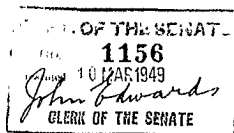


THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.



R E P O R T

RELATING TO

THE PROPOSED EXTENSIONS TO

CITY WEST TELEPHONE EXCHANGE,

M E L B O U R N E.

For Senator Lamp -

I bring up the Report of the
Parliamentary Standing Committee on Public Works,
relating to the following work :-

Extensions to the City West Telephone Exchange,
Melbourne,

and I move that the Report be printed.

Passed

10th March, 1949.

1948-49.

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS.

REPORT

RELATING TO THE PROPOSED EXTENSIONS TO

CITY WEST TELEPHONE EXCHANGE,
MELBOURNE.

By Authority :

L. F. JOHNSTON, Commonwealth Government Printer, Canberra.
(Printed in Australia.)

No. [GROUP H.]—F.6866.—PRICE D.

MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS. (TWELFTH COMMITTEE.)

SENATOR CHARLES ADCOCK LAMP (Chairman).

Senate.

- (*) Senator CHARLES HENRY BRAND.
- Senator RICHARD HARRY NASH.
- (*) Senator NRIEL O'SULLIVAN.

House of Representatives.

- WILLIAM PATRICK CONNELAN, ESQUIRE, M.P.
- (*) HENRY DARTMOUTH SOMER GULLISTE, ESQUIRE, M.P.
- (*) HOWARD BRALE, ESQUIRE, M.P.
- JOHN BROOKE HOWSE, ESQUIRE, M.P.
- DONALD MCLEOD, ESQUIRE, M.P.
- GEORGE JAMES RANKIN, ESQUIRE, M.P.
- EDGAR HUGHES DEO RUSSELL, ESQUIRE, M.P.

- (*) Resigned 6th June, 1947.
- (*) Appointed 6th June, 1947.
- (*) Deceased to be a member of the Senate, 20th June, 1947.
- (*) Appointed 24th October, 1947.

EXTRACT FROM THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES, No. 7, DATED 10th SEPTEMBER, 1948.

- 6. PUBLIC WORKS COMMITTEE—REFERENCE OF WORK—EXTENSIONS TO CITY WEST TELEPHONE EXCHANGE, MELBOURNE.—Mr. Lemmon (Minister for Works and Housing) moved, pursuant to notice, That, in accordance with the provisions of the *Commonwealth Public Works Committee Act 1913-1947*, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for investigation and report, namely:—
The erection of extensions to the City West Telephone Exchange, Melbourne.

Mr. Lemmon having laid on the Table drawings in connexion with the proposed work—

Question—put and passed.

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LIST OF WITNESSES.

Hayes, N. W. V., Acting Chief Engineer, Postmaster-General's Department, Melbourne	Paragraph in Evidence
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THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

EXTENSIONS TO CITY WEST TELEPHONE EXCHANGE, MELBOURNE.

REPORT.

The Parliamentary Standing Committee on Public Works, to which the House of Representatives referred for investigation and report the question of the proposed extension of the City West Telephone Exchange, Melbourne, has the honour to report as follows :—

SECTION I.

INTRODUCTION.

The Present Exchange.

1. The City West Automatic Telephone Exchange and the main portion of the Melbourne trunk exchange, together with associated long line equipment, are accommodated in a building in Little Bourke-street, Melbourne, at the western end of the city. This building which adjoins the High Court building on the eastern side, was erected in 1936 at a cost of £69,000 on the then vacant portion of the site which extends right through to Lonsdale-street. It was erected to the limit height allowed by the City Council building regulations for a "little" street, and covered all the land available on the site. The remainder of the site at that time was occupied by the Central Manual Exchange building, a three storied structure built to face Lonsdale-street about 40 years ago.

2. It was anticipated that, by the time it was necessary to extend the City West Exchange, the building used for the Central Manual Exchange would be available for the purpose. However, many factors have combined to retard the progress of relief exchanges and it will be some years before the Central Exchange can be discarded. Action has therefore been taken to acquire property adjoining the City West Exchange to the east, so that urgent expansion can be provided for in the next few years.

SECTION II.

THE PRESENT PROPOSAL.

General.

3. The overall plan providing for automatic telephone facilities for the whole of the city of Melbourne was developed some years ago and the city was divided into four districts—City West, Russell, Batman and Civic. The Public Works Committee has reported upon the exchanges to be established in the first three of these districts, and the Civic Exchange plans are still being developed. As delays in the establishment of Russell and Batman Exchanges have become more protracted the pressure on City West has increased to a point where extensions to it are imperative if efficient service is to be maintained in the metropolitan area. Plans have therefore been drawn up for additions to the eastern side of City West Exchange building which will involve the demolition of the present building adjoining that exchange, and the erection of a suitable building to extend the accommodation now overtaxed.

The Building.

4. The building proposed will comprise basement, ground and six upper floors, together with mezzanine lavatory above the ground floor, and will provide a total usable area of 12,400 square feet. It will occupy a site on the corner of Little Bourke-street and St. John's-lane, having a frontage of 24 ft. 1½ in. to Little Bourke-street.

Estimated Cost.

5. The estimated cost, which is stated to be subject to variation due to changing circumstances, was calculated in September, 1948, to be as follows :—

	£
Building	119,675
Electrical work and lifts	29,900
Mechanical equipment	45,425
Cafeteria equipment	2,300
Total	197,300

SECTION III.

THE COMMITTEE'S INVESTIGATIONS.

General.

6. The Committee studied the plans and visited Melbourne to obtain evidence concerning the project. A visit of inspection was paid to the present City West Exchange, where the Committee was able to observe the conditions at present obtaining and the methods used to relieve the pressing demands on the system. An inspection was also made of the site acquired for the extensions, and the position of the exchange in relation to surrounding properties. Evidence was taken from officials and other persons connected with the project and likely to be able to assist the Committee in making its decisions.

The Site.

7. The site is a small one, being only approximately 24 feet frontage with a depth of 131 feet along St. John's-lane, but, as it adjoins the present building it will be possible to make maximum use of the accommodation it affords, because it will be possible to add to each floor in a manner which will result in the establishment of one complete building. The Committee considers that the site is satisfactory for the purpose, and is in a locality in which adjacent land might be resumed in future years if rapid growth of the telephone system should make it necessary.

Goods Entrance.

8. The goods entrance will be from St. John's-lane, and, although this thoroughfare is very narrow and vehicles will have to back out of it, there will be ample room for handling goods and heavy machinery required for the work. An added advantage from placing the material handling activities in this position will be reduction of noise on the High Court side of the building where, in the past, difficulty has been experienced which necessitated representations by High Court Judges from time to time when Court business was being transacted.

Demolition Work.

9. Erected upon the property, acquired in 1945 for these extensions, is an old concrete and brick three-story building, portion of which is fitted with wooden floors and the remainder with concrete floors. The present proposal contemplates demolishing the structure on this site and erecting a limit height building to link up with the existing City West building.

The Existing Building.

10. The present building was erected at a cost of £69,000 in 1936 over the rear portion of the Central Exchange site which was then vacant, and it comprises basement, ground and six upper floors. It is erected to the limit height allowed by the City Council building regulations for a "little" street. This building was erected to take equipment intended to meet the growth in the City area and also to cater for the large increase in trunk line traffic. The first outcrop of automatic exchange equipment was made in 1937, and a new automatic trunk exchange of the most modern type, together with associated long line equipment, was also installed in 1940.

Necessity for the Building Extensions.

11. *Increase in Traffic.*—Initially the building was designed to accommodate an automatic telephone exchange, plus the trunk exchange and associated carrier equipment of sufficient capacity to handle the trunk line business of the network. The passing years have witnessed, a large increase in the demand for telephone services generally, and the number of exchange lines required in Melbourne City proper has grown to 18,577 as at 31st May, 1948.

12. On the visit of inspection the Committee was greatly impressed with the volume of traffic handled at City West and the efficient methods used to dispose of waiting calls with as little delay as possible.

13. The Committee was informed, in evidence, that the Main Trunk Exchange is now handling approximately 4,000,000 originating calls and 800,000 through calls per annum which is roughly double the number dealt with in 1939. In addition there are approximately 5,000,000 incoming calls per annum which are completed via the automatic equipment associated with the exchange.

14. So far as local calls are concerned, it was stated in evidence that in the financial year 1938-39 over 145,000,000 local calls were dealt with, whilst for 1946-47 the figure was over 196,000,000 representing an increase of approximately 35 per cent., and indications point to still further increases in business.

15. *Deferment of Original Plan.*—Owing to the impact of war the proposals for establishing other automatic exchanges in the City Area have been seriously retarded, with the result that the Central Manual Exchange, which was to have been superseded by modern automatic equipment, has had to be retained, and it serves at present 5,400 subscribers. The equipment was installed in 1911 and would have been replaced years ago if conditions had been normal. It is therefore becoming more and more difficult to maintain telephone services at a satisfactory level of efficiency, and extensions to the present exchange are an urgent necessity.

16. *Congested Conditions.*—In order to meet the requirements of the trunk line service and the demands for telephone facilities for city subscribers in the area served by the City West Exchange, it has been necessary to increase the automatic equipment and staff in the City West building to a point where the congestion has become serious from the operating and maintenance standpoints, whilst the space allotted for administrative and staff amenities purposes has had to be reduced from time to time, to make room for essential equipment.

17. *Restriction of Amenities.*—In consequence of the encroachment of essential equipment upon the space formerly used for amenities the accommodation at present available for amenities purposes is totally inadequate. This is particularly evident in the corridors, where numbers of lockers are placed in positions which seriously restrict freedom of movement, particularly when large numbers of telephonists are commencing or ceasing duty at the same time. The extension of the building proposed will not permit completely satisfactory arrangements to be made in respect of staff amenities, but considerable improvement on present conditions will be practicable, and further measures in this direction will have to remain in abeyance until it becomes possible to erect a new building on the present Central Exchange site.

18. *Exchange Trunking Congestion.*—The Committee learned with concern that the congestion in the building is already having a serious effect upon the quality of the telephone service in the Melbourne network in that, owing to the very great volume of business, the existing equipment is carrying a heavy load, and congestion occurs during the busy hours from 9.30 a.m. to noon and from 2.30 p.m. to 4.45 p.m. Moreover, the junction lines between City West and other exchanges in the metropolitan network are inadequate for the business offering during the busy periods of the day. To correct this large quantities of cable will be laid underground, but these cables must be terminated on switches at each end, and there is insufficient space on the first and second floors of the existing building for this purpose. Additional equipment that is required to overcome the congestion in the busy periods is on order and deliveries are coming to hand, but, until such time as the building extension becomes available, this equipment can be accommodated only by restricting further the already reduced space within the building for office purposes and amenities for the staff of technicians.

19. It was pointed out that it would be of little value to install additional trunk line channels and switchboard equipment in country exchanges if adequate facilities are not available in Melbourne to enable requests for service to be met promptly and efficiently.

20. The Committee is therefore satisfied that the extensions proposed to the City West Exchange are urgent and necessary to ensure that satisfactory telephone service can be given to the public.

Proposed Building Extension.

21. Plans were submitted to the Committee in connexion with the proposed structure, showing provision for basement, ground and six upper floors, and mezzanine lavatory above the ground floor. The flat roof is to accommodate the lift machinery rooms and an additional lavatory. The average area of each of these floors, inside the external walls, is approximately 2,800 square feet, making a total of 22,400 square feet. Of this total an area of 10,000 square feet will be occupied by services such as stairs, lifts, lavatories, corridors, &c., leaving a total usable area of 12,400 square feet.

22. *Construction.*—The building is to be steel-framed and encased in concrete, with reinforced concrete floors and stairs. The external walls will consist of brick panels to match the existing building, and office partitions will be of 4-in. terra cotta lumber with glazing to corridors.

23. Floors to basement and stairs will be of granolithic, while lavatories and toilets will be covered with non-slip tiles or terrazzo. Floors to the other rooms will be covered with linoleum with felt underlay. In conjunction with the construction of the extensions shown in the plans it is also proposed to replan various sections of the existing building. The existing walls between the buildings will be demolished and the premises will become one building.

Services.

24. The mechanical services which it is proposed to provide in the existing building and in the extension are expected to cost approximately £45,425, and are to consist of full air-conditioning systems for ground floor (excluding battery room) and first to fifth floor inclusive; plenum and exhaust systems (including heating) for the basement and battery room; evaporative cooling system (including facilities for heating) and exhaust system for the sixth floor; extension of vacuum cleaning and pneumatic carrier systems from basement to fifth floor; hot water supply system; cafeteria equipment and lifts.

25. *Air-conditioning.*—Considerable interest was taken by the Committee in the proposal to install full air-conditioning in this building as the matter was studied in considerable detail when the original building was being investigated by the Committee in 1928. At that time it was found that some of the largest telephone concerns in the United States of America were successfully using a type of mechanical air filter in localities where the incidence of high temperature and high relative humidity simultaneously were of infrequent occurrence. It was thought that, with the meteorological conditions obtaining in Melbourne, such treatment of air in the exchange building would be effective, and that system was accordingly installed.

26. During the years which have elapsed it has been possible to study the effect of the existing system, and a comparison has been made with the conditions recommended by the Department of Labour and National Service Building Code which has been evolved in recent years following exhaustive studies of working conditions in various parts of Australia.

27. The Committee was informed, in evidence, that reduction of relative humidity, which on occasions becomes necessary to safeguard the proper functioning of the delicate telephone equipment, is only possible by raising the air temperature in the respective rooms. The heat, emission from the telephone equipment itself is considerable, and during hot weather the indoor temperatures frequently exceed the maximum recommended by the Building Code. When, in addition, unduly high relative humidities have to be corrected by a still further raising of the dry bulb temperature, working conditions become extremely arduous. Also the lack of individual temperature control results in overheating of certain floors whilst others may remain too cold.

28. It therefore seems that, with rooms crowded to capacity with constantly operating apparatus, the air-filtering system does not provide as effective a method of control as is desirable for the equipment, while modern standards of comfort for staff require more thorough and efficient treatment of the atmosphere in spaces occupied by the technical and other employees.

29. The Committee is therefore convinced that the air-conditioning system proposed should be installed in the appropriate portions of the building.

30. *Other Services.*—In connexion with the vacuum cleaning and pneumatic systems, it will be necessary for the present systems to be completely overhauled and, where necessary, increased in capacity to cope with the requirements of the extended building.

31. The hot water supply system will consist of three self-contained electric thermal storage tanks complete with the necessary reticulation piping, the system operating on the night tariff rate for maximum economy.

32. *Lifts.*—At the present time one obsolete lift serves the existing building and this has proved to be totally inadequate, the staff having to use the stairs on occasions when the lift is not operating. When the extensions are complete there will be approximately 1,000 employees in the building, a large proportion of whom will be female telephonists working on the upper floors. It is proposed to install two modern lifts at the entrance to the new building and to recondition the machinery from the old one and adapt it for use as a goods lift at the rear of the building. The goods lift will be of sufficient dimensions to take exchange equipment, thereby obviating the necessity to provide a cat-head to each separate floor. The space occupied by the present lift will be converted to storage space on each floor.

33. *Cafeteria and Luncheon Room.*—At the present time the cafeteria is situated on portion of the sixth floor, where certain provision is also made for luncheon rooms for telephonists and technicians. The cafeteria is not large enough, nor is there sufficient space for equipment which should be added to the kitchen to improve the standard of catering. The extensions to the building will make it possible to provide more modern cooking equipment as well as to install some other staff amenities. It is recognized, however, that it will not be possible to include in this building all the space desirable for this purpose, and really adequate provisions will have to be delayed until the Central Exchange building can be cleared of equipment.

34. The plans also provide a luncheon room on the ground floor to be used mainly by the technicians. It appeared to the Committee that this luncheon room would occupy valuable ground floor space, and it would be better to try and re-arrange the planning so that the luncheon room would be nearer the cafeteria on the sixth floor. Some opposition was expressed to this

view as it was thought that the luncheon room on the ground floor level would be closer to the male technicians who would be using it. After some study of the matter it is apparent that maximum use is already being made of the sixth floor, and inquiries were made with a view to planning a position for the luncheon room on the roof above the sixth floor.

35. Evidence indicates that the present building was erected to the permissible height allowed by the building regulations of the Melbourne City Council. However, the regulations permit the erection of certain structures in the nature of lift machinery rooms on the roof above the limit height. It was also pointed out that the regulations concerned were not legally binding upon the Commonwealth but were related to private buildings in particular. As there is such an urgent necessity for space at the present time, and the delays occurring in the last few years have made it impossible to make other premises available, the Committee recommends that the plans be altered to provide a luncheon room on the roof in such a position that it will not interfere with the facade nor raise the general height of the building beyond the level of the machinery rooms.

Width of Street.

36. The plans provide for the new portion of the building to be erected on a line set back approximately 5 feet from the present alignment of the City West Exchange building. This provision was made in order to conform to the Victorian Widening of Streets Act, and it envisages a time in the future when all the buildings in this street will be set back to the new alignment. As the structure to be erected in the present instance is to form part of an existing building and is not a completely new building the amount set back will result in an awkward looking building and certain difficulties in arranging corridors and connexion with the old portion of the building on each floor. Evidence was sought regarding the operation of the relative Victorian Act, and it was stated that the present practice is to specify that all new buildings shall be set back the required distance, but existing buildings may remain indefinitely on the old alignment until such progress is made in the course of the years with erection of new buildings that action will have to be taken to alter the few remaining old buildings to the new alignment.

37. The date at which all buildings will be required to conform to the new alignment is extremely indefinite and all the Committee's inquiries indicate that no action is likely to be taken for a great number of years.

38. In these circumstances, and having regard to the small frontage concerned, the Committee considers that the extensions to the building should be made to conform to the present alignment of the City West building and recommends that, although the Commonwealth is not bound by the Act, negotiations should take place on a departmental level to obtain agreement by the City Council for the extensions to be regarded as part of the old building and be erected on the same alignment.

Financial Statement.

39. Details of the capital cost, annual charges and revenue were submitted in evidence to the Committee, and the following statement summarizes the information:—

	When Building Extension completed.	At 5 Years after Completion.
	£	£
Capital cost	520,000	1,093,000
Capital cost new and <i>in situ</i>	2,161,000	2,738,000
Working expenses	268,190	316,190
Total annual charges, including working expenses, interest and depreciation	450,450	554,500

Revenue.—The annual revenue which was derived from the City West automatic exchange subscribers, together with the revenue from the main trunk exchange for the year ended 31st August, 1948, was £698,000.

Cost.

40. The Committee studied the details of estimated cost of the building, including mechanical and other services, and was informed of the great difficulty of estimating with any great accuracy the cost of a building of this character. The figures given were quoted as having been calculated on the basis existing in September, 1948, and as subject to variation owing to changing circumstances governing costs in the building industry.

41. With regard to the costs of installation when the building is ready for the apparatus, it was stated that equipment costs are nearly as difficult to estimate as building costs, and, although contracts are let, the Department does not necessarily get the equipment at the specified price, because nearly every contract contains an "escalator" clause which relates to changes in hours and rates of pay, with quarterly or half yearly adjustments.

Staff.

42. The present staff was stated to comprise 800 girls and a mechanical staff of 250. These numbers will be considerably increased when the extensions are completed, but great difficulty is being experienced all over Australia in recruiting girls for the work. In this connexion the Committee was informed that the position is acute in Adelaide and Melbourne, but not so difficult in Brisbane, Sydney, Perth and Hobart. The total staff of telephonists employed in the Melbourne metropolitan area is 1,100, and, during the twelve months ended 30th June, 1948, 955 left the Department. Every effort is being made to retain the girls, as the loss of experienced telephonists is a serious problem, and all kinds of inquiries are made into the reasons which cause resignations by the staff so that steps may be taken to eliminate any causes for dissatisfaction. Amongst the variety of reasons contributing to the loss of staff, the most important is the dislike of shift work and the irregular hours, and the Department has made arrangements for the payment of penalty rates for shift work, but only a slight improvement has been noted in the staff wastage.

43. Strenuous efforts are also made to advertise the vacant jobs to encourage recruitment, and many suggestions are being used to enrol sufficient staff to overcome the wastage and ensure effective and efficient working of the telephone system.

Amenities.

44. One of the important factors in maintaining a happy and satisfied staff is the provision of suitable amenities and comforts, and this has been a great difficulty in the City West Exchange building, where every possible inch of space has been used for urgent equipment, and accommodation for staff and amenities has been necessarily very limited. On its inspection of the building the Committee saw the congested state of the building and the manner in which lockers have had to be placed in corridors and any other position where a small amount of space could be squeezed from its legitimate purpose. There is no waiting room nor proper facilities, and the present sick bay is inadequate.

45. The proposed additions will make it possible to provide a larger cafeteria, rest room and large locker room, but these will be immediately required for the additional staff coming into the building. However, it is planned that, by the use of all the space available, fairly satisfactory arrangements for amenities may be made for the time being, but it is accepted that adequate provision for amenities cannot be completed until a more mature stage of the city telephone schedule is reached. It is expected that the Russell Exchange will be fully established in about four years' time, and the Batman Exchange completed in about six years' time. Shortly after that time it should be possible to vacate the Central Exchange building in Lonsdale-street. That building abuts the City West building, and, at that stage it is hoped to put up a complete limit height building in which may be housed extensions of plant then required, together with extensions of present restricted amenities to the proportions desirable in the interests of satisfactory and efficient service.

46. With this programme in view the Committee recommends that the extensions to the building proposed in the present reference shall be proceeded with, on the understanding that staff facilities will be extended when more space is available after transfer of the Central Exchange in the near future.

SECTION IV.

THE COMMITTEE'S CONCLUSIONS.

47. The following is a brief summary of the decisions made by the Committee after studying the plans and considering the evidence:—

- | | | |
|--|---------------------|----|
| (1) The Committee is satisfied that the extensions to the City West Exchange building are urgent and necessary to ensure that satisfactory telephone service be given to the public | Paragraph in Report | 20 |
| (2) Full air-conditioning should be installed as planned | | 29 |
| (3) The luncheon room should be planned on the roof in such a position that it will not interfere with the facade nor raise the general height of the building beyond the level of the machinery rooms | | 35 |

- | | |
|--|----|
| (4) The extensions should be made to conform to the present alignment of the City West building and negotiations should take place on a departmental level to obtain agreement of the City Council for the extensions to be regarded as part of the old building and erected on the same alignment | 38 |
| (5) The extensions should be proceeded with on the understanding that staff facilities will be extended in the near future | 46 |
| (6) The site is satisfactory and in a locality capable of future development. | 7 |

CHARLES A. LAMP,
Chairman.

The Office of the Parliamentary
Standing Committee on Public Works,
Parliament House,
Canberra, A.C.T.

5th February, 1949.