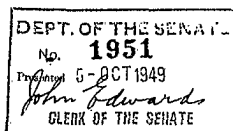


THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.



R E P O R T

relating to the

proposed erection of an

AUTOMATIC TELEPHONE EXCHANGE

at

ST. KILDA, VICTORIA.

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THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

ST. KILDA AUTOMATIC TELEPHONE EXCHANGE.

R E P O R T.

The Parliamentary Standing Committee on Public Works, to which the House of Representatives referred for investigation and report the question of the establishment of an Automatic Telephone Exchange at St. Kilda, Victoria, has the honour to report as follows :-

S E C T I O N I.

I N T R O D U C T I O N.

H I S T O R I C A L.

1. The network plan to meet telephone development in the whole of the Melbourne metropolitan area provides for a total of 10 main automatic exchanges and 82 branch automatic exchanges. Four of the main exchanges will be located in the city area and the remainder will be in the suburbs.

2. At the present time approximately 86 per cent of the telephones in the Melbourne metropolitan network are of the automatic type. Of those which have not yet been converted from the manual type the main exchanges are Central (which is located in Lonsdale Street, Melbourne), Windsor, and Hawthorn.

3. The Windsor manual exchange was opened on 2nd March, 1899, and the present equipment, provided in 1910, having served more than its normal life, has been maintained with some difficulty in recent years. However, during the past 9 years about 6,000 Windsor subscribers' lines have been transferred temporarily to automatic exchanges located at Windsor, Teorak and Balclava, and to one in a temporary building on the site of the proposed new permanent main automatic exchange at St. Kilda.

4. The old equipment has now reached a stage where it can no longer provide the standard of service required, and, apart from this, the presence of a large, old type manual exchange in a network which consists mostly of automatic exchanges is uneconomical from a servicing and development point of view.

5. It is proposed, therefore to eliminate the Windsor Manual Exchange, the progressive cut-overs being planned as buildings become available and the subscribers in the St. Kilda

area whose lines are at present connected to the Windsor Manual Exchange will form a section of those to be provided for in the proposed new building.

SECTION II.

THE PRESENT PROPOSAL.

THE BUILDING.

6. The present proposal is to erect, on a site in Inkerman Street, St. Kilda, a building comprising Basement, Ground, First Second and future Third floors. The Ground, First and Second floors will be used for exchange purposes and the Third floor for engineering offices.

7. Provision was included in the proposal to allow for the use of the Second and Third floors for offices until the ultimate extension of the equipment made it necessary to use space on the Second floor for the installation of the exchange apparatus.

8. The building is to be a steel-framed concrete encased structure with reinforced concrete floors, roof, stairs, etc., having brick in-fill walls.

THE SITE.

9. The site has a frontage to Inkerman Street of 101 feet 3 inches and an average depth of 197 feet, and it is situated between Barkly and High Streets. Part of the site is at present occupied by a building constructed from Army Hut materials for the temporary exchange, which is situated at the rear of the site and will not interfere with the erection of the permanent building as proposed.

ACCOMMODATION.

10. The total accommodation planned in the completed building will be 28,005 square feet, giving a nett area of 25,007 square feet, but the estimate of accommodation shows that, if the Third floor is not included for the present, the nett area available in the building will be 15,694 square feet.

ESTIMATED COST.

11. The estimate of cost for the three storey building is £97,952, including a percentage to cover anticipated rises in costs during the course of construction. If the building is to be erected complete, including the Third Floor, the estimated cost is £108,940.

SECTION III.

THE COMMITTEE'S INVESTIGATIONS.

GENERAL.

12. The Committee visited the site which has been acquired for the building, and inspected the temporary exchange established on the rear portion of the property. The plans were studied, and evidence was taken from persons interested in the proposal, including the Deputy Chief Engineer, and the Chief Inspector of Telephones from the Postmaster-General's Department, the Director of Architecture, Department of Works and Housing, and the City Engineer of the St. Kilda Council.

REASONS FOR THE PROPOSAL.

13. The main reasons which make it essential to provide a new telephone exchange building at St. Kilda are to cater for extensive development in the exchange area; to provide for the changing of the location of the "X" group main exchange switching centre from Brighton to a location nearer the city; and to form part of the plan to eliminate the Windsor Manual Exchange, which has been in use for more than 35 years.

The Proposed St. Kilda Area.

14. The proposed exchange will serve the district from the southern end of the Albert Park Lake, south to Dickens Street and westward from a point slightly east of Chapel Street to the beach front. The new exchange will also be the main automatic switching centre for various branch automatic exchanges established at Gardenvale, Bentleigh, Brighton, Sandringham, Cheltenham and Mordiallee, as well as the proposed new exchanges at Elwood, Highett and Dingley.

Development in the Locality.

15. The Committee made inquiries to ascertain the amount of development taking place, and the indication of future activities which will be likely to require telephone facilities affecting the proposed exchange. It was stated, in evidence, that a comprehensive survey of telephone development in the district has been made, and it is estimated that if the exchange is opened for the connection of subscribers' services in 1953, it is anticipated

that there will be 5,000 subscribers' lines to be served, while the long range development forecast is that there will be 7,000 lines by 1968.

16. In addition to the estimate by the Postmaster-General's Department there are indications from building and other activities under the control of the St. Kilda City Council showing that there will be considerable expansion in the demand for telephone services in this area. In the old established portions of the locality there will not be scope for a great deal of new building, but it is expected, in view of the number of applications for permits already received, that there will be a very great deal of development in regard to proposals for demolitions and reconstruction of large blocks of modern flats. It is pointed out that this district is within the threepenny fare range from the City, and it is very popular for residential purposes.

17. Development is already taking place in Brighton and other districts where extensive Housing Commission schemes are in progress, and this development is so rapid that the St. Kilda City Council is experiencing difficulty in maintaining the essential refuse disposal and other municipal services. The estimates made in connection with these services in the near future are regarded as significant from the point of view of expansion of the residential accommodation and the resulting demand for additional telephones. The Committee was interested to note, in this regard, that, whereas 11,000 tons of refuse are burned per annum in the Council incinerator, it has been estimated that this figure will rise to 12,300 tons by 1955.

Location of Switching Centre.

18. The present "main" exchange through which all the traffic to and from the dependent branch or satellite exchanges goes, for the "X" group of exchanges, is located at Brighton. It has been determined that, from a cable economy and flexibility point of view, the location of the main switching centre for the "X" group is situated too far from the other suburban main group switching centres at Windsor, South Yarra, Hawthorn, Collingwood and North Melbourne.

19. The first automatic exchange in the Melbourne metropolitan area was opened at Brighton on 13th June, 1914, and this fact had a bearing on the development of that location as a main exchange. At present the number of subscribers served by the "X" main exchange group is approximately 13,000, but, owing to extensive development of the areas to be included in this group, the 20 year figure of subscribers will be in the neighbourhood of 50,000. Under these circumstances it is desirable to shift the main exchange nearer to the copper centre of the area for economical working, and St. Kilda is the locality best suited to the long term plans for the most economical junction cabling.

The Windsor Manual Exchange.

20. Some of the subscribers in the St. Kilda area are at present connected to the Windsor Manual Exchange. This exchange was originally opened in 1899, but the present equipment was installed and came into use in September 1910, and it has now reached a stage where it cannot provide the standard of service demanded. Apart from the subscribers in the St. Kilda area, the manual exchange provides for telephones in the South Yarra and Balclutha districts. Arrangements are being completed for the transfer of these lines to automatic working in progressive stages, and, when this is completed in addition to the transfer of the lines to the proposed new St. Kilda Exchange, it will be possible to eliminate the obsolete equipment at the Windsor Manual Exchange. It is hoped that the date of the final cut-over will be realised in 1953-54, but this will depend on many factors outside the Department's control. From the point of view of the proposed exchange, however, it is sufficient to show that facilities are essential in the proposed St. Kilda Exchange to provide for that section of the subscribers whose lines are at present handled by the obsolete manual equipment at Windsor.

21. The cumulative effect of these factors, which contribute to the necessity for the new exchange, is to demonstrate that there is an urgent necessity for the proposal, and the Committee recommends that the proposed exchange be established at St. Kilda.

THE SITE.

22. The site is located on the north side of Inkerman Street, 600 feet easterly from the corner of Barkly Street, and it contains approximately 28,000 square feet of ground space, its acquisition having been gazetted in 1946, the cost being £4,200. It was stated that the sub-soil is of clay, but it will provide reasonably good foundations for the building.

Adjacent Cottages.

23. The actual site acquired is somewhat irregular in shape, owing to the fact that at the south-eastern corner two old cottages occupy the land which would be required to complete the practically rectangular site stated to be desirable to ensure space for future development. The Committee, after inspecting the position, considered that this corner section should also be acquired, though the cottages would not need to be demolished until extensions were required to the exchange building. Before the completion of the Committee's inquiries it was informed that the owners of the land in question were willing sellers and action is in train to acquire this portion.

24. The Committee is satisfied that the site is in a convenient position to ensure the most economical working of the new exchange, and is suitable for the purpose.

THE BUILDING.

25. Plans were drawn for a four storey structure comprising Basement, Ground and three floors, but, in order to make it possible to conserve labour and materials, plans were prepared for an alternative of Basement, Ground and two upper floors to be constructed initially, with the Third floor to be added at a later date. Owing to the rapid increase in the demand for extra space it has already become apparent that the Third floor will be essential at an early date, and it is regarded by the Department as most desirable to complete the whole building at the one time.

The Basement.

26. It is proposed that a Basement shall be constructed to accommodate, in connection with the heating of the building, an underground electric thermal storage cylinder room, accessible

from the Mechanical Equipment Room. The usual cable well will be entered by an external access stair, made possible by the levels of the site.

The Ground Floor.

27. The Ground Floor, with a nett area of 5,050 square feet, will accommodate the Main Distributing Frame Battery and Mechanical Equipment Rooms together with Lunch and Locker Rooms. An Engine Room for stand-by equipment adjoins the Battery Room, while an area is set aside to house the Electrical Sub-station.

The First Floor.

28. On the First Floor, with a nett area of 4,827 square feet, will be located the main switching equipment, as well as Adjustment Room and Workshop, Foreman Mechanic's Room and General Store..

The Second Floor.

29. The Second Floor will be sub-divided into offices to accommodate Divisional Engineer's staff, Lunch Room, Women's Lavatories, Rest Room, and Men's Cloaks and Store Rooms. This floor will be planned in such a way that it can be used at a later date, when expansion of the equipment demands it, for the installation of automatic apparatus for which space will be required.

The Third Floor.

30. The Third Floor is intended to supply accommodation required for officials being housed in other parts of the City in rented premises.

CONSTRUCTION.

31. The proposal is that the building will be a steel-framed concrete encased structure with reinforced concrete floors and roof, stairs, etc., and brick in-fill walls. The lift and the sub-station will be concrete encased, and partitions generally will be 4" terra cotta lumber with glazed partitions above 3'6" dado to offices.

32. External walls will be of selected light coloured bricks in cream or oatmeal, with pre-cast architectural stone trim to windows and copings. Ceilings will be of plaster, finished in flat oil paint. A concrete escape stair will be provided at the rear of the building from top floor to the ground.

MECHANICAL SERVICES.

33. In addition to the lift, the mechanical services will include mechanical ventilating plant, with electric thermal storage system serving the Ground and First Floors initially; fans and heating equipment will be of sufficient capacity to provide for the Second Floor ultimately, when apparatus is installed there. The Second Floor will be heated in the first instance by hot water radiators. Battery Room ventilation and electric hot water service serving all basins, sinks and showers will be provided.

34. Lunch Rooms will be provided with stainless steel sinks and drainers, electric food heater and urn, and each Men's Lavatory will be provided with a shower supplied with hot and cold water.

DESIGN.

35. The plans presented to the Committee showed a building of modern and pleasing appearance, with ample window space and a tower on the eastern end of the elevation to Inkerman Street. After considering the plans and viewing the site, keeping in mind that the eastern corner of the site was occupied by the two old cottages, the Committee suggested a revision of the plan in order to place the tower on the opposite end of the building to that originally planned. It became apparent that, if additions were to be made to extend the building eastward, over the site of the two old cottages, in future years, the tower in its present position would prove an obstruction. The Committee therefore suggested a revision of the plan, placing the tower on the western end of the building, leaving the remainder of the plan intact. An amended plan was prepared for the Committee, and it was explained that no alteration would be entailed in the estimate of expenditure.

36. The Committee is satisfied that the amended plan is satisfactory for the purpose and recommends that the building be constructed accordingly.

OFFICE ACCOMMODATION.

37. The provision of the Third Floor for additional office accommodation was urged in order to give space needed for officials of the Divisional Engineering staff. It was calculated that it

would be some years before the Second Floor would be required for apparatus, and, in the meantime, it could be subdivided to provide urgently required office space, and this has been allowed for in the plans. Ultimately, it was realised, this office accommodation on the Second Floor would have to give way to equipment, and the officials would have to be housed on a Third Floor.

38. The Committee considered this position and made inquiries regarding the urgency of the office accommodation required and the time likely to elapse before the Second Floor would have to be vacated. It was shown that the demand for additional space has continued to increase, due to the quickening of the installation programme. It has also been found necessary to decentralize certain administrative staffs, and it is regarded as essential to provide extra space at the outset to meet these requirements.

39. It was also stated that the Department is at present forced to lease a considerable amount of office space, including some in the suburbs, and savings in rent will be possible if the additional accommodation is made available in the proposed new exchange building.

40. From a cost point of view, the additional floor, which increases the total effective floor area of the building by about 23 per cent, can be added at an additional cost of approximately 11 per cent while providing nearly 90 per cent increased office space.

41. The Committee therefore recommends that the Third Floor should be included in the plan for construction at the same time as the rest of the building.

FINANCIAL.

Estimate of Cost.

42. For the Committee's consideration estimates were prepared showing the cost of the three storey building, the cost of adding the Third Floor at a later date, and the cost of the four storey building if constructed complete now.

43. The following figures show the comparison of the costs of the alternative methods of construction :-

Three Storey Building -
Ground, First and Second Floors.

Building Work	£78,535
Electrical Work	4,480
Electric Lift	4,175
Mechanical Services	9,487
Civil Engineering Works	<u>1,265</u>

Total (Including contingencies) £97,952

If the building is completed as a three storey structure and at a later date a further floor is then added the cost of this work based upon present prices would be -

Ground, First and Second Floors £97,952

Future Third Floor.

Building Work	£12,210
Electrical Work	250
Mechanical Work	<u>1,000</u>

Total (Including contingencies) 12,460

£111,412.

Complete Proposal -
Ground, First, Second and
Third Floors.

Building Work	£88,700
Electrical Work	4,678
Electric Lift	4,175
Mechanical Services	10,142
Civil Engineering Work	<u>1,265</u>

Total (Including contingencies) £108,960.

44. In addition to the cost of the building, estimates of the total cost including the installation of the exchange equipment were submitted, and the following statement indicates the main items to be distributed over four successive financial years :-

	£
Site	4,200
Building	109,000
Material	215,750
Labour	35,250
Line construction	101,000
Administration	40,500
Contingencies	<u>15,300</u>
Total	£521,000.

Revenue and Annual Charges.

45. The following statement shows a summary of the estimated financial position regarding the exchange at the date of opening, assumed to be in December, 1961, compared with five years later. It is pointed out that, as this exchange will be the group switching centre for a number of satellite exchanges, some of the revenue derived from them is obtained by virtue of the common plant and equipment which will be situated in the St. Kilda main exchange.

	<u>At opening of Main Exchange.</u>	<u>At 5 Years.</u>
Capital Cost	£521,000	£649,200
Capital Cost now and in situ	643,500	943,200
Working Expenses	15,100	32,000
Total Annual Charges	60,000	100,300
Loss on demolished Assets	22,000	22,000
Revenue	42,500	113,000.

MATERIALS AND LABOUR.

46. It was stated that the erection of this building must affect the housing programme in Victoria to some extent in the use of bricks and labour, but it is mostly of concrete and types of steel which should not greatly affect home building, especially as it is anticipated that shortage of structural steel will possibly delay commencement of the work for some time. It is generally recognised also, that telephone services are essential to city development, and the necessary buildings must be constructed simultaneously with the expansion of the housing programmes. The Committee therefore considers it desirable to proceed with the project as soon as possible.

SECTION IV.

THE COMMITTEE'S CONCLUSIONS.

SUMMARY OF RECOMMENDATIONS.

47. The following is a summary of the recommendations made by the Committee after full consideration of the evidence taken in regard to the project :-

	Paragraph in Report.
(1) There is an urgent necessity for the proposed exchange at St. Kilda.	21
(2) The site is in a convenient position to ensure the most economical working of the exchange, and is suitable for the purpose.	24
(3) The amended plan is satisfactory, and the building should be constructed accordingly.	36
(4) Third Floor is necessary and should be constructed at the same time as the rest of the building.	41
(5) The necessary materials and labour should be obtained and the building constructed as soon as possible.	46.

CHARLES A. LAMP
CHAIRMAN.

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