 ADJOINS

DRAWING
ELEVATION A
SHEET 2

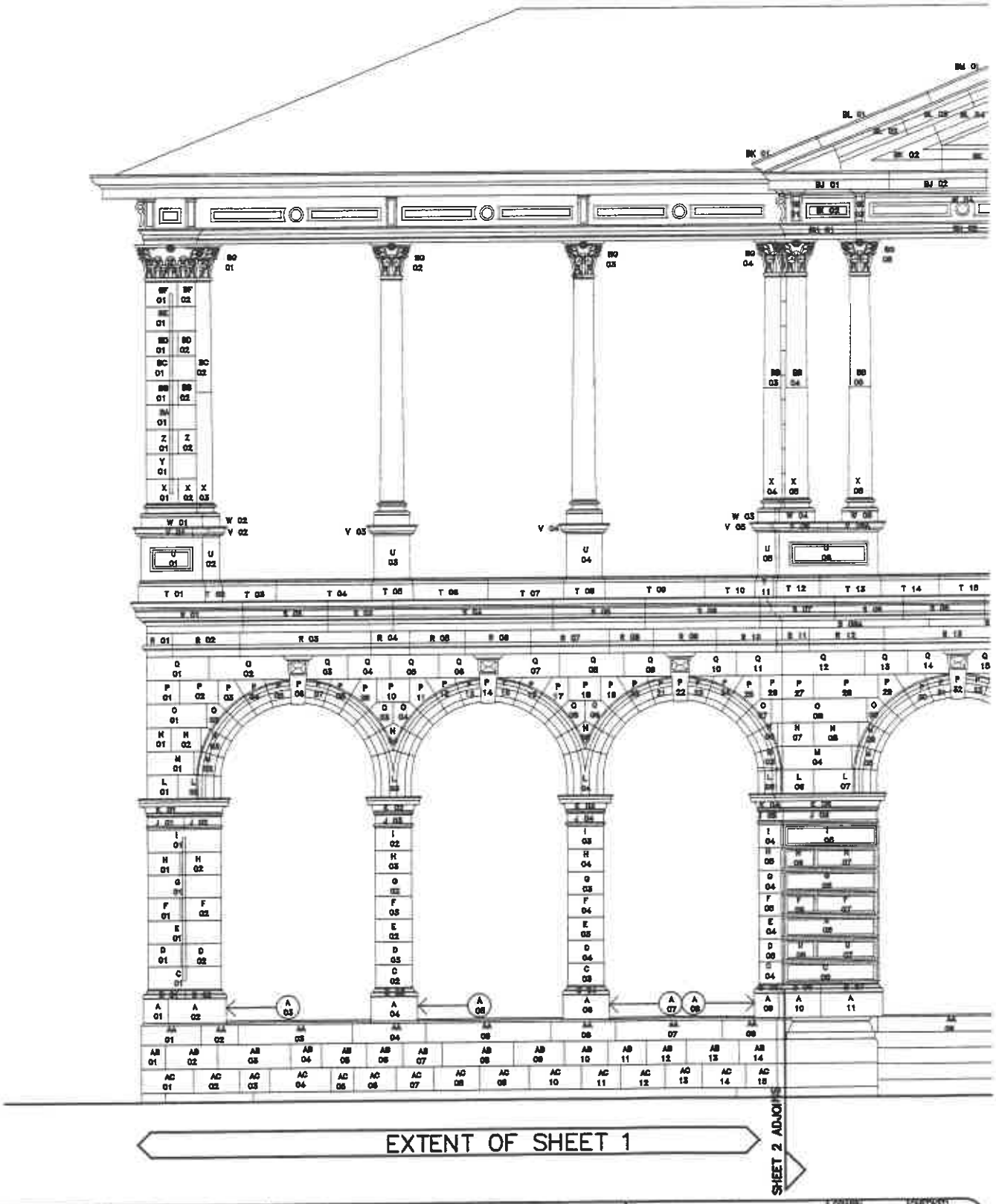
PROJECT
GENERAL POST OFFICE
STONEWORK
CONSERVATION

KEY

MICHAEL KENNEDY
ARCHITECT
A.R.A.I.A
Dip. Arch. QUT
MBEnvDes(Cons)NSW
PO BOX 552 PADDINGTON 4064.
PHONE 07 38762322 FAX 07 38762366

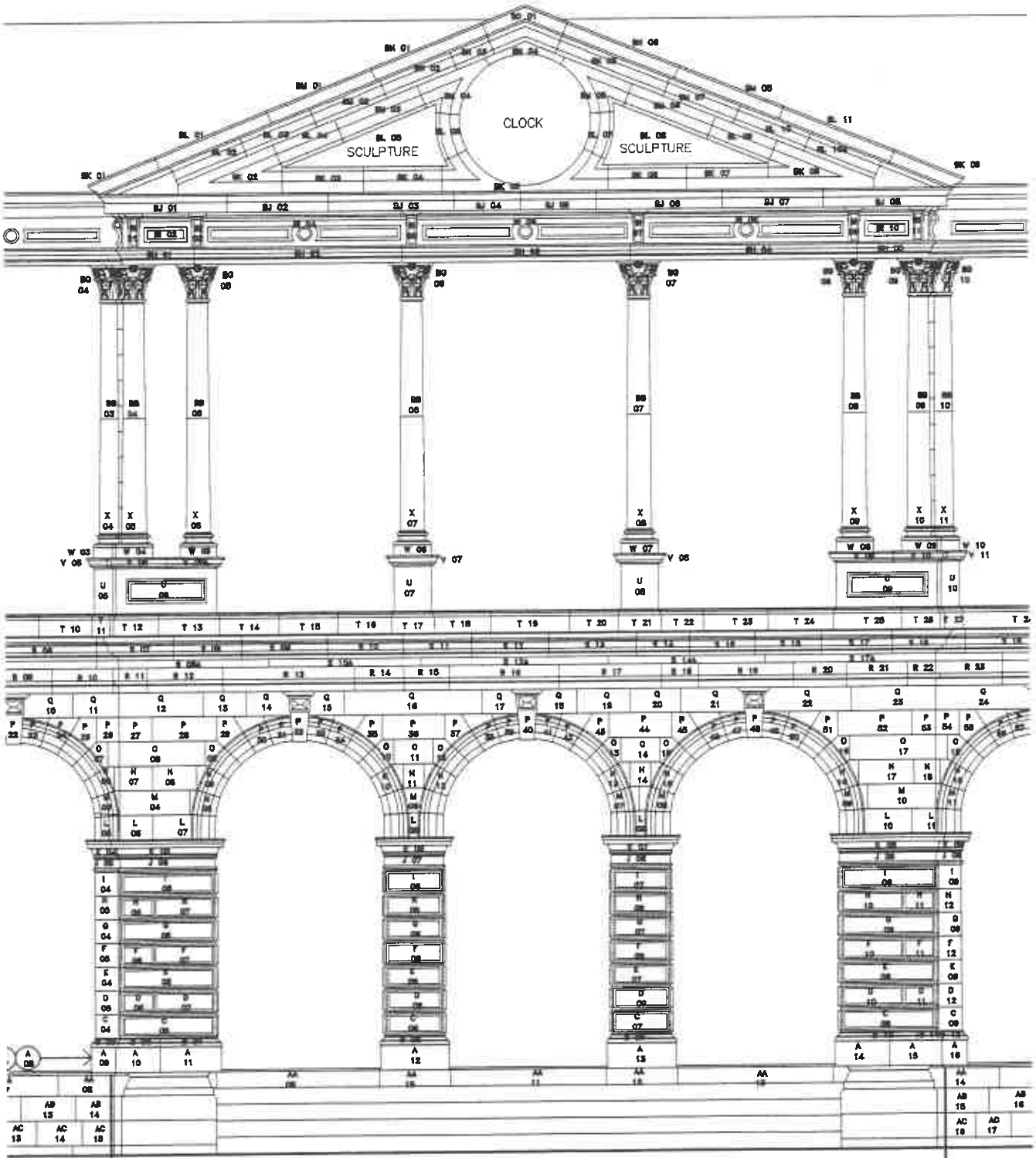
DRAWN	CHECKED
VR	MK
APPROVED	SCALE 1:50
DWG No. GPO-A-2	ISSUE A / DATE 10/97

LEGEND:



DRAWING: ELEVATION B SHEET 1	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. MBE(NSW) PO BOX 502 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762366	DRAWN: VR / CHECKED: MK	APPROVED / SCALE: 1:50
				DWG No: GPO-B-1	ISSUE: A / DATE: 10/97

LEGEND:



EXTENT OF SHEET 2

DRAWING
ELEVATION B
SHEET 2

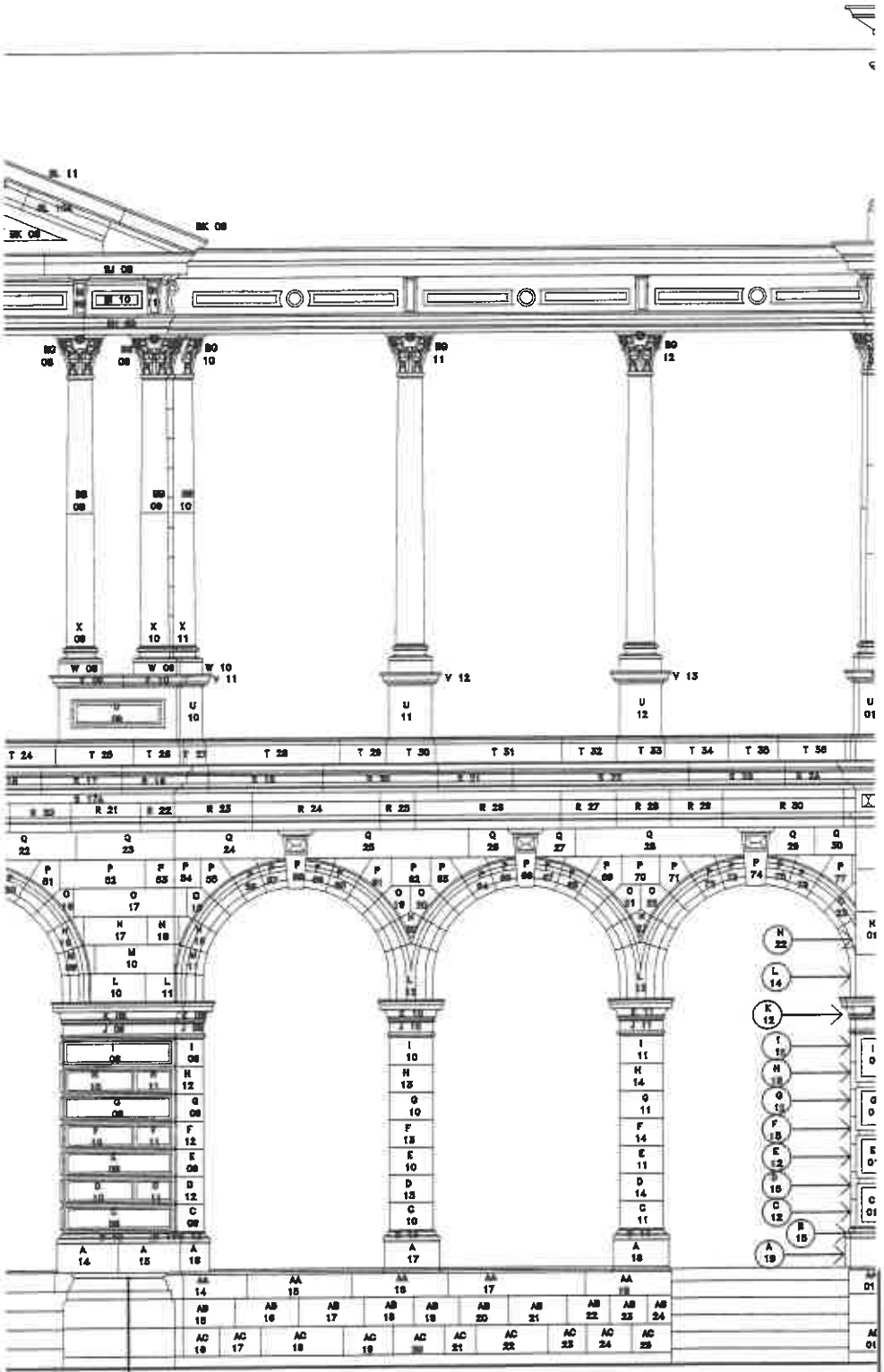
PROJECT
GENERAL POST OFFICE
STONEWORK
CONSERVATION

KEY

MICHAEL KENNEDY
ARCHITECT
A.R.A.I.A.
Dip. Arch. Q.I.T.
MEIEnvE(Conv)NSW
PO BOX 582 PADDINGTON 4064.
PHONE 07 38762322 FAX 07 38762366

DRAWN	CHECKED
VR	MK
APPROVED	SCALE 1:50
DWG No GPO-B-2	ISSUE A
	DATE 10/97

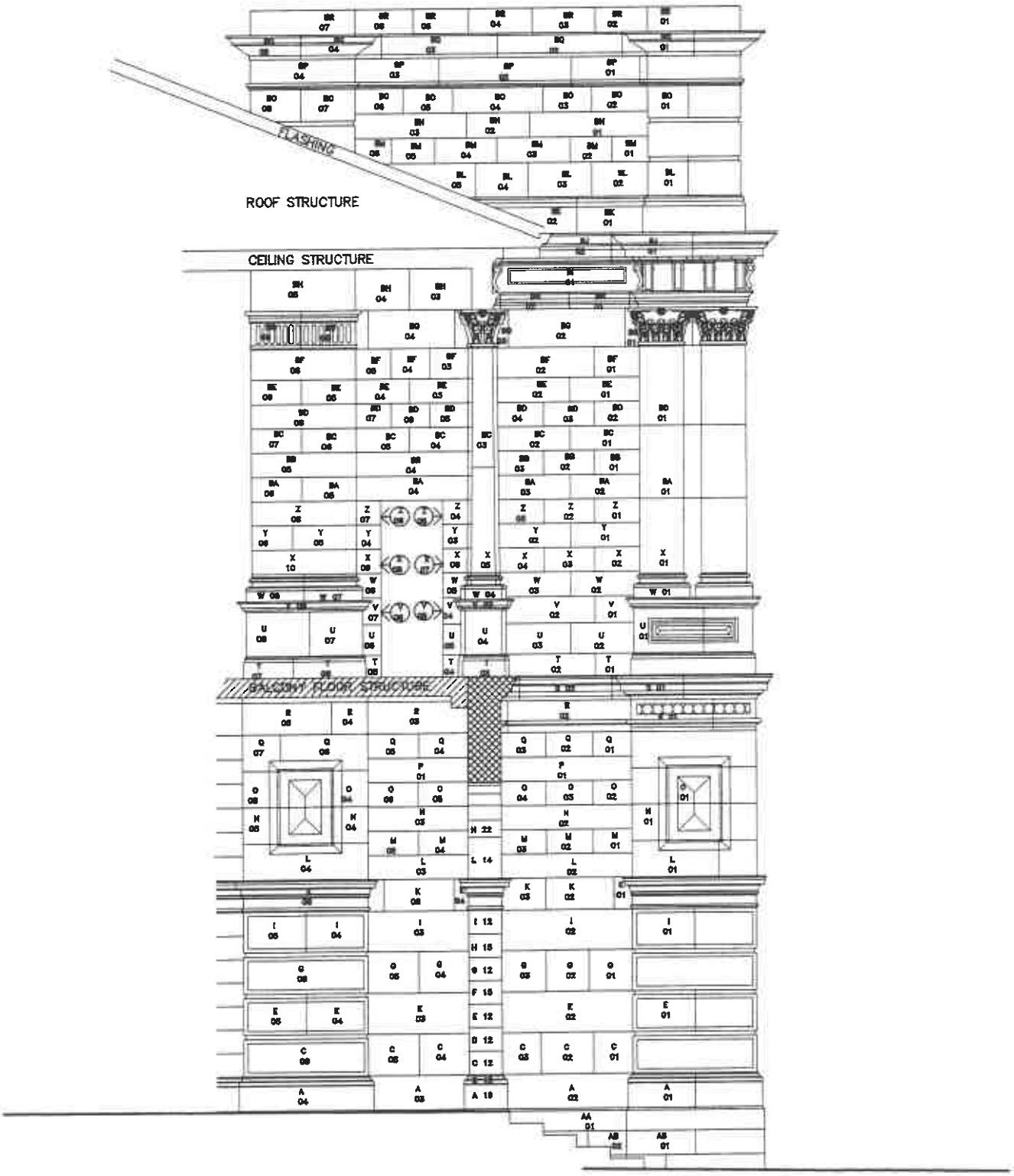
LEGEND:



DRAWING: ELEVATION B SHEET 3	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT	DRAWN: VR	CHECKED: MK	
				APPROVED	SCALE: 1:50	
				DWG No: GPO-B-3	ISSUE: A	DATE: 10/97

ARAIA
Dip. Arch. Q.I.T.
MRAIA(Com)NSW
PO BOX 592 PADDINGTON 4064.
PHONE 07 38762322 FAX 07 38762366

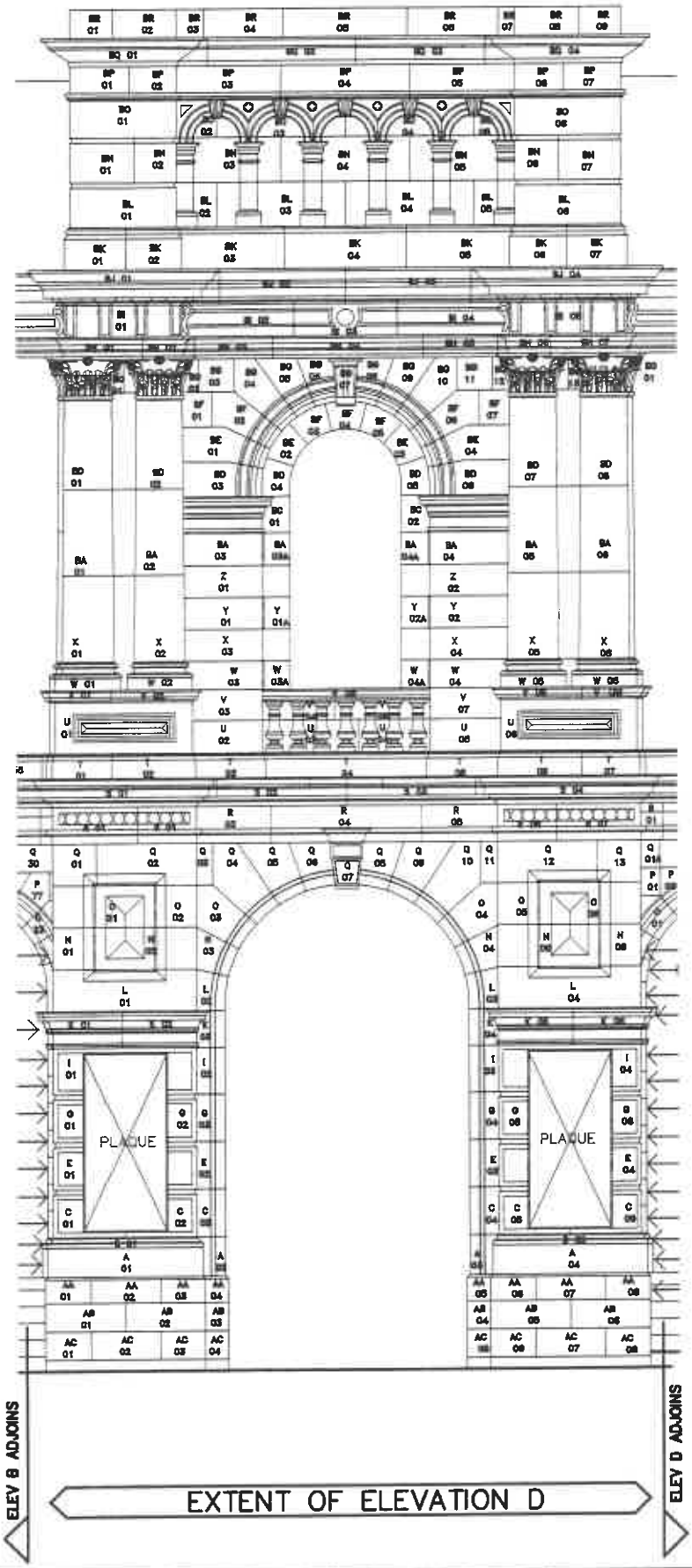
LEGEND:



EXTENT OF ELEVATION C

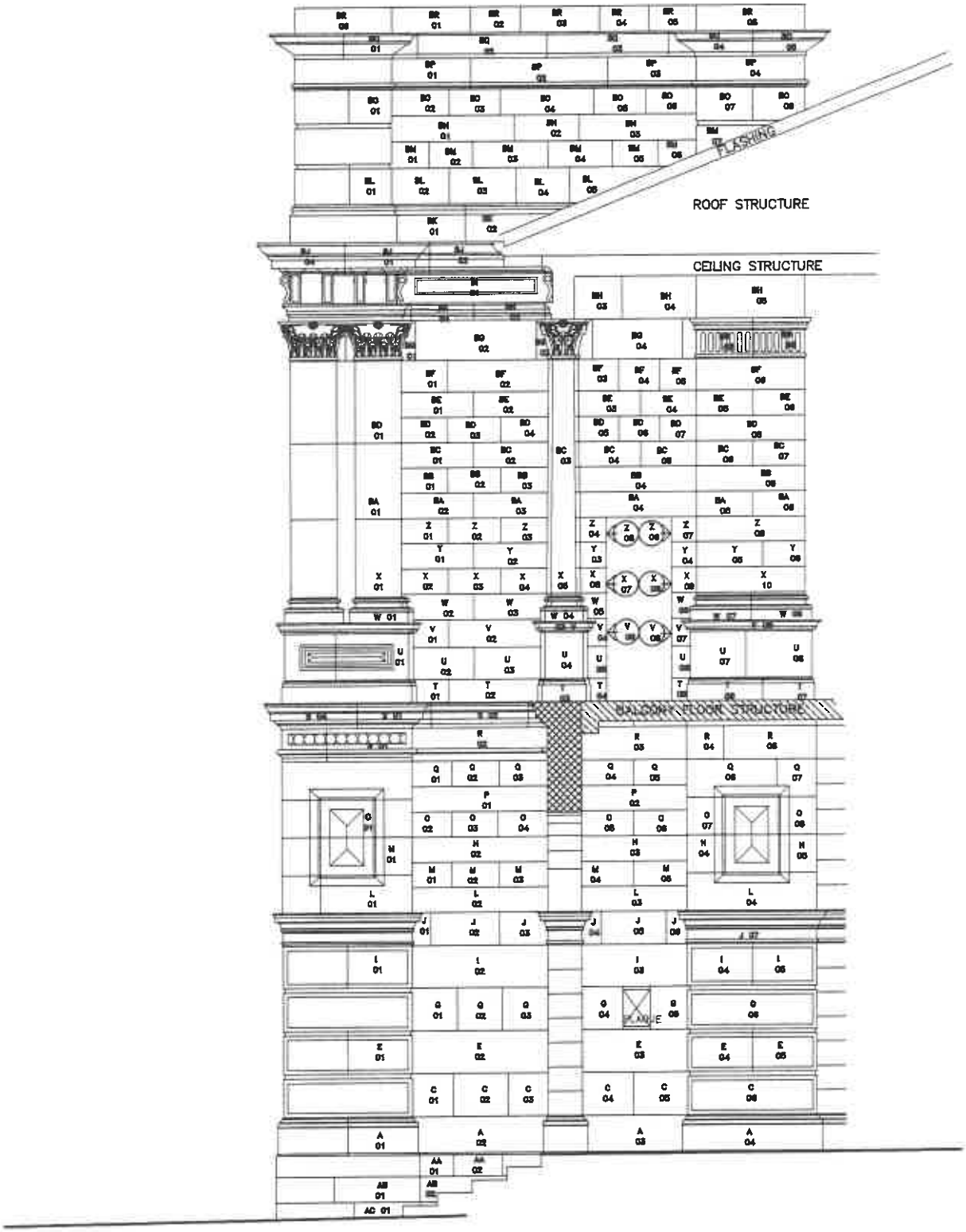
DRAWING	PROJECT	KEY		DRAWN	CHECKED
ELEVATION C	GENERAL POST OFFICE STONEWORK CONSERVATION		MICHAEL KENNEDY ARCHITECT	VR	MK
			A.R.A.I.A. Dip. Arch. Q.I.T. M.R.E.N.S.W.(Conv)NSW PO BOX 592 PADDINGTON 4064. PHONE 07 3878222 FAX 07 3878 2368	APPROVED	SCALE 1:50
				DWG No. GPO-C-1	ISSUE A
					DATE 10/97

LEGEND:



DRAWING: ELEVATION D	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT AA&A&A Dip. Arch. Q.I.T. M.R.A.I.A. M.Environ.Comm.(NSW) PO BOX 582 PADDINGTON 4064. PHONE 07 38702322 FAX 07 38702366	DRAWN: VR / APPROVED	CHECKED: MK / SCALE: 1:50
				DWG No: GPO-D-1	ISSUE: A / DATE: 10/97

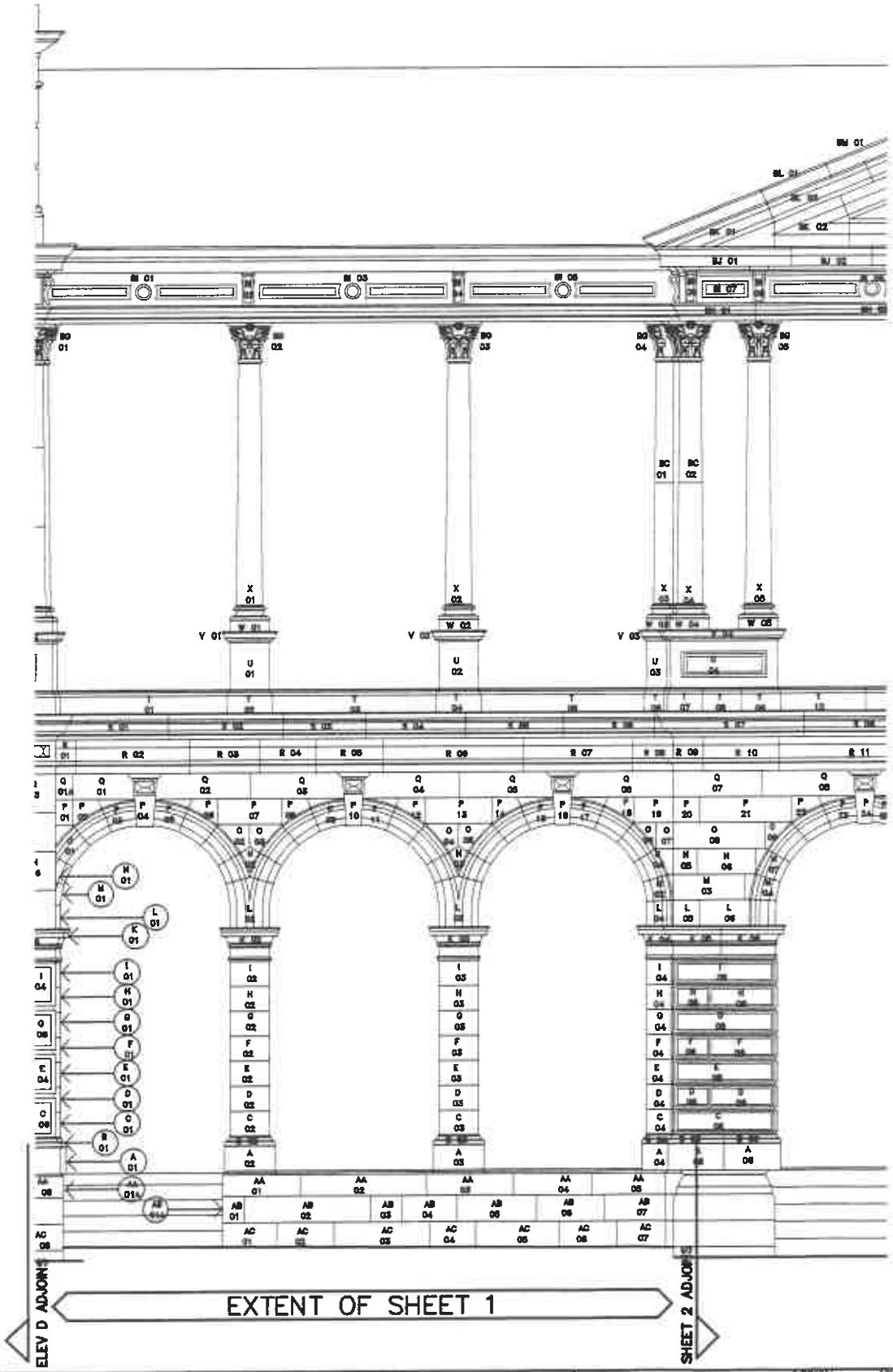
LEGEND:



EXTENT OF ELEVATION E

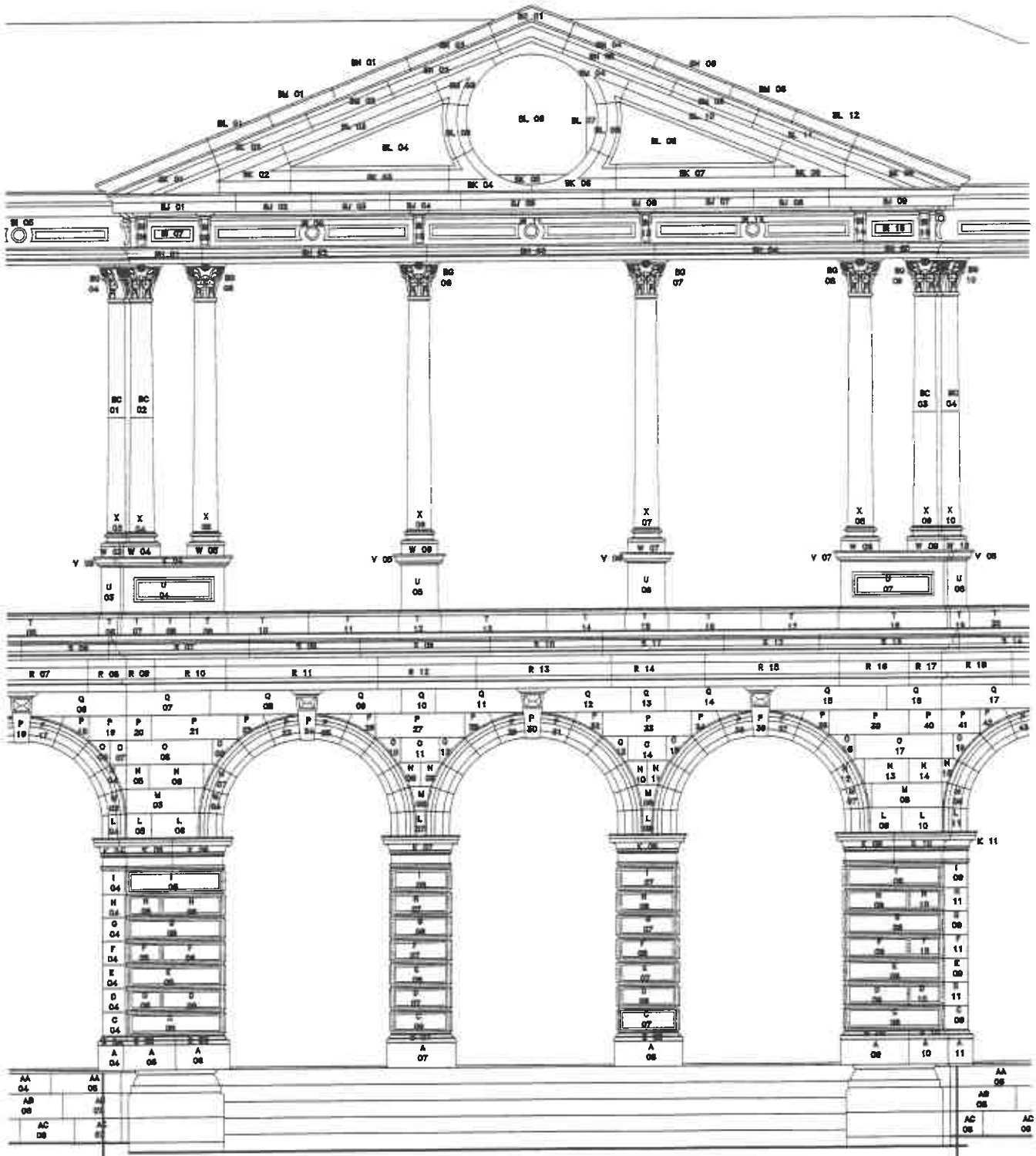
DRAWING: ELEVATION E	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. MBEnvD(Conv)NSW PO BOX 892 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762388	DRAWN: VR / CHECKED: MK	APPROVED / SCALE: 1:50
				DWG No: GPO-E-1	ISSUE: A / DATE: 10/97

LEGEND:



DRAWING: ELEVATION F SHEET 1	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT ARAIA Dip. Arch. Q.I.T. MBEnvS(Conv)NSW PO BOX 592 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762388	DRAWN: VR / CHECKED: MK APPROVED / SCALE: 1:50 DWG No: GPO-F-1 / ISSUE: A / DATE: 10/97	

LEGEND:



SHEET 1 ADJOINS

EXTENT OF SHEET 2

SHEET 3 ADJOINS

DRAWING
ELEVATION F
SHEET 2

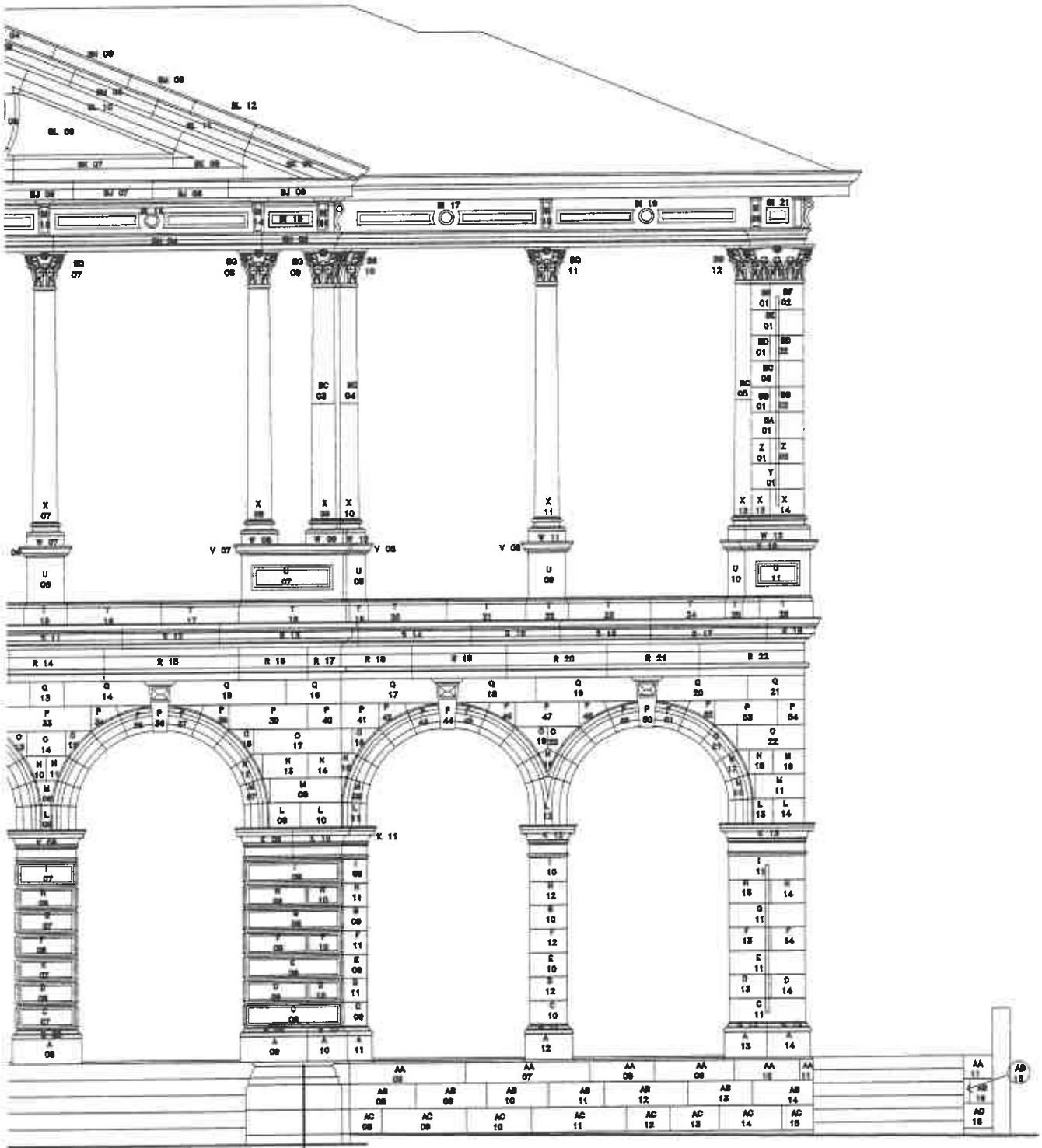
PROJECT
GENERAL POST OFFICE
STONEWORK
CONSERVATION

KEY

MICHAEL KENNEDY
ARCHITECT
AA&LA
PO BOX 592 PADDINGTON 4064.
PHONE 07 38762322 FAX 07 38762366

DRAWN	CHECKED
VR	MK
APPROVED	SCALE 1:50
DWG No GPO-F-2	ISSUE A
	DATE 10/97

LEGEND:

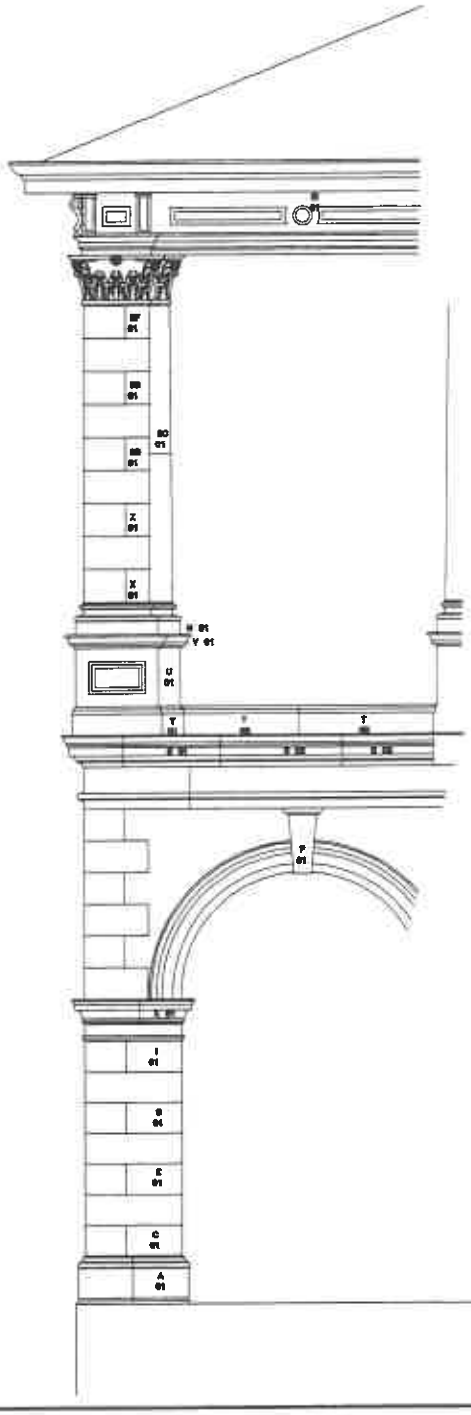


SHEET 2 ADJOINS

EXTENT OF SHEET 3

DRAWING ELEVATION F SHEET 3	PROJECT GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. MBE(NSW)(Com)NSW PO BOX 582 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762366	DRAWN VR APPROVED	CHECKED MK SCALE 1:50
				DWG No GPO-F-3	ISSUE A DATE 10/97

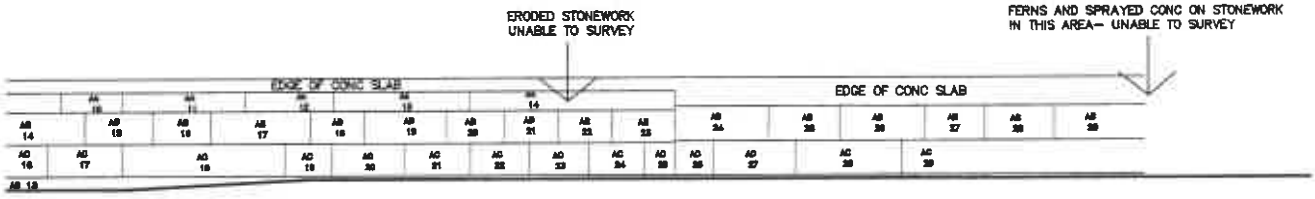
LEGEND:



EXTENT OF ELEVATION G

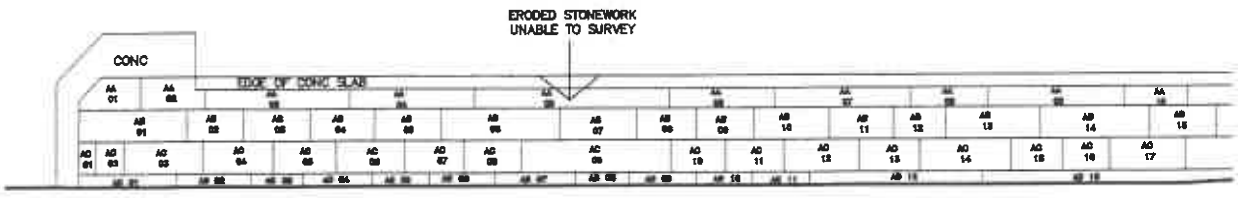
DRAWING: ELEVATION G	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. MBE(Hon)(Conv)NSW PO BOX 582 PADDINGTON 4064. PHONE 07 35762322 FAX 07 35762388	DRAWN: VR / CHECKED: MK	
				APPROVED	SCALE: 1:50
				DWG No: GPO-G-1	ISSUE: A / DATE: 10/97

LEGEND:



ELEVATION G1

EXTENT OF SECTION 2



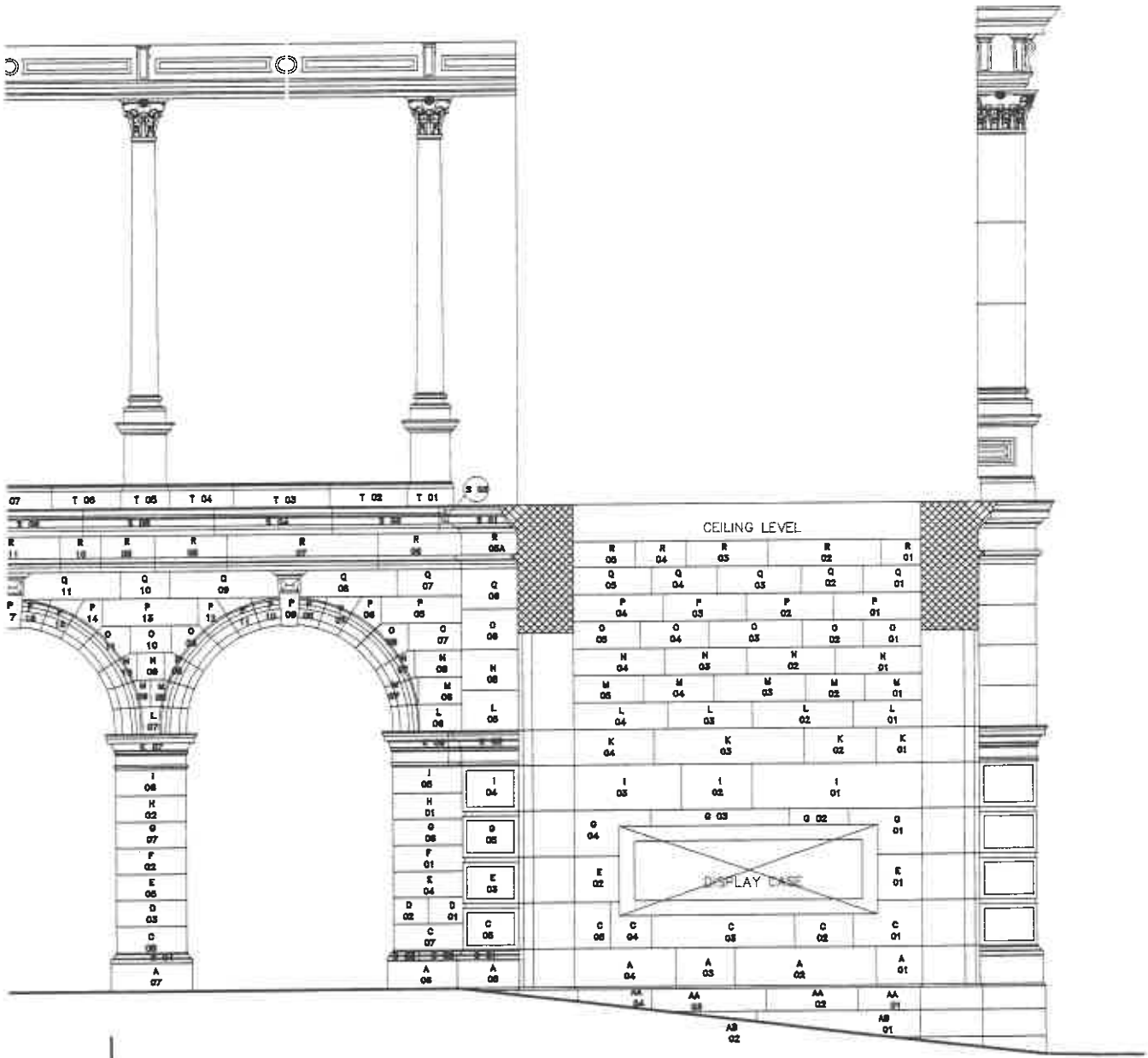
ELEVATION G1

EXTENT OF SECTION 1

DRAWING: ELEVATION G1	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT	DRAWN: VR / APPROVED	CHECKED: MK / SCALE: 1:50
				DWG No: GPO–G–2	ISSUE: A / DATE: 10/97

ARAIA
Dip. Arch. C.I.T
MIE(Irel) Cert(NSW)
PO BOX 592 PADDINGTON 4064.
PHONE 07 38762322 FAX 07 38762366

LEGEND:

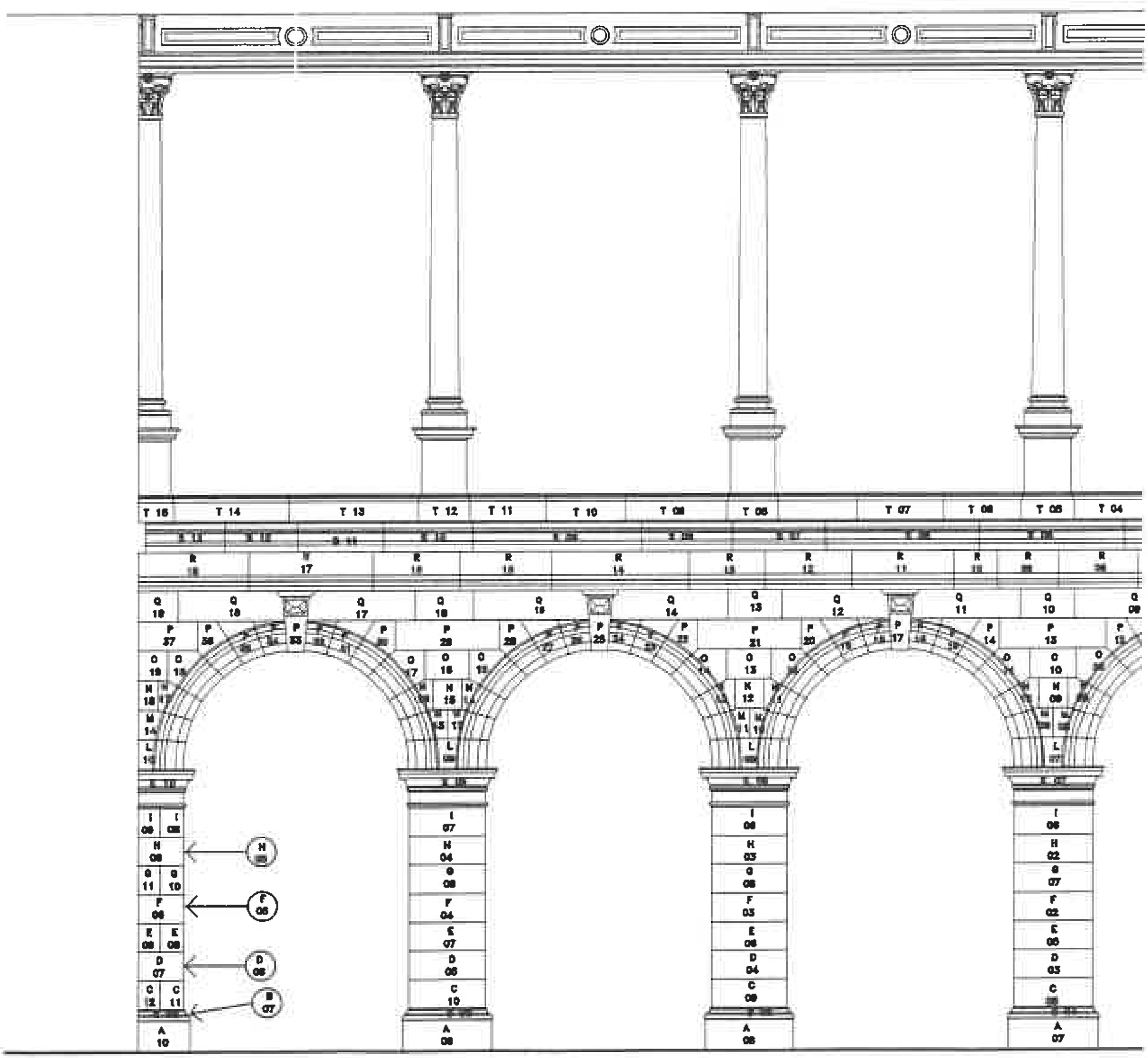


SHEET 2 ADJOINS

EXTENT OF SHEET 1

DRAWING: ELEVATION H SHEET 1	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. MBEnvir(Cons)NSW PO BOX 592, PADDINGTON 4064. PHONE 07 38762222 FAX 07 38762366	DRAWN: VR / CHECKED: MK APPROVED / SCALE: 1:50 DWG No: GPO-H-1 / ISSUE: A / DATE: 10/97	

LEGEND:

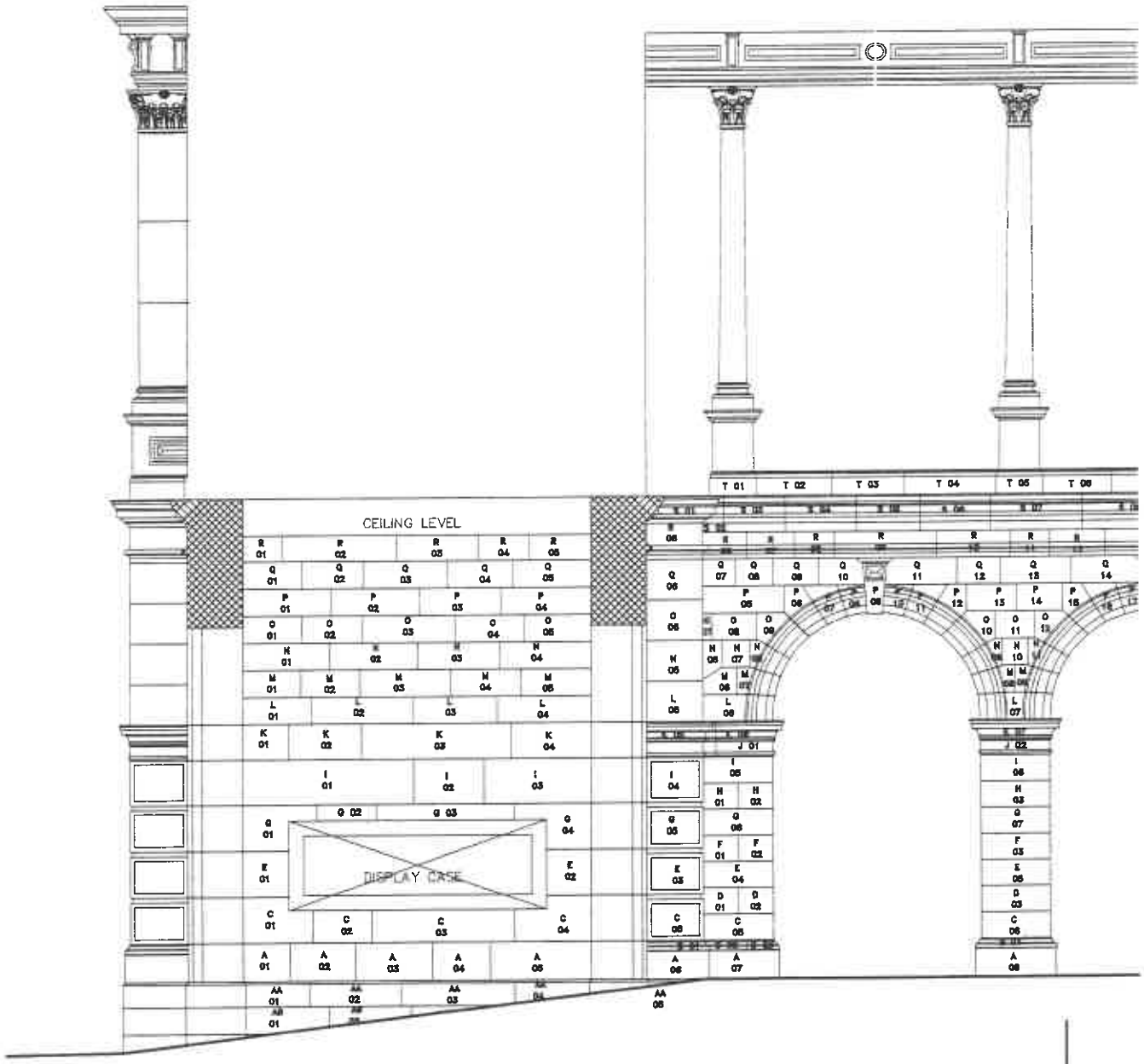


SHEET 1 ADJOINS

EXTENT OF SHEET 2

DRAWING	PROJECT	KEY		DRAWN	CHECKED
ELEVATION H SHEET 2	GENERAL POST OFFICE STONEWORK CONSERVATION		MICHAEL KENNEDY ARCHITECT ARAIA Dip Arch QIT MBEnv(Cons)NSW PO BOX 582 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762386	VR	MK
				APPROVED	SCALE 1:50
				DWG No GPO-H-2	ISSUE A / DATE 10/97

LEGEND:

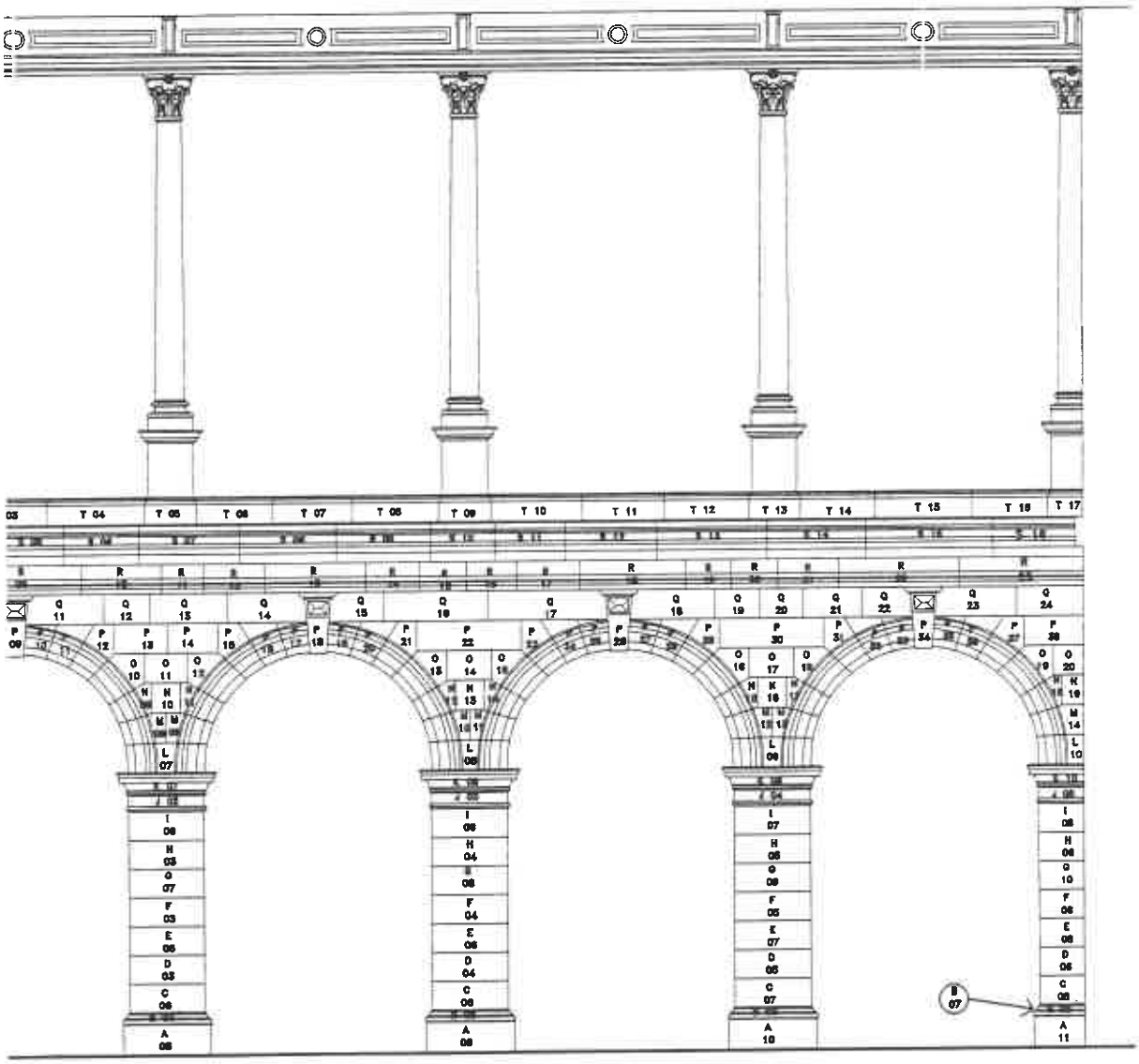


EXTENT OF SHEET 1

SHEET 2 ADJOINS

DRAWING: ELEVATION J SHEET 1	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. MBEnvS (Conv) NSW PO BOX 592 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762366	DRAWN: VR / CHECKED: MK	
				APPROVED	SCALE: 1:50
				DWG No: GPO-J-1	ISSUE: A / DATE: 10/97

LEGEND:

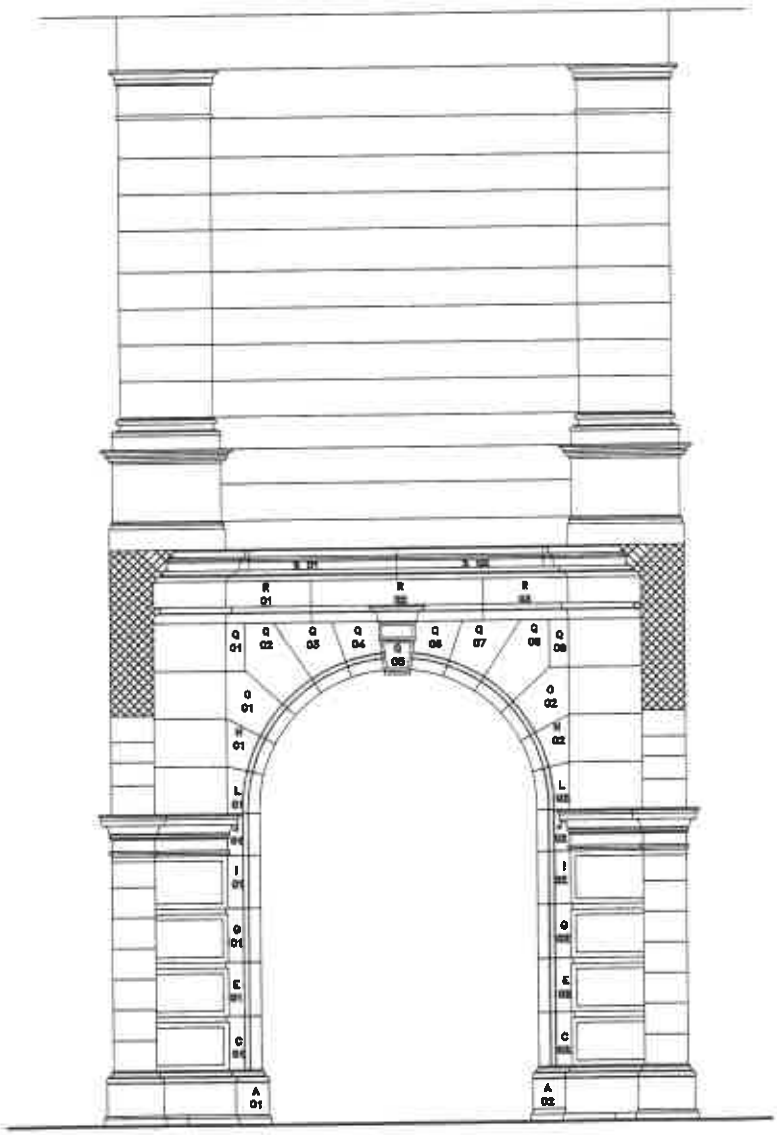


SHEET 1 ADJOINS

EXTENT OF SHEET 2

DRAWING: ELEVATION J SHEET 2	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT ARAIA Dip Arch G.I.T MBEnvS(Conv)NSW PO BOX 592 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762388	DRAWN: VR / APPROVED	CHECKED: MK / SCALE: 1:50
				DWG No: GPO-J-2	ISSUE: A / DATE: 10/97

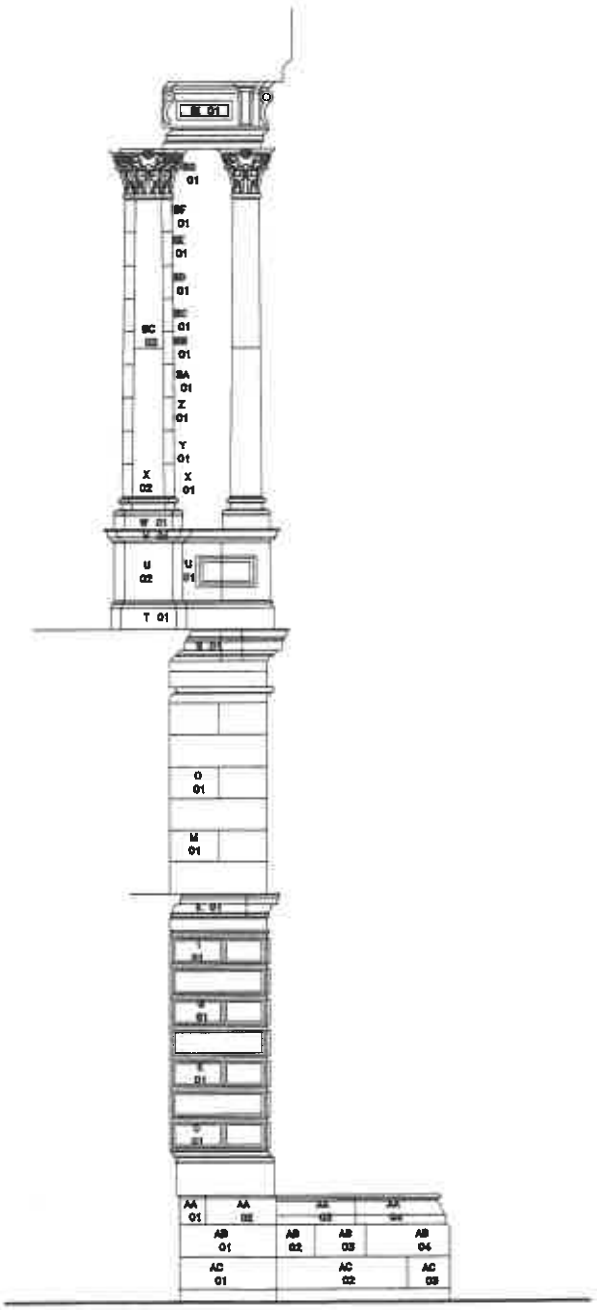
LEGEND:



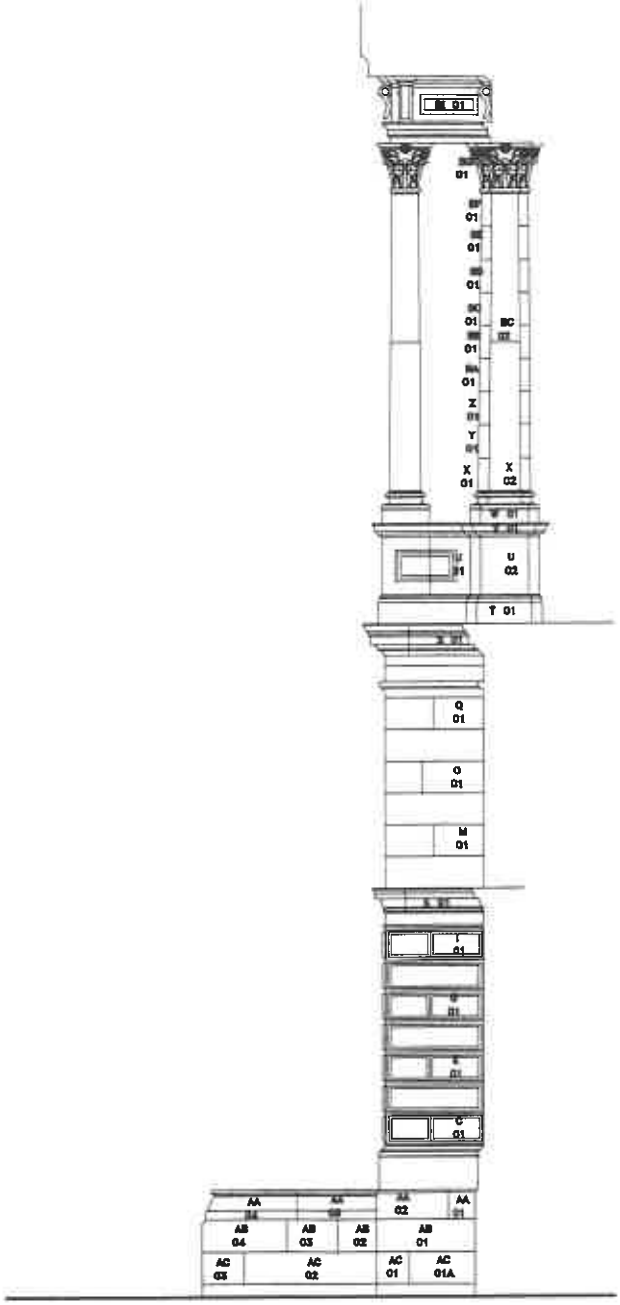
EXTENT OF ELEV K

DRAWING: ELEVATION K	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. M.Build.Env.(Conv.)NSW PO BOX 502 PADDINGTON 4064. PHONE 07 38782322 FAX 07 38782388	DRAWN: VR / CHECKED: MK APPROVED / SCALE: 1:50 DWG No: GPO-K-1 / ISSUE: A / DATE: 10/97	

LEGEND:



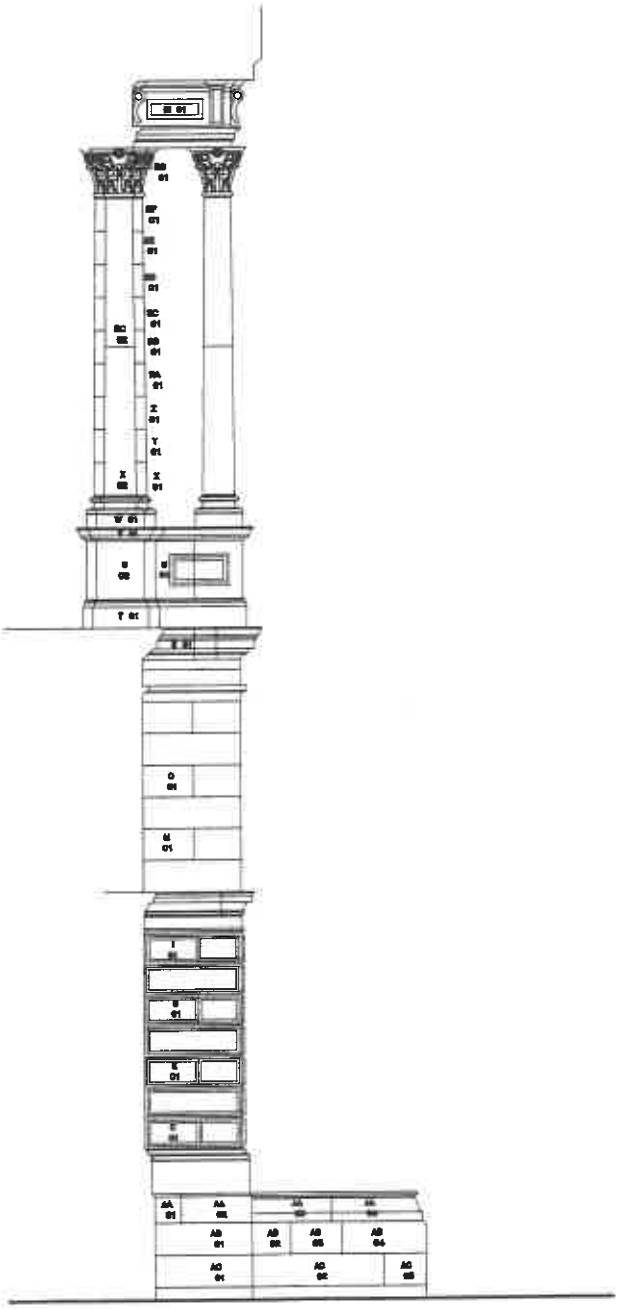
ELEVATION L



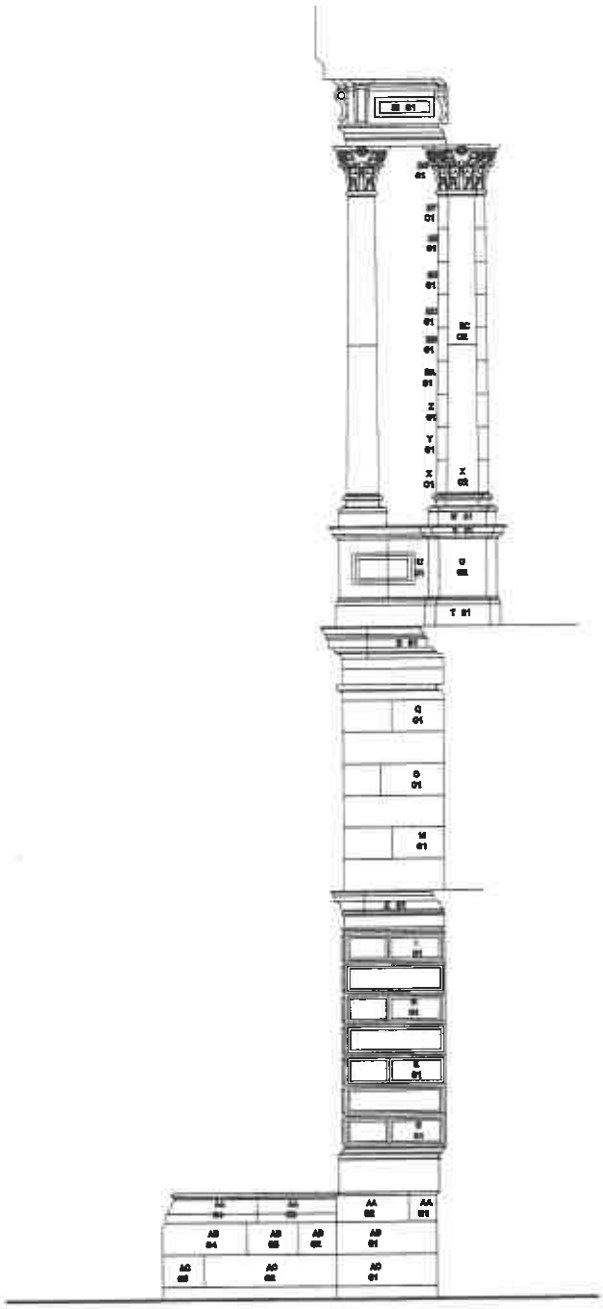
ELEVATION M

DRAWING: ELEVATIONS L & M	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A. Dip. Arch. Q.I.T. MBEnvS(Conv)NSW PO BOX 592 PADDINGTON 4064. PHONE 07 38762322 FAX 07 38762366	DRAWN: VR / CHECKED: MK APPROVED / SCALE: 1:50 DWG No: GPO-LM- / ISSUE: A / DATE: 10/97	

LEGEND:



ELEVATION N



ELEVATION O

DRAWING: ELEVATIONS N & O	PROJECT: GENERAL POST OFFICE STONEWORK CONSERVATION	KEY	MICHAEL KENNEDY ARCHITECT A.R.A.I.A Dip. Arch. Q.I.T M.Sc(Hist/Cons)/NSW PO BOX 502 PADDINGTON 4064. PHONE 07 38782322 FAX 07 38782366	DRAWN: VR; CHECKED: MK APPROVED SCALE: 1:50 DWG No: GPO-NO- ISSUE: A DATE: 10/97