The MINISTER FOR WORKS: He is not permanently appointed president of the court. I have taken seven years, which is the Commonwealth court period, and the longest in Australia.

Mr. Davy: But all the presidents are judges, and so they get their independence.

The MINISTER FOR WORKS: The last two deputy presidents appointed to the Commonwealth court are not judges. They are appointed for seven years.

Hon. G. Taylor: The president of that court is a judge.

The MINISTER FOR WORKS: But he has no permanency under the Arbitration Act.

Mr. Davy: As a judge he has an independent position for life.

The MINISTER FOR WORKS: But he will not be there for life.

Mr. Davy: If he goes from there he will not be worse off. That is the important point.

The MINISTER FOR WORKS: It is the opinion both of the Employers' Federation and of the industrial unions of workers that whoever is appointed president of the court should give his whole time to the work. If we were to make the appointment for life, and got a wrong man, we should not be able to shift him, except by vote of both Houses of Parliament. I cannot agree that lawyers are better fitted to weigh evidence than are men belonging to other sections of the community. Every decision that a commercial man comes to is arrived at on the weight of evidence. It is wrong to confine the choice of the Government to men who are trained in one particular line. The success of the measure will depend upon the man who is appointed to the position of president.

Mr. Mann: Will it be necessary to go outside the State?

The MINISTER FOR WORKS: The Government cannot be expected to answer a question like that. The question has been carefully gone into, and this is our view.

Progress reported.

BILL—JURY ACT AMENDMENT.

Message from the Governor received and read recommending appropriation for the purposes of this Bill.

House adjourned at 10.48 p.m.

Legislative Council,

Wednesday, 9th September, 1925.

The PRESIDENT took the Chair at 4.30 p.m., and read prayers.

PRIVILEGE—ALLEGED INTIMIDATION.

Hon. J. Duffell and Minister for Works.

HON. J. DUFFELL (Metropolitan-Suburban) [4.34]: On a question of privilege based on the Parliamentary Privileges Act, Section 8, I desire to bring under your notice, Sir, a matter of rather serious importance that occurred about one o'clock this afternoon. At that hour I was sitting in an adjacent room with Mr. Hamersley and Mr. Rose when the Minister for Works, Mr. A. McCallum, M.L.A., came along and called me out of the room into the corridor. He was apparently very much excited, and he charged me with having made a statement last evening that was a reflection on his character. Assuming a menacing attitude, he said that unless I withdrew that statement this afternoon, and apologised, he would deal with me in more ways than one. I said I had not wittingly made any statement reflecting on his character. I had the "Hansard" report of my speech in my hand at the moment, and I added that if I had made any remark reflecting on his character I would lose no opportunity to fall in with his request. He then said, "Unless you do, I will deal with you. I will put you in your place and deal with you as you deserve to be dealt with." For language of that nature the Parliamentary Privileges Act provides a penalty. The section of the Act enumerating punishable offences reads as follows:—

> The assaulting, obstructing, or insulting any member in his coming to or going from the House, or on account of his behaviour in Parliament, or endeavouring to compel any member by force, insult or menace to declare

himself in favour of or against any proposition or matter depending or expected to be brought before either House.

Any offence of that sort is subject to the penalties provided in Section 9 of the Act. The complaint made by the Minister for Works is based on my remarks last evening when speaking on the Main Roads Bill. I have here a copy of my speech as reported in "Hansard." The Minister for Works was not taking any risk of making a mistake for, having heard that I had made the statement last night, he at once sent to "Hansard" and got a copy of my speech before I had seen it myself. To-day I have gone carefully through that report and, to refresh the minds of hon. members, I will read my remarks to which Mr. McCallum takes exception—

A few weeks ago I asked that a return be prepared showing what had been done during the recess in the way of road construction, and the districts in which the money had been expended. The return has been supplied, but it is anything but satisfactory. The first item relates to the metropolitan district, but the area in square miles is not given. The amount raised from vehicular traffic was £3,143 and for motor traffic £29,709. There is nothing in the return to show what has been spent in the various electorates, not even around the metropolis, but I am informed that in one particular district no less than 12 miles of road have been constructed since the Bill passed the Assembly last session, and that that district is included in the electorate represented by the Minister for Works. To me that is astonishing, and when I asked for the return I hoped that the Minister would be able to submit a statement that would have permitted me to deny the correctness of what was told to me. At any rate, the Colonial Secretary will have an opportunity to deny that statement, if it is not correct, when he replies to the second reading speeches. If what I have been told is correct, how can hon. members be expected to give the Minister the power he seeks to obtain under the Bill, the power to control huge sums of money that will go into the main road trust account?

My contention is that those words are fair comment.

Hon. E. H. Gray: You have a very funny idea of fair comment.

Hon. J. DUFFELL: I will ask you, Sir, to protect me while I am making this statement. It is not an ordinary statement, but one of great importance. It will be generally admitted that my comment was only fair comment, and such that any member of this Chamber would be privileged to make respecting a Minister of the Crown when considering legislation dealing with important works such as are embraced by the Main Roads Bill. I claim the protection of the Parliamentary Privileges Act. It is most insulting to be brought out of a room and threatened in that manner by a Minister of the Crown, and be told that unless I withdraw the statement and make an apology to him this afternoon, he will put me in my place and deal with me in more ways than one. Instead of withdrawing the statement, I move—

That the conduct of Mr. A. McCallum, M.L.A., Minister for Works, in using threatening and abusive language in the precincts of the House to the mover was a gross breach of privilege, and deserving of the censure of members of Parliament.

I submit this to the House and claim the protection that the Parliamentary Privileges Act affords to members when called upon to make fair comment on any matters that come before them.

Hon. V. HAMERSLEY: I second the motion.

The HONORARY MINISTER. I move—

That the debate be adjourned till the next sitting of the House.

Question put and a division called for.

Hon. J. DUFFELL: Perhaps it will be only fair to give the Honorary Minister an opportunity to consider the position. But, as I stated just now, the Minister for Works had a copy of my speech last night, and so Ministers should be prepared to go on.

Hon. W. H. Kitson: You have not read the whole of your remarks.

Hon. J. DUFFELL: I will readily do so.

The HONORARY MINISTER: Mr. Duffell said just now that the Minister last night had a copy of his speech. That is quite untrue. I have not seen the speech.

Hon. J. Duffell: I said the Minister for Works.

Motion put and passed, the debate adjourned.

BILLS (2)—THIRD READING.

1, Group Settlers' Advances.

2, Transfer of Land Act Amendment.

Passed.

BILL—WEST AUSTRALIAN TRUSTEE, EXECUTOR AND AGENCY COMPANY, LIMITED, ACT AMENDMENT (PRIVATE.)

Report of Committee adopted.

BILL—LAND TAX AND INCOME TAX ACT AMENDMENT.

Read a third time and passed.

MOTION—METROPOLITAN WATER SUPPLY, SEWERAGE AND DRAINAGE DEPARTMENT.

Consideration of Select Committee's Report.

HON. H. SEDDON (North-East) [4.47]: I move—

That the report of the Select Committee upon the Metropolitan Water Supply Sewerage, and Drainage Department be adopted.

I move this motion because the report of the select committee was presented to the House late last session when, on account of the large number of Bills of great importance then before members, it did not receive the attention that might have been given to it. There are matters of considerable importance in the report, and I think the best thing to do is to bring it under the notice of members so that they may deal with them. Under our present system of Government Ministers have so large a number of departments under their control that it is almost impossible for one of them to make himself thoroughly acquainted with every activity of the departments for which he is responsible. There are frequently matters that a Minister feels should be gone into, but he is unable to attend to them for the reason I have stated. He has, therefore, to rely largely upon his officers. In most cases this reliance is thoroughly justified. Anyone who has had dealings with the departmental officers knows that they are only too anxious to give all the information that is available concerning the subject of the particular inquiry. This certainly was the case with respect to the inquiry that was made by the select committee. With perhaps one exception, the witnesses were only too anxious to bring before us all the information it was possible to give. The exception arose probably, because of the inability of the officer to understand the attitude adopted by the committee, rather than to any other cause. In matters of public policy, however, there are aspects other than the official ones. If this were not so there would be little use for members of Parliament. There are other aspects of this water supply question than the official ones to be taken into consideration. We are dealing with the question of providing a water scheme of considerable magnitude and at very great cost, and we have to see how this will affect the metropolitan area, to which it will apply. We must incur expenditure in order to provide this scheme. In this case there were misgivings in certain quarters as to whether we were getting the best results for our money. The inquiry was inaugurated largely as a result of these misgivings. Immediately prior to the appointment of the select committee, there were one or two occurrences which aroused public interest and called for public comment. I refer to the failure of the Mt. Hawthorn filter beds, the defective water supply for North Perth—which absorbed public attention for a long time—and also to the enormous cost of the Herdsman's Lake drainage. When these things followed one on top of the other, members, as well as the public, thought that they demanded investigation, because it was felt that the country was committed to an enormous expenditure and there was doubt as to whether the best advice had been given from an engineering standpoint. Comments have been made in the Press and elsewhere concerning the work of the select committee and its capacity to criticise engineering questions. Members will find from the report that the committee did its best to deal with and investigate the engineering problems that were brought under its notice, but we recommended that all suchproblems should be referred to the Engineer-in-Chief, who was to be appointed, in order that we might have his technical advice upon the subjects. The committee at the same time reserved the right, and justifiably so, to criticise such evidence as was brought before it. Very important information was placed before it, and I claim that the committee cleared up many important questions. We got to the bottom, I think, of the objections that have been raised regarding the utilisation of supplies of water from the Mundaring Weir. We found out the cause of the meter trouble. We also found out why one man had an elaborate garden, and why his neighbour was limited by the fact that because he had a meter he had to pay for all the water he used. We ascertained the reason for the noxious mixture supplied to the North Perth residents under the guise of a water supply. We ascertained why the Herdsman's Lake proposition cost so much. All this information is contained in the evidence,

and is available to members. We found out why the demand for water increased in the summer to an extent greater than could be met, and what the position was in regard to the reticulation throughout the area. Before dealing with the report I should like to make a few remarks concerning the present position. Residents of the metropolitan area will naturally be somewhat concerned as to how they will be situated during the coming summer. It is recognised on all hands that the rainfall for the present year is below normal. We know that the Mundaring Weir is not yet overflowing. There is a general prospect of a dry season. These things coming on top of a probable hot summer, will cause an increased demand for water, and residents will be anxious to know how they will get on for water supply. We had the opportunity the other day of visiting Churchman's Brook. We found that pipes were being laid along the road, and that branches were being put down in connection with the Canning site and the Wongong site. If the pipes can be coupled up in time for next summer no doubt we shall have augmented supplies from these new sources. There seems to be little reason to doubt that at all events two of these supplies should be made available, if only through the pipe heads, and that we ought therefore to be able to count upon them. I bring this matter under the notice of the Minister, for he may possibly obtain an assurance from the Minister for Works that the water supply of Perth will be augmented by next summer by reason of the pipes that are now being laid. Since 1914 the demand for water has increased by 100 per cent. That year was a very dry year. The first thing that impressed itself upon members of the committee was the enormous task that had been handled by the engineers in the metropolitan area. When the scheme was taken in hand it consisted of a number of isolated units. These units had to be organised, and reticulation schemes had to be laid down, in order that a co-ordinated and comprehensive work might be formulated, which would be under the direct control of one distributing authority. This was an enormous task, and bears evidence of the organising ability of the late Mr. Lawson, who was the engineer for the Perth water supply. Whatever may be said with regard to that particular officer in other directions, the committee was unanimous in recognising that he had accomplished a great work in bringing about the organisation of this reticulation scheme. The trouble that arose in connection with the water supply can be traced back to the commencement of the war. The coming of the war not only was the cause of the holding back of many schemes, but also interfered with supplies of money. Owing to this interference, temporary expedients were put into operation. In the long run these proved expensive, and certainly had a harmful effect upon the quality of the water supplies of the metropolitan area. One may refer to the temporary expedient of putting down the bores in North Perth. It was the water from these bores that helped to cause the trouble in connection with the meters, for these instruments were unsuitable to the type of water that was being supplied. Many meters were thrown out of action, and the department had considerable trouble as a consequence. The result was that the cost to the ratepayers was greater than would have been the case if they had faced the heavier expenditure caused by obtaining money at a high rate of exchange, and there had been put into operation a larger and more complete scheme which would have given a cleaner and purer water supply. Increased expenditure was brought upon the department. These bores had to be put down and afterwards the meters had to be changed at considerable cost. The residents of the North Perth area were also put to great expense on account of the damage that was done to their clothing through the use of impure water. The committee was impressed by the enormous expenditure that was being incurred in connection with the hills water supply. In addition to the two millions of money sunk in the metropolitan water scheme at present there will be an additional £4,000,000 to be spent, making a total of £6,000,000 in all before the completion of the work that will give us the hills supply. The reason for that is that it is necessary to provide an enormous storage in order to carry the water through long dry summers. The engineers are faced with the possibility that at any time there may be a dry winter, and they have to make provision for a two years' reserve, so that they may be sure of having enough water to go on with. It has therefore been necessary to put in very large storage reservoirs. There is also the

additional incentive, after many agitations, of trying to do away with the supplies of bore water. In that connection I would like to draw the attention of members to the report of the Metropolitan Water Supply Department for the year 1924 and to the table appearing on page 30. There it will be found that the water supplied to the metropolitan area is analysed and segregated under the heads of bore and hills water. Of 3,000 million gallons supplied in 1924 in the metropolitan area, no less than 1,881 million gallons were obtained from bores. The remainder came from the hills. Thus about 60 per cent. at least of the water supplied to the metropolitan area in 1924 came from bores; so that the cutting out of bores as a means of augmenting the hills supply was to a great extent, if not the sole reason, for undertaking the larger and more expensive hills scheme. The annual increase in the demand for water in the metropolitan area is 200 million gallons. The first thing that faced the select committee was the question of considering whether it would not be possible to increase the supply in a less expensive manner than by adopting the scheme that had been put forward, so extending the time that the scheme would take to complete, and in that way lighten the burden of the cost, as with the growth of population that burden would be spread over a greater number of shoulders. What concerned the select committee was whether the present supplies could be improved. Water is at the present time being drawn from the Victoria Reservoir, Bickley Reservoir, and from Mundaring. The first thing that the members of the committee found when they started to inquire into the matter of improving the efficiency of the supply was that, of the annual supply of water, no less than 1,000 million gallons was unaccounted for. When the engineer was questioned on this matter he pointed out that the loss each year went in leakages and scouring, and in unmetered services, and that the absence of registration because of defective meters was also responsible for some of the loss. Altogether, while the engineer made a more or less general statement we could see from our inquiries that there had been no organised attempt to track down the enormous loss. Valued at 1s. a thousand gallons, which is the minimum charge made for water, we get approximately a loss of £50,000 a year in that way. That is not the only aspect. No less than 200 million gallons represent the increased annual consumption in the metropolitan area, so that if we could reduce the loss to say 500 million gallons we would have available sufficient water to cope with the increased demand for the next two years. That appeared to the select committee to be a very important matter. With regard to the meters, the department were using a certain type which it was found were being rapidly thrown out of action. These meters were designed with a clearance of 1/1000 part of an inch and the slightest grain of sediment in the water would stop the meter from working. Thus there would be no registration. We also found in the course of our inquiry that whilst the meters were reckoned to bring in a revenue of 10s. each, the cost of replacing them was £1 each. The department therefore were all the time fighting a losing battle. The committee found also that the type of meter was unsuitable, and it appeared to them that there should have been a certain amount of discretion exercised by the engineers in choosing a different type of meter. Thus the department would have got some sort of record of the consumption of water that was taking place. One might ask why the engineers did not rise to the occasion. There was an insufficient supply of meters to cope with the services. The number of unmetered services was 17,000, and the only order that existed was one that had been placed with the State Implement Works. The manager of these works had submitted a low tender and was making the meters at a loss. He was given an order for 4,000 and of that number 1,500 had been supplied. The remainder, too, were to be manufactured at a loss. The select committee had a long interview with Mr. Shaw, the manager of the implement works, and that gentleman said that if he had been given something like a satisfactory order, or if a better arrangement could have been made, he would have been able to reduce the cost considerably, but he was not given a chance to get anything like suitable machinery that would have enabled him to turn them out in mass production. The committee considered what other steps could be taken to locate the losses. It was also costing more to replace the meters than was being received from them by way of rent. The alternative that forced itself on the select committee was that there should

be sectional metering for the various reticulation districts. The idea was that there should be certain supply centres where meters could be used to check the quantity of water going into a given district. The department have their records showing who the consumers are in a particular area, and they are able to form an estimate of the average consumption. Consequently by the installation of sectional meters it would be possible to track down the excessive loss and locate it practically straight away. Suggestions were made in the committee's report that the engineer should take into consideration the advisableness of providing these meters with a view to coping with the enormous loss of water. I think the engineer, when questioned, said it was a common thing for losses of this magnitude to occur in big water schemes. But here is an opportunity for the engineers to recover revenue that is being lost at the present time. A suggestion was also made with regard to the introduction of garden areas. I understand that in New South Wales they have such a system in existence. There they measure up the quantity of ground a man is cultivating and make a charge for so many square feet. On that subject the report of the select committee states—

> The fee charged in Sydney for garden areas where no meter is installed is 2s. 6d. per annum for every 250 square feet or portion thereof to be watered. The maximum area for which the measurement is allowed is 2,000 square feet, equivalent to a block 50 feet by 40 feet, for which the cost would be £1 per annum. The Sydney rate for excess water is 1s. per 1,000 gallons, which is also the metropolitan rate in this State.

The members of the committee thought that an attempt might be made to cope with the unmetered services by introducing a system of this description. The next subject investigated was the supply of water to North Perth. As members know, a sediment occurs in bore water and causes a lot of trouble. At North Perth there was considerable indignation expressed because of the presence of sediment in the water. I would like to refer to the department's analyses of bore waters supplied to the city. The water that had been obtained from the bores up to the time that North Perth was supplied from the more recently sunk bores, was comparatively good, but when the new bores were put into operation it was found that they were charged with chemical salts which had a bad effect on the water. The three new bores were those known as the Robert-street, Hector-street and King Edward-street, and the analyses showed iron oxide: in the first 0.98, in the second 2.24, and in the King Edward-street bore 3.15. This iron oxide occurred in the form of ferrous carbonate, owing to the presence of carbonic acid gas in the water. That rendered the water capable of taking up and holding in solution the iron salts, and the result was that the water, being so charged, held it in solution. When the water was exposed to the action of the air the carbonic acid gas was driven out or taken out in treatment by the lime, with the result that the iron oxide was precipitated. Thus the water became muddy and discoloured until it was rust-red. If the water could have been allowed to stand for a few days to give the sediment a chance to settle, everything would have been all right, but unfortunately the demand was so great that that time could not be given for the filters to do their work of purifying. Precipitation took place in the pipes and in the meters. That is the explanation of the impurity of the water supplied to North Perth. The bores were put down as a temporary expedient instead of going on with the hills scheme. In this connection, on going through the departmental reports, we found that attention was drawn at a comparatively early date to the quantity of oxide of iron occurring in bore water. It was pointed out by engineers that the quantity was far in excess of what was considered safe, especially in drinking water. No doubt it was as the result of this, and also the attention that was drawn to the matter in other ways, that the filter beds at North Perth were constructed. Regarding the filter beds, the select committee investigated the matter of construction and had a very definite statement from the engineering officers. The Chief Engineer and also his assistant, in discussing the design expressed themselves plainly when attributing the cause of the collapse of the filter bed wall. In one case we were told that the wall was structurally wrong, and in the other case we were told that the design was faulty. These are engineering faults that are serious. There is no doubt that any engineer of experience would recognise that. The select committee were reluctantly compelled to come to the conclusion that the failure was due to unsound engineering advice, and that the misgivings in that direction were fully justified.

The committee had not been carrying on its investigations very long before it realised that the work on the hills scheme had commenced at Churchman's Brook and that considerable preparatory work had been done. The members of the committee visited the locality and found that the design was for a reinforced concrete wall to be placed across the gully. The core was to be carried down 17 feet into the subsoil or kaolin that formed the bed of the creek. Our attention was drawn to this and we were told to make an investigation. There is not the slightest doubt that had that construction been continued it would have caused considerable trouble and expense. The engineer, when questioned about it, assured us that there would be no trouble in placing a wall of this description on kaolin, so long as it was confined, but there was no ground for assuming that the kaolin was confined. The Chief Engineer, who investigated the matter, directed that shafts be sunk along the line of the trench, and in one instance it had be to be carried down to a depth of 80 feet before bedrock was struck. This design has been altered and the intention of the Chief Engineer, I understand, is to do away with the proposed concrete wall and put down a pug core which will be rammed and carried to the top of the wall. This core will be protected on either side by clay and other materials in order that it may be supported and so give a firm and strong wall. The engineering witnesses, when questioned on this matter, drew attention to the fact that there was a serious danger in constructing a reinforced concrete wall in the manner proposed. As one of them pointed out, we had no evidence or reason to believe that the kaolin was impervious to water. While we were there last week, we saw what was occurring. The trench had been carried down some 30 feet and in one place there was a steady inflow of water through the kaolin. This flow has to be dealt with by a three-throw pump in order to keep the trench clear of water. I was shown a sample of decomposed granite taken from the trench, and I found that it consisted of fragmentary matter more like sand than anything else. Certainly it had no adhesive quality at all. Members will realise what that would mean. Had the wall been constructed as proposed in the first instance, the inflowing water would have steadily frittered away the soil beneath the wall, and the wall would then have been left hanging. This must have led to a serious mishap, and the State would have been plunged into considerable expense to cope with that serious defect in the wall. The alteration of the plans has resulted in the cost of construction of the Churchman's Brook reservoir being increased by no less than £50,000. These two instances of unreliable engineering advice impressed the select committee seriously, and they felt that it was necessary to make a recommendation before completing their inquiries. The result was that on the 4th November, 1924, there was prepared and published an interim report. The select committee, in asking for an extension of time to bring up their report, made the following statement:—

1. The evidence so far submitted to your committee shows—(a) That the proposed dam at Churchman's Brook, if constructed on the lines of the existing design, may not provide the stability which is essential in a work of this character. (b) That the estimated cost for so small a supply as will average 2,000,000 gallons per day must be economically oppressive to the people of the metropolitan area. (c) That the water from the bores at Osborne Park is highly unsatisfactory, and, it is doubtful whether the proposed method of filtration will prove effective by reason of the fact that, during the heavy summer draughts, insufficient time will be available for the process of aeration and treatment. (d) That the data supplied in the last annual report of the Goldfields Water Supply undertaking shows a surplus available over and above the maximum draw-off for goldfields and agricultural districts' requirements.

2. The committee, therefore, suggests for the immediate consideration of the Government:—(a) The stoppage of all further expenditure in respect to the Churchman's Brook scheme (except as to the investigation work which has already been put in hand by the Engineer-in-Chief) until the construction work and the economic effects can be further considered. (b) That the Osborne Park bores be not further used as a source of supply, at least until such time as an efficient and adequate means of treatment can be devised. (c) That to supplement the supply in the immediate future the large pipes already purchased for conveying the Churchman's Brook water to Perth be used to convey an increased supply from Mundaring, and that the existing main from Mundaring be lifted and utilised for reticulation or other purposes. The committee put forward the foregoing suggestions as the water supply of the metropolitan area is in a precarious condition, and time, therefore, becomes an important factor in any action which may be taken to alleviate the position.

The next step that the select committee took was to ascertain what assistance would be forthcoming from the existing sources of

hills water. The present sources of supply are Victoria reservoir, Bickley Brook reservoir and Mundaring. These were considered in the Hills Report of 1907. The following tabulated data may be of interest. It is taken from the Metropolitan Report, 1924:

Reservoir.	Capacity.	Average annual discharge.	Average percentage run-off.	Ratio of reservoir capacity to run-off.
	milln. gall.	milln. gall.	%	%
Victoria ...	211	1,281	15·6	16·6
Bickley ...	23	291	17·5	8·5
Mundaring ...	4,650	8,884	3·8	50·0
Churchman's	600	821	14·2	72·0
Canning ...	16,890	7,764	5·02	217·0
Wongong ...	6,802	5,312	14·8	128·0

It will be seen how the engineers have increased the ratio between the storage capacity of their new reservoir and the run-off from the catchments, as compared with Mundaring and the other old reservoirs. They have evidently determined to guard against the mistake of the past. The following table gives the lowest percentage of run-off—that is, the percentage of rainfall that was caught or could have been caught by a dam—during the driest years that the flow was gauged:

Year.	Reservoir.	Area of catchment in square miles.	Percentage of run-off worst year.	No. of years gauged.	Actual quantity water run off in gallons.
		%			
1914	Victoria ...	14·5	2·7	16	109,159,000
1922	Bickley ...	2·78	13·1	6	185,669,000
1902	Mundaring	569·0	·2	25	323,000,000
1914	Churchman	8	7·6	13	206,412,000
1914	Canning ...	290·0	·11	22	87,889,000
1914	Wongong ...	50·0	2·7	13	518,307,000

It is evident that the value of the new catchments is due as much to greater storage efficiency as to anything else. There is a very serious shortage of water, and hence the necessity for storage capacity, so the engineers must be careful to store water in sufficient quantities to carry us over bad seasons. The select committee, recognising the statements made in the 1907 report, confined their investigations to Mundaring. They realised that if a greater quantity of water could be secured from that source at a comparatively cheap cost, it would meet the emergency and enable the work of bringing in the more expensive sources to be spread over a longer period. Thus the burden on the ratepayers would not be so heavy, as the increase of population during the period would permit of the heavier charges being more easily borne. It was in connection with this matter that we had difficulty in securing information. This question is by no means a new one; it has been raised again and again during the last 23 years. One would have thought there would be any amount of information available, and that the opinion of the engineers would have been backed up by convincing evidence, but I am disposed to the opinion that such was not the case. Although Mr. Palmer, in the 1903 report, made reference to the necessity for carrying out adequate contour surveys of the Mundaring catchment area, I understand this work has not been done. Although in the 1907 report attention was directed to the fact that by including the southern portion of the catchment area, considerably larger quantities of water could be run into the reservoir, the engineers have allowed that proposal to be passed over and have concentrated attention upon the Canning scheme. Their strong argument for the Canning scheme is that there seems to be a better run-off than from Mundaring. While the catchment area of Mundaring is 569 square miles, there is as much water caught in a bad year from the 290 square miles of the Canning catchment area. Not only have no contour surveys been made of the Mundaring catchment area, but no attempt has been made to improve the run-off. This is a very important point, especially in a dry year, as I shall point out later. The question of obtaining a greater supply of water from Mundaring involves the consideration of several factors, namely, the height relative to Mt. Eliza of the Mundaring take-off—it was pointed out by engineers that if we took water from the base of Mundaring, there would not be a sufficient fall to enable it to flow to Mt. Eliza; the quantity of water that could be supplied safely, allowing for drought years and the safeguarding of the supplies to the goldfields and agricultural districts; increasing the run-off especially during drought years; additional storage by reservoirs at Mundaring, and other places; deepening the Mundaring reservoir, and the raising of the Mundaring wall. With regard to the first point, the height of Mundaring relative to Mt. Eliza, I have here an extract from a report by Mr. Ritchie, who was asked to consider the question of obtaining a supply from

Mundaring. In the course of his report Mr. Ritchie said—

The real reason why every engineer has turned away from Mundaring is to be found in the low elevation of the reservoir in relation to its distance from the city. If it were certain that the small surplus which is available from the existing reservoir during a drought cycle (when it is most required) could always only be drawn from the top water level of the reservoir, the whole project would assume a more favourable character. If an open channel is laid from the present lowest reservoir off-take (360 feet above sea level) it would result in a level of pipe head reservoir near Greenmount of 337 feet (allowing for a fall of only two feet per mile in the channel). The pipe from Greenmount to Mt. Eliza would then have a fall of only 6.3 feet per mile. This would be an exceedingly poor hydraulic proposition, and all pipes laid would be unduly large, and therefore costly. There is a solution, and that is to be found in the open channel at a level as near the top of the existing wall as possible, that is, from 410 to 420 feet above sea level. After having first raised the wall and increased its impounding capacity—as the reserve capacity below the channel off-take being thus realisable only by pumping—this proposition would assure the goldfields against too large a draw being made from the reservoir for metropolitan purposes. I had no time to examine the upper catchment area of the Helena River, but from a study of the Canning and its tributaries, I am confident that suitable sites would also be found on the Upper Helena. The Hills Board show a site (designated as No. 8) 80 feet in height, 1,084 feet in crest width, and with estimated capacity of 3,753 million gallons, which may be quite suitable for an earth or earth and rock-filled dam. This quantity would safeguard the goldfields scheme. The Helena catchment is a valuable source of future water supply for metropolitan purposes. Everything should be done to make the surplus above the requirements of the goldfields realisable for the city in future.

If hon. members will look at the report of the Goldfields Water Supply Department, they will find that the top 15ft. of the Mundaring reservoir contains 50 per cent. of the quantity of water that can be stored there; that is to say, if we could put a channel into the reservoir 15ft. below the top of the weir, we should withdraw 50 per cent. of the quantity of water impounded there. The question the select committee decided to obtain an answer to was whether a greater supply could could be obtained from the reservoir with the present pipe of a daily capacity of 890,000 gallons. The engineers said that in the circumstances not more than 890,000 gallons could be obtained, and that a pipe of a capacity of at least 5,000,000 gallons per day would be required. The question for the select committee was to how much water could be taken. That question was put to Mr. O'Brien, and he estimated that, allowing for the demand from the goldfields and agricultural areas, not more than 1,800,000 gallons per day could be obtained. During the overflow, of course, the full bore of the pipe could be taken. The limit was the demand of the goldfields and the agricultural areas, and the necessity for a reserve for dry years. That estimate was based on the 1902 overflow. I have here a graph taken from the report of the Water Supply Department showing the inflow of water into the reservoir during the years from 1901 to 1915. On that graph there is particularly noted the way in which the inflow of water fell during the years 1902 and 1914. In 1902 323,000,000 gallons flowed in, and in 1914 the inflow was 997,000,000 gallons, although the rainfall in 1914 was 14ins. and in 1902 it was 19in. The reason for the greater run-off in 1914 was that some years previously the trees on the area had been ringbarked with the idea of increasing the run-off. Undoubtedly that method had the desired effect. At the same time the engineers contended that that was the cause of the increase in the quantity of salts found in the water. The engineers point out that the quantity of salts increased between 1910 and 1912 by about 20 grains per gallon. When we consider the enormous quantity of water which normally flows into the Mundaring reservoir, and the comparatively small quantity which is drawn off every year, we cannot help thinking that here at any rate is a most desirable source of supply, and one which should commend itself to the engineers. I have here a graph which hon. members will be able to examine later. The data shown in that graph are contained in a table which has been placed before hon. members this afternoon, and which appears at the foot of this report (Table A). It gives particulars of the Mundaring catchment, showing the rainfall, the run-off, and the percentage discharged from the area. These data were calculated from 1882 to 1902, and from 1902 onwards were gauged. In many years there was an overflow of no less than 20,000,000,000 gallons. The average inflow for the 40 years is 8,884,000,000 gallons, while the maximum water drawn from the reservoir is 1,600,000,000 gallons. The minimum discharge is .02 per cent. In other words, out of every 1,000 gallons of rain water which falls on the Mundaring

catchment area, two gallons find their way into the reservoir. The normal percentage is 3.8, representing 38 gallons out of every 1,000 on the average. Therefore, there would seem to be considerable room for improvement. If we increase the capacity of the reservoir to twice what it is now, it will then only retain the quantity of water which flows off in a normal year. With regard to the limits which are placed on the draw-off from Mundaring, the engineers are guided by the report of the Hills Water Supply Board of 1907. In that report the engineers drew attention to the fact that the late Mr. O'Connor designed the reservoir for a draw-off of 5,000,000 gallons per day, and that that design had been fully justified by the experience with the reservoir since. At the same time the engineers pointed out that, had the draw-off been increased to 5¼ million gallons per day, the reservoir would have run dry for about six weeks in 1903. That is to say, supposing the reservoir had been full in 1900, then at the end of June, 1903, it would have been empty had a daily quantity of 5¼ gallons been withdrawn. The figures supplied by Mr. O'Brien have caused a considerable amount of comment. In the course of his answers to the members of the select committee, Mr. O'Brien made statements regarding the quantity of water that could be made available from Mundaring reservoir for the metropolitan area. In the course of his reply to Question 2417, Mr. O'Brien said—

> Allow 3.7 million gallons per day for agricultural areas and mining. The quantity of water pumped out of Mundaring for agricultural and mining requirements may be taken at 3.3 million gallons per day. To provide for additional extensions (branch mains) in the agricultural districts (some being in construction) increase of consumption on existing extensions, increase in towns, and possible increase in mining requirements, it is considered advisable to allow four million gallons per day, making a total of 3.7 million gallons per day that should be reserved for the goldfields water supply system. Allow for Perth one million gallons per day in addition to the .8 million gallons now being supplied. This one million gallons represents the full quantity of water that may be allowed for Perth without raising Mundaring wall.

Question and answer 2491 are as follows:—

> Will you, when considering the matter, also look at the figures on page 57 of your report and see whether, even without the gates or shutters on top of the dam, we could not get a little more help than we are getting from Mundaring, during the hot spells, and also during the winter season, when money is being spent in pumping. Your figure of water pumped from the reservoir in 1914, which was 1,262,000,000 gallons, got down in 1922 to 1,121,000,000 gallons. Since then you have lost the mines?—I have not lost much.
>
> Not owing to the closing down of the mines?—No. The consumption in the agricultural areas just about balances the decrease in the mines; and I have no reason to believe mining will drop much further.

I continue with Question 2940—

> Don't you allow for the diminution in the supply to the goldfields as against that?—No, I don't think so.
>
> You think you will still maintain it?—Somewhere about it. We will make up, I think, in the agricultural areas what we lose on the goldfields.

If members will refer to the other table supplied to them (Table B also attached hereto) they will see that the total quantity of water which was drawn from the reservoir is shown in the first column, and that the second column shows the quantity of water which has been pumped. In the third column there is the quantity of water gravitated from the reservoir, and in the fourth column the quantity of water consumed. The fifth column shows the water unaccounted for, ranging from a minimum of 94,000,000 gallons in 1916 to a maximum of 600,000,000 gallons in 1920. The loss was 7 per cent. in 1916, and rose to 41 per cent. in 1920. Here we have the same state of affairs as exists in the metropolitan area. The loss in each case is great. Taking the years altogether, it will be found that there has been a steady increase in the loss during the last few years. That increase is due largely to the condition of the pipe main. In giving an estimate of the consumption Mr. O'Brien did not stress, as he might have done, the fact that the condition of the main was such that a considerable quantity of water was being lost. The information is the result of inquiries. There is no record kept of the various means by which the water is disposed of. We know that a certain quantity is lost in leaks, and as in the metropolitan area, also by defective meters, and similarly along the various branch lines. A certain quantity is used for the pumps and for running the condensers. Some quantity is accounted for by water supplied free to the employees at the pumping stations. But I would like to emphasise here the fact that there is a considerable source of loss to the goldfields water supply similar to the source of loss existing in the metropolitan area. If these losses were dealt with with a view to

eliminating them, and adequate steps, which will have to be taken in the end, instituted to bring the mains into a safe condition, we would benefit not only in the diminished losses, but also from the fact that we would not require to pump so much water. There is also the additional argument that if this water were conserved and sold it would bring in additional revenue to the department. Thus both schemes are open to unfavourable comment because the serious losses that would be arrested would provide water that is required and would bring additional revenue to the department. The next question dealt with related to the improved efficiency of the catchment areas. The Mundaring catchment largely comprises gravelly soil similar to the great majority of the Darling Range catchment areas. These soils are very absorbent and a large quantity of water must fall before there is any available run-off. The engineers told us that the character of the annual rainfall affects considerably the quantity of water retained in the reservoir. If there is a light precipitation there is a small run-off, whereas a storm means a large increase in the water impounded in the Mundaring weir. One would have thought that, realising the importance of this position, the engineers would have provided improved facilities as a safeguard for water conservation in the drier years. One would have thought that steps would have been taken to provide means by which increased quantities of water could have been impounded, even with a light rainfall. If anything of that description had been done, there would have been a considerable increase in the water impounded even under the natural conditions obtaining in any year. The next point that the committee dealt with was Mr. O'Brien's statement regarding the decreased demand from the goldfields and the increased demand from the agricultural areas. On going into figures we found that the goldfields demand had fallen from 753,000,000 gallons in 1911 to not less than 411,000,000 gallons in 1924. The loss was something like 341 million gallons, while the country demand had increased from 52,000,000 to 163,000,000 gallons. There is a margin of not less than 252,000,000 gallons to be made up before the agricultural demand equals the loss on the goldfields demand. If we graph these details and extend the curve on the basis of the last returns, it will be found that it will be 1936 before the increased demand from the agricultural areas makes up the loss on account of the goldfields supplies. We have all that water to deal with and we could use it for the metropolitan area.

Hon. A. J. H. Saw: Assuming that loss to remain stationary on the goldfields?

Hon. H. SEDDON: Yes. The next question we dealt with related to the deepening of the Mundaring reservoir. We found that the top 15 feet of the weir impounds 50 per cent. of the water in the Mundaring reservoir. That means to say that we could easily allow the water to drop 15 feet below the top and still retain sufficient water for the goldfields and agricultural supplies. In the area of the reservoir there must be considerable patches of soft material that could be excavated easily, and the impounding capacity of the reservoir largely increased. That suggestion was made to the Chief Engineer and he said he had not gone into the question, and would have to consider the excavating costs. If hon. members refer to the contour of the catchment area at Mundaring they will see that it lends itself to the work I have suggested. The upper reaches would be dry if the water were allowed to fall for a distance of 20 feet and still more than sufficient would be retained in the weir to meet requirements. We found also that the engineers calculate that the loss by way of evaporation from Mundaring is 1,000,000,000 gallons per annum. By undertaking the excavation work and deepening the reservoir in those parts where it could be done, we would increase the storage capacity at Mundaring and at the same time the quantity of evaporation would be unaltered, as the area exposed would be the same. The water impounded would be increased considerably by the excavations. The area from which the evaporation would take place would be the same, and therefore by this means a large quantity of extra water would be available for the metropolitan area.

Hon. J. Ewing: Could that excavation work be done without danger?

Hon. H. SEDDON: According to the figures and the calculations we have made, it could be done, because if we reduced the level 20 feet, there would still be sufficient water available in the reservoir for use in connection with agricultural and goldfields supplies. At any rate that question was

brought under the notice of the engineer, and no doubt he will look into it and give his decision later on. Another suggestion made was that the reservoirs along the goldfields pipe track should be utilised. There is a reservoir, for instance, belonging to the Railway Department at Tammin, and it has a capacity of 96,000,000 gallons. During the winter seasons when the pumping is slack, water could be taken to that dam and it could be filled up. That would ease the summer pumping and make water available along the track, with the result that more water would be available for the metropolitan area during the summer months. In these circumstances it would be possible to utilise the water impounded there by gravitating it back to the main.

Hon. H. Stewart: That is a good point.

Hon. H. SEDDON: We felt that these matters had been dealt with and decisions arrived at without the public being given any information regarding them. We thought that it was time that these matters should be placed before the public in the best possible way that presented itself to us. Another question dealt with was the possibility of raising the height of the Mundaring Weir reservoir. In the 1907 report there is a table dealing with the proposed sites, and consideration was given to these matters by the committee. Some of these sites were surveyed and abandoned, while particulars regarding some were placed on record, so as to receive attention at some future date. I will not weary the House by going into a mass of details regarding them. Briefly I will indicate that 18 sites were surveyed some of which were of considerable area, while others were abandoned as being impracticable. No. 1 site was surveyed and abandoned. No. 2 site, which provided a reduced level of 100 feet at the site, would be served by a catchment area of 33 square miles. The capacity of the reservoir was calculated at 940,000,000 gallons, while the height of the dam that would be constructed there was given as 100 feet and the top breadth of the dam across the stream would have been 1,918 feet. Proposed site No. 3 gave a reduced level of 100 feet, while the area of the catchment was 33 square miles, the capacity of the reservoir 177,000,000 gallons, the height of the dam 100 feet, and the top breadth of the dam across the stream was 780 feet. No. 4 site gave a reduced level of 499 feet, the area of the catchment 25 square miles, the capacity of the reservoir 1,050,000,000 gallons, the height of the dam 100 feet, and the top breadth of the dam across the stream 891 feet. No. 5 site provided a reduced level of 708 feet, the area of the catchment being only four square miles, the capacity of the reservoir 345,000,000 gallons, the height of the dam 88 feet, and the top breadth of the dam across the stream 889 feet. The next proposed site, No. 6, provided a reduced level of 885 feet, the area of the catchment being 26 square miles, the capacity of the reservoir 7,361,000,000 gallons, the height of the dam 73 feet, and the top breadth of the dam across the stream 2,650 feet. Site No. 7 gave a reduced level at the proposed site of 785 feet, the area of catchment being 50 square miles, the capacity of the reservoir 14,425,000,000 gallons, the height of the dam 80 feet, and the top breadth of the dam across the stream 2,380 feet. The proposed site No. 10 relates to the existing Mundaring Weir site. That gave a reduced level of 320 feet, the area of the catchment 569 square miles, the capacity of the reservoir 4,600,000,000 gallons, the height of the dam 100 feet, and the top breadth of the dam across the stream 755 feet. There are other sites, but a number of them occur within the Mundaring catchment area. There is No. 9 site, which is stated to be at Pickering Brook, but that was abandoned. The capacity of the reservoir at proposed site No. 8 was 3,753,000,000 gallons, while the capacity of the reservoir at the proposed site No. 7 was 14,425,000,000 gallons. The two last mentioned sites have reduced levels of 785 feet and 619 feet respectively, representing 200 feet and 300 feet above the level of the present Mundaring reservoir.

Hon. J. Nicholson: Does Pickering Brook really run into the Mundaring catchment area?

Hon. H. SEDDON: According to the maps Pickering Brook runs into the Mundaring reservoir. If these dams were constructed, we would have reservoirs of a considerable area, and holding capacity from which we could take water as it was required in the reservoir below. An important point is that these two dams would be on the way to the goldfields. There is no reason why if they were constructed, we

could not put in a pipe and pump in the water that could be stored there, thus assuring an adequate supply for the goldfields and impounding water that now goes to waste in the overflow. We could use also that extra water to augment the metropolitan supply. That was another phase of the question of the further utilisation of the water that the committee went into. A further point dealt with was the vexed question of raising the wall. It was on this particular point that the greatest difficulty and possibly the most misunderstanding existed between the witnesses and the select committee. The question was put to the engineer whether it would be practicable to raise the wall by installing iron shutters on the top, thus raising the height about five feet. A height of five feet does not seem to be very great, but if we refer to the hills report we find that the raising of the wall would mean that instead of delivering from the impounding capacity of the reservoir 5,000,000 gallons a day, 7,000,000 gallons of water could be delivered. If we include the additional catchment we would arrange by this means for the supply to all sources of 7.7 million gallons per day, as against the 5,000,000 gallons delivered at present. If we could raise the wall 5ft., we would increase the output by probably 50 per cent., but certainly by 40 per cent. The members of the select committee wished to get the fullest information on this point, but we could not get any of the definite data that we wanted. We found that the objection of the engineers was based upon certain investigations carried out in 1914. Three diamond drill bore holes were sunk in the wall of the Mundaring weir. They were carried down to a depth of 140 or 150 feet, and as the result it was found that a considerable quantity of water came into the bores at a point 80 feet below the top of the wall. This indicated, according to the engineers, a horizontal weakness in the wall. As a result of the examination of the information obtained from the bores, they considered it was not safe to put a greater load on the top of the wall. In cross-examination the engineer said that while the wall was not unsafe in its present condition, he could not recommend the addition of the extra five feet.

Hon. J. Nicholson: Would not the same effect result from excavating, as would be obtained from increasing the height of the wall?

Hon. H. SEDDON: No. The effect, they said, would be an overturning movement on top. The pressure on the wall would not increase because of the increased depth of the reservoir, so long as the wall remained in its present condition. It struck the Committee that the argument was unsoundly based. When you have a wall of the width of that at Mundaring and put in only three bores, it appeared to us that whilst the bores might have indicated certain weakness they did not put the engineers in a position to say that the wall was unsafe; or alternatively the engineers had not sufficient information to say that the wall was safe. So we arrived at the opinion that if the engineer was in any doubt as to the safety of the wall it was his duty to put in an additional series of bores with a view to finding out what was the state of the wall. He had said that the wall was not unsafe, yet almost in the same breath he said that he would not impose the extra strain of an additional five feet on the wall. That appeared to us to be inconsistent, and that either the margin of safety was too small, or he was exaggerating the danger. Consequently the committee could not accept the opinion of the engineer. At the same time they felt they were not qualified to give an opinion in conflict with his, and so they made the suggestion that this question should be thoroughly investigated by the new Engineer-in-Chief on his arrival. Then information was given to the committee that the water in one of the bores was quite muddy, as if the bore had gone into pug. The only pug used in the erection of the Mundaring wall was a certain quantity placed in front of the wall on the up-stream side. It was pointed out that if the bore had struck into this pug, then undoubtedly the bore had gone out of the vertical. Investigations were made by the committee, and they found that the bore had been deflected, the deflection being due probably to the fact that the diamond drill, when a considerable distance down, had glanced off a piece of material harder than the surrounding cement. So we concluded that the opinion of the engineers had been founded on insufficient evidence, and we felt that this question should be more thoroughly investigated by the new Engineer-in-Chief. The

proposed extra five feet on the wall would mean the providing, not of 1,800,000 gallons additional water, but of something like 3,800,000 gallons, if not actually 4,000,000 gallons for the metropolis. It was estimated it would cost £400,000 to put in a pipe capable of carrying 5,000,000 gallons per day to the metropolitan area. The select committee recommended that the whole control of the metropolitan water supply should be placed in the hands of a board. It was discovered that no fewer than 18 local authorities operated in the district covered by the metropolitan water supply. Each of these local authorities is collecting its own rates, and making its own valuations, work that is being done also by the metropolitan water supply, and again by the Taxation Department. So we have three separate bodies doing the work that one officer could do for the three of them. It was pointed out that the board could undertake all that work and levy and collect the rates, a reform that would result in considerable economy. The Water Supply Department pride themselves on the fact that they get a far better percentage of the collection of rates than do the local authorities. We endeavoured to find out from the local authorities if this was actually so, but the information with which they supplied us was incomplete. So far as we could see, the Water Supply Department were justified in their contention that they got more complete collections of rates than did the local authorities. We felt that there was considerable economy to be effected by the institution of a water board to control the whole of the metropolitan supply. Amongst the advantages that would accrue, the board would be directly responsible to the persons concerned, and so would be more sensitive to the needs of the district than, perhaps, a Government department would be. Again, at present the money being expended on these water schemes is money raised by the State, the State's credit being used to obtain the loans. In other parts of the world water boards are able to raise loan moneys for themselves at a rate of interest bearing favourable comparison with the rates paid by the Government, the difference being very small. So one result arising from the creation of such a board would be that, instead of the State's loan bill being inflated by the amount of money expended on water schemes, the water board would exercise its own credit in this respect, as is done in other parts of the world. The position to-day is that we are committed to a very heavy expenditure. It will cost over £6,000,000 before existing works are finished, and as a result the water rate in the metropolitan area may go as high as 3s. in the pound. That is a very heavy burden to impose on the people of the metropolitan area. We feel that if we can achieve some similar results by improving the efficiency of the distribution and increasing the quantity of water that can be drawn from the existing sources, it will mean an immense saving. Consequently we have supplied this information to hon. members, and we trust the Government will give consideration to the report with a view to securing the results we are aiming at. I submit the motion for the adoption of the report.

TABLE A.

PARTICULARS OF MUNDARING CATCHMENT RAINFALL, RUN-OFF, AND PERCENTAGE DISCHARGE FROM AREA.

Area in square miles equals 569.

One inch of rainfall equals 8,261·8 million gallons precipitated on area.

Data incomplete for years 1882 to 1897 and 1901.

Wall of reservoir completed June, 1902.

Year.	Rainfall in inches per annum.	Off-flow million gallons.	Percentage of rainfall discharged.
1882	...	20,625	
1883	...	8,125	
1884	...	6,552	
1885	...	8,625	
1886	...	5,062	
1887	...	8,437	
1888	...	1,875	
1889	...	1,550	
1890	...	20,625	
1891	...	10,000	
1892	...	3,750	
1893	...	9,062	
1894	...	937	
1895	...	7,500	
1896	...	1,875	
1897	...	668	
1898	43·5	3,802	1·06
1899	37·5	1,857	·6
1900	45·6	9,538	2·55
1901	...	1,400	
1902	19·3	323	·2
1903	30·28	6,300	2·5
1904	32·72	8,700	3·2
1905	31·1	21,000	7·2
1906	27·58	8,600	3·8
1907	37·66	23,400	5·5
1908	24·9	5,000	2·4
1909	32·0	10,121	3·8
1910	34·5	22,641	7·8
1911	21·48	3,877	2·18
1912	26·07	6,318	2·94
1913	28·46	5,585	2·38
1914	14·6	997	·8
1915	42·6	18,974	5·4
1916	35·15	7,802	2·85
1917	43·6	41,101	11·4
1918	33·5	11,743	4·25
1919	25·1	4,590	2·22
1920	33·6	21,373	7·8
1921	33·0	7,659	2·8
1922	27·5	4,377	1·93 average 3·8
1923	40·6	22,811	6·87

TABLE B.

DISPOSAL OF WATER DRAWN FROM MUNDARING AS DISCLOSED BY ANNUAL REPORTS ISSUED BY THE DEPARTMENT.

(*See* pages 66 and 82 of 1924 Report.)

Year.	Total water drawn.	Water pumped from Reservoir.	Water gravitated from Reservoir.	Water consumed.	Water unaccounted for.	Percentage consumed.	Percentage lost.	Railways.	Goldfields.	Country.	Metropolitan	
	In million of gallons per annum					Per cent.		In millions of gallons per annum.				
1902	...	90	...	...	...	...	...	...	...	...	...	
1903	...	351	...	...	...	...	...	...	...	...	...	
1904	577	577	...	361	216	62·5	37·5	...	...	...	...	
1905	637	637	...	510	127	80	20	...	...	...	...	
1906	759	729	30	600	159	80	20	...	...	...	...	
1907	903	803	100	688	275	72	28	...	...	...	...	
1908	1,079	952	127	837	242	77·5	22·5	...	...	...	...	
1909	1,143	1,016	127	969	174	84·7	15·3	...	...	...	...	
1910	1,196	1,050	146	1,001	195	83·7	16·3	85	740	82	93	
1911	1,306	1,150	156	1,059	247	81	19	109	753	97	98	From 1911 Report
1912	1,363	1,168	195	1,135	228	83	17	141	750	128	116	
1913	1,433	1,202	231	1,205	228	84	16	140	740	135	188	From 1913 Report
1914	1,478	1,262	216	1,194	284	81	19	98	735	155	206	From 1914 Report
1915	1,386	1,116	270	1,226	160	87	13	113	608	161	254	
1916	1,292	1,113	179	1,198	94	93	7	113	673	174	238	From 1916 Report
1917	1,203	1,050	153	874	329	73	27	80	514	112	168	
1918	1,272	1,081	191	819	453	65	35	84	489	90	167	From 1918 Report
1919	1,292	1,082	210	882	410	68	32	82	497	124	179	
1920	1,455	1,223	232	855	600	59	41	93	369	141	251	From 1920 Report
1921	1,364	1,133	231	880	484	64	35	96	464	131	189	
1922	1,379	1,121	258	905	474	66	34	87	426	138	254	From 1922 Report
1923	1,420	1,132	288	931	489	66	34	91	411	145	284	
1924	1,420	...	...	962	458	68	32	80	419	163	299	From Departmental statement supplied.

HON. A. BURVILL (South-East) [6.8]: Mr. Seddon has gone very thoroughly into the matter from one point of view, and now I want to say a few words as to the co-ordination of the departments. Before going on the select committee I had formed the conclusion that we had a lot of poor engineers, but after being on the committee for a brief space it began to be apparent that it was not the fault of the officers, but that the cardinal fault in the whole business lay in the Public Works Department and the Water Supply Department, and that it arose from a want of co-ordination between the officers. This lack of co-ordination has led to many mistakes, some of which have been alluded to in another place as monuments. Those mistakes have resulted in the loss of many thousands of pounds. On page 92 of the committee's report allusion is made to this want of co-ordination. We found that the plans for the work at Churchman's Brook had been altered, and when the Engineer-in-Chief was before us we asked him had the Churchman's Brook plans been referred to him since the collapse of the filter beds. He said they had. We asked him if he had checked them, and his reply was "Yes." Next he was asked was it correct that he had found defects in those plans, and he said there were defects regarding the foundations. Those defects had arisen because the engineer who had charge of the works had not referred the matter to the Engineer-in-Chief. As a result of the collapse of the filter beds those plans were referred to the Engineer-in-Chief, and the defect remedied. As pointed out by Mr. Seddon, the remedying of those defects probably has saved the State hundreds of thousands of pounds. It was the filter bed collapse that first brought under the notice of the committee the want of co-ordination between the departmental officers. The Engineer-in-Chief, the Assistant Engineer-in-Chief, and Professor Tomlinson all agreed that the design of the filter beds was faulty. The evidence before the committee showed that the filter bed plans had never been referred to the Engineer-in-Chief. Similar lack of co-ordination existed in respect of the Herdsman Lake scheme. Originally Mr. Arney put up an estimate of £25,000 for draining the lake. Later that estimate was increased by £15,000 and, according to the evidence before the committee, the work will eventually cost £98,000. When Mr. O'Brien was asked on what the original estimate had been based, he told us he did not know. Right through the piece we found one engineer did not deem it his business to enquire what another engineer was doing. One en-

gineer puts in an estimate, and the engineer who does the work does not trouble to find out what the estimate was based on.

Sitting suspended from 6.15 to 7.30 p.m.

Hon. A. BURVILL: I was speaking before tea about Herdsman's Lake, and the lack of co-ordination between the two engineers who had charge of the work there. Questions 2981 and 2982 are—

Who did make the estimates?—Mr. Arney's estimate was £25,000 and £15,000 was added in the Engineer-in-Chief's office.

That is the original estimate that was made for Herdsman's Lake.

You do not know how the estimate was arrived at?—No.

Further on Mr. O'Brien informed the Committee that he had put up an estimate after certain bores had been sunk, and that he reported fully on the position, and attached his first estimate of £72,000. Later on Mr. O'Brien was asked—

Do you think you put down enough preliminary bores to tell you what the country was like?—Yes. We put down 30 bores. One cannot go on forever putting down bores.

Then we come to Mr. Arney's evidence. The question was asked—

It has been suggested to us that the estimate was low. Can you explain that?—I have forgotten the dates, but Mr. Oldham was the engineer in charge at the time, and he asked me to report on Herdsman's Lake as an outlet to the ocean. I put up a report, and asked for about £100 for survey and boring. It was not a diamond drill, just a jumper drill. So far as we could ascertain from the results of the boring, the country was limestone throughout. The estimate of £25,000 was based on previous estimates for tunneling, with an increase of something like 40 per cent. to meet the increased cost of work.

Your estimate was based on having no casing or timbering whatever?—That is so. If the shafts had been sunk and the ground had proved unfavourable the whole thing would have been dropped. The so-called estimate cannot be termed an estimate for there was no plan of any sort; it was nothing more than an indication. Subsequently the Engineer-in-Chief thought it advisable to add on another £5,000.

According to Mr. O'Brien he added on £15,000?—That was at a still later date. Even when I put up that estimate, the cost of work had not reached its present height.

Do you think that shafts should have been put down before that tunnel was put in?—I think the first work should have been to put down shafts to ascertain whether the thing was going to be economical.

In your opinion no proper estimate could be formed without shafts?—Certainly not. I consulted the Government Geologist regarding the probability of getting solid limestone.

You think the bores were altogether insufficient —In that class of country, yes.

Herdsman's Lake drains 1,000 acres. It started off with an estimate of £25,000. This estimate was put up without any previous shafts or preliminary bores having been put down. It was merely an estimate based on the surmise that the country was limestone throughout. Mr. O'Brien put down a certain number of bores and gave an estimate of £72,000, and he considered that further boring was unnecessary. Mr. Arney considers that the first estimate was only a preliminary affair, and that shafts should have been put down to ascertain if the expenditure was warranted. Through the lack of co-ordination between these officers the country has been put to the expense of £100,000, or £100 an acre to drain 1,000 acres. Lack of co-ordination is shown with respect to evidence given by Mr. O'Connell and Mr. Lawson. Mr. O'Connell gave this evidence—

What experience have you had in connection with water supplies and drainage —Three or four years on the Melbourne sewerage scheme. I have had eight years' experience here in the administration of water supplies, Fremantle and Claremont. I was for two years associated with the construction of the Coolgardie water scheme as assistant engineer, first of all on the pipe line, and then at the Helena Weir. Then I went to the Fremantle water supply as engineer in charge.

Later on Mr. O'Connell was put in charge of roads and bridges. When it was found that he had a certain amount of experience in drainage, the committee obtained his evidence upon the filter beds. When he first came before the committee it was discovered that he had never actually seen the filter beds. He had not interfered with them in any way, and it had not been his duty to go there. He did not know anything about them. Mr. O'Connell was then given the opportunity of examining them, and was afterwards asked to give evidence. This is the evidence he gave—

Having seen the filter beds at Mt. Hawthorn, first of all, what is your opinion as to their efficacy for delivering clean water?—I do not consider them necessary. I would not have put them there.

You do not think that their cost of £1,200 or £1,300 was warranted?—I would not adopt that construction at all.

Do you think that by following at Mt. Hawthorn the lines you did at Fremantle you would achieve complete success at a much reduced cost?—I do.

At what cost, seeing that you have to deal with 2,000,000 gallons here as against 1,000,000 at Fremantle?—Allowing for increased wages and increased cost of materials, I should say the cost for 2,000,000 gallons would be perhaps £150.

Your statement is rather staggering to us?—I could never understand why any other operation was adopted. I brought it under the notice of the ex-Minister for Works, Mr. W. J. George.

What did he say?—He listened, and then asked me to see Mr. Lawson. Of course we do not do that sort of thing. I would not think of dictating to Mr. Lawson any more than I would expect him to dictate to me.

Then, although the Minister knew your views, you and Mr. Lawson did not get into touch with each other?—That is so. I may have mentioned it incidentally to Mr. Lawson; I do not remember.

So in the Government service we have two officers, you who have had some experience in improvising a cleansing process, and another who is about to improvise a similar thing, yet you do not consult each other?—I was not consulted.

Although the Minister knew of your experience?—Yes. I went out of my way to inform the Minister.

So far as you know the Minister did not instruct Mr. Lawson to see you?—So far as I know.

Would you regard Mr. Lawson as your superior officer?—No. He is on the same plane as I am. Each is the head of a branch.

And two heads of branches, each undertaking similar work in the Government service, apparently do not confer?—No.

Hon. A. J. H. Saw: They are parellel lines. They never meet.

Hon. A. BURVILL: I now come to the accountancy department. In question 456 Mr. Long was asked—

From what I can gather from the evidence so far, no co-ordination between the clerical and engineering staffs exists—such as would be necessary to enable costs to be reduced appreciably?—There is no co-ordination. The engineer is the man who carries out the work; the accountant is the man who looks after the financial side of the work and keeps records.

Later on Mr. Anderson who was Town Clerk at Bunbury and had the letters after his name L.I.C.A., was called. He had once been in the department, and his evidence was sought, seeing that he had a certain knowledge of the department. He was asked this question—

If there were proper organisation under one general manager who could co-ordinate all the departments, much greater economy could be practised?—Absolutely. At one period we had the secretary, accountant, and engineer not speaking. That does not make for efficiency.

Is it so to-day?—I do not know. It lasted for a time while I was there. If one department put up a certain report the other section seemed to think it should repudiate that report.

Hon. J. R. Brown: What about taking the balance of the report as read?

The PRESIDENT: The hon. member must not interrupt.

Hon. A. BURVILL: Later on the same witness was asked—

The personal equation would enter into the question, and it would depend whether a capable man could be secured?—Yes. In Melbourne the secretary of the Metropolitan Board of Works receives £350 a year more than the engineer. In Western Australia it is the other way round. The secretary of the Melbourne board is a very able man, and he has opportunities of demonstrating his ability. Here Mr. Haywood is tied down and cannot control the engineer, who reports direct to the Minister. Mr. Haywood has stressed in his reports that if any works involving a large capital expenditure were undertaken the department must be run at a loss. He has no control over those activities. In Melbourne the chairman of the board is paid £2,500 a year, and he devotes practically the whole of his time to the work of the board. The Treasurer is paid the same salary as the engineer, and is responsible for the whole of the collections.

Mr. Anderson was next asked whether the difference was that in Melbourne there was one central control while here the control was divided, and he replied—

That is the position. The Under Treasurer practically controls the accountancy side; the Engineer-in-Chief controls the engineering side, and the Under Secretary is controlled by the Minister. It can be said that in Western Australia the only individual who can be regarded as the head of the department is the Minister, and no Minister would have sufficient time to deal successfully with the undertaking.

He might know nothing about the business?—That is so. For such a position in control of activities of this description, a man of good sound common sense is required. In the old days the water board here was under the direct control of the secretary, and better results were shown. When the water supply and sewerage undertaking was transferred back to the Government administration the control was divided.

Is it not rather an impossible proposition to have an engineer at the head of such an undertaking?—Yes, because the spending side is the whole thing. Forty per cent. of the expenditure is represented by working expenses, and the secretary has no control over that side. If he thought that the services of some men could be dispensed with, he could do nothing beyond recommending that that course should be adopted.

The PRESIDENT: What does the hon. member hope to prove?

Hon. A. BURVILL: I wish to show that there was want of co-ordination, and that it will be possible to remedy that now with the

approaching arrival of the new Engineer-in-Chief. I would like to quote a few more lines of evidence given by the lately retired Engineer-in-Chief, Mr. James Thompson—

From the evidence given by Mr. O'Connell, Mr. O'Brien, Mr. Arney, Mr. Lawson, and others, it is claimed that the heads of departmental branches all undertaking engineering work do not confer?—The service is divided into branches under the supervision of the Engineer-in-Chief. The head of each branch is supposed to be an expert in his own branch. Mr. O'Connell has been engaged in roads and bridges, and so we have nothing to do with the engineer for water supply, and would not confer with him. If Mr. O'Connell, having had some experience of water supply, and knowing what was being done, had a suggestion to make, he should have seen the Engineer-in-Chief.

Do you think a system giving, through the Engineer-in-Chief, greater co-ordination between officers, would be an improvement?—The Engineer-in-Chief is bound to take recommendations from any officer. Mr. O'Connell was regarded as an expert on roads and bridges.

But if any of these engineers were to come to you with suggestions relating to other branches, he would be looked upon as a sticky-beak?—Certainly not. They have always the Engineer-in-Chief to come to with any suggestions they may have regarding the work in other branches if they consider the State's interests are involved.

Do you not think that with big schemes in hand it would be advisable for the Engineer-in-Chief to call in the heads of branches?—It is worthy of consideration that at such times we should have conferences of qualified officers of the department.

No matter how smart an engineer might be, he is liable to make a mistake. If the filter bed proposals had been placed before the Engineer-in-Chief, we would not have had that collapse?—That is so.

I think I have quoted enough evidence to show the relationship that existed between the engineers. The opinion I formed was that if the Works Department were conducted as one would expect an ordinary business to be carried on, there would be a board appointed to which to refer matters of importance. I am given to understand that in the early days, when Mr. C. Y. O'Connor occupied the position of Engineer-in-Chief, the engineers were called together and the big schemes that were being undertaken were always referred to the board, the Engineer-in-Chief being the chairman. I believe that something on similar lines is done in the other States. An accountant has a seat on the board, and the question of finance is discussed in his presence. If such a board had been in existence in this State, it is possible that there would not have been a filter bed collapse. This was due to faulty engineering and apparently was the only mistake that Mr. Lawson made. If a board of engineers had had the opportunity of examining the plans, any fault that might have existed would have been detected and eliminated, and so the State would have been saved a loss of £12,000. The same thing might be said with regard to the Herdsman's Lake drainage. Here we find that two engineers held different views. If a board had been in existence, the possibility is that there would not have been such a disparity as was found in the estimates that were prepared. First the amount was £25,000, then it went up to £72,000, and finally £100,000. Again, in connection with Churchman's Brook there might have been a considerable saving of expenditure. The plans could have been examined by the Engineer-in-Chief, or by the board, and the position would have been different from that which actually existed. Now that a new Engineer-in-Chief is about to arrive in the State, it is to be hoped that the state of affairs that has existed in the past will not be permitted to continue. There is one other matter to which I wish to refer. I understand that when nominations were invited for the position of Engineer-in-Chief, a number of the engineers already in the State sent in their applications. My contention is that if we continue to keep all the engineers apart, and allow each to become a miniature engineer-in-chief, it will never be possible for any one of them to know what is transpiring in other departments. Unless a different method is adopted, I do not see how any engineer at present at the head of a branch will have an opportunity of acquiring the knowledge that he should possess. Besides that, there is the financial side, and there is no co-ordination between the financial branch and the engineering branch. I support the motion.

On motion by Hon. H. A. Stephenson, debate adjourned.

BILL—MAIN ROADS.

Debate resumed from the previous day.

HON. G. POTTER (West) [7.53]: When moving the second reading of the Bill the Leader of the House told us something with which we can all thoroughly agree, namely, that there has been a great desire,

and even a pressing necessity, for the introduction of a measure such as this. Right down through the whole of our history we find that transportation has been a matter that has concerned everyone at all times. Since the Roman Conquest we know that the principal concern has been the laying down and maintaining of good roads. History has not only repeated itself in that respect, but it has continued to demonstrate to us the necessity for good roads. In that, as in other things, the human factor must be the first and most important concern. In these days of commercialism nothing can be done without money. For the disbursement of the money there must be established a board or some other spending authority in which the country can have complete and implicit confidence. Various members who have spoken to the Bill represent not only the metropolitan areas but also the vast areas in the hinterland of the State, and I agree with them that their constituents are concerned as to what the ultimate result will be if the Bill is put into operation as it stands. We welcome the assurance of the Minister for Works, however, that he will be glad to receive any suggestion that will tend to improve the Bill. I consider that the best suggestion that can be made, and I have no doubt it will be conveyed to the Minister by the Leader of this House, is that as the proposed board is to be the spending authority, it should have the confidence of all the communities in the State. It is my opinion that under the contemplated constitution that board will not have the confidence of the majority of the people. I do not say that with a desire to criticise or pass strictures against the present administration; my words would apply to any Government, Labour or Country Party, or any other that might be in power, because it has been eloquently demonstrated that with the proposed constitution of the board it will be composed mainly of Government servants. Whilst human nature is constituted as we find it to-day, and as it always will be, those Government servants must of necessity be, if not in actual sympathy, then in practical sympathy with the policy of the Government of the day. Bearing in mind that the contemplated main roads board will have in their care many miles of roads and big sums of money to spend, they should undoubtedly be free from all political control. In that way we would avoid any suspicion of a repetition of the unfortunate incident that we had referred to in this Chamber to-night. Therefore I think that whilst the Minister has declared it to be his intention to see that the board is free from political control, I do not think, with the proposed composition of the board, that will be possible. In Clause 5 of the Bill membership of the board is limited to a period of three years. That period is entirely inadequate because, when the board meets, the first thing to be done will be to lay down a policy, and three years is not nearly sufficient to give fulfilment to any policy. If the board are absolutely free from political control, they must of necessity carry on whether Governments come or Governments go, and they must be given a sufficient period in which to carry into effect a policy of road construction. Western Australia is not so favourably situated as are the more compact States of the Commonwealth. Victoria is a very compact State, and the density of population there makes the work of a main roads board easy of accomplishment. Not so in Western Australia. A main roads board must have a wider policy of road development, and this will call for greater ability from the personnel of the board. There is no injunction on the Governor-in-Council to see that members of the board are fully qualified engineers, but the board will have to advise the Minister. What is the use of asking laymen to advise on a problem requiring the greatest of engineering skill, and then to have their advice submitted by the Minister to an engineer for his opinion? Why not have a board consisting of skilled engineers, one of them possessing the qualifications of an accountant or administrative ability? If we had such a board free from political control, we would be assured of continuity of policy. We cannot divorce the Main Roads Bill from the Traffic Bill now under consideration in another place, because the main roads board must depend largely upon the operation of the traffic measure for their sinews of war. The Minister has told us that the Government expect to receive from traffic fees £90,000 and from a petrol tax £75,000. I have no doubt those amounts have been estimated very carefully, but is the proposed distribution quite equitable? Is it not possible that as a result of the imposition of the fees under the traffic measure

the origin of the income might, to use the vernacular, be run off the roads? There is a limit to taxation and to what industry can afford to pay by way of taxation. I am glad that the Minister for Works has promised some relief. Amongst horse-drawn vehicles a two-wheel cart is subject to the most extraordinary increase of 582 per cent. over the 1919 rates. For another type of horse-drawn vehicle the increase is 175 per cent., for sulkies and buggies it is 50 per cent., and for lorries 463 per cent. Is it possible that industry can afford to carry such extraordinary increases? The people who use horse-drawn vehicles get largely the leavings from the more modern means of transport, and the damage they do to a road is surely not commensurate with such enormous increases. I hope the Minister's expressed sympathy will be in ratio to the increases I have indicated. Not only have the increases operated harshly as regards horse-drawn vehicles, but heavy increases have been charged on motor vehicles. One type of motor truck has been increased by 80 per cent., and a motor car by 40 per cent. These vehicles are used to carry on the ordinary business and commerce of the State. This is going to be one of the chief sources of revenue. During the last few sources of revenue. During the last few years the number of motor vehicles has increased four-fold, and with the success of the development policy in the country, he would be a very conservative man who would say the number will not increase ten-fold in the next five years, provided these vehicles are not taxed out of existence. There seems to be some difficulty in determining what constitutes petrol. In the preliminary clauses of the Bill petrol includes certain specified things, and "any other spirit or substance which may be declared by regulation to be petrol for the purposes of this Act," That is very vague.

Hon. J. R. Brown: It might be whisky.

Hon. G. POTTER: Yes, or it might be kerosene.

Hon. J. Nicholson: That would not be so pleasant to take.

Hon. G. POTTER: That depends upon the taste of the hon. member. How would our industries be affected if kerosene were declared to be petrol? Benzolene is one of the oils that will be subject to the tax if the Bill becomes law. I have it on the best authority that benzolene is not used for any means of transportation. I understand it is used for the distillation of oil from sandalwood.

Hon. H. Stewart: Some day it might be used as fuel.

Hon. G. POTTER: Perhaps so, especially if the tax imposed upon other oils such as kerosene makes benzolene cheaper, but at present benzolene is too expensive to use for transportation purposes. Members sitting on my left have on various occasions expressed a desire to encourage the sandalwood industry and the secondary industry associated with it. Therefore I shall expect them to support me in seeing that benzolene is not subject to the petrol tax. I take it the object of taxing any oil is to provide funds for road construction. Members representing the far-flung districts of the State have expressed strongly the concern felt by local authorities at the prospect of some of their legitimate revenue being filched from them without their receiving any adequate return. Those members are not alone in that respect. Metropolitan members, too, have occasion to feel concerned. The definition of a main road is very wide. A main road may be declared in a proclaimed area at the instigation of the board. In the metropolitan area there are streets carrying tramlines, and the local authorities have arrangements with the tramway authorities that each shall be responsible for the maintenance of certain portions of such roads. I should like to know whether, when a main road is declared and a tram track is constructed along it, the main roads board will be responsible for the maintenance of the whole of the road. There will be a considerable amount of money collected in the metropolitan area, which possibly may be spent elsewhere. We do not object to that, because we recognise that there may be transportation emanating from the more populous centres back into the country districts. But we also recognise that those centres are invariably close to the seaboard. At Fremantle, for instance, there is much congested traffic coming in, heavy lorries from as far away as Beverley, Pingelly, Northam, York, and Toodyay. The concern with which we view this question is, therefore, natural. The registration in Fremantle is probably greater in proportion than that in any other district. The amount of money collected there will, quite naturally and properly, go into the board's funds;

but we would like to have an assurance as to whether the main roads board will be responsible for the upkeep of the various roads in which tram tracks are laid. Many features of the Bill might be argued at considerable length in Committee. For instance, under the heading of license to sell petrol, much argument might arise as to exactly what is a wholesaler, how he comes into existence, and how he goes out of existence. I agree that it would be indeed desirable to refer the measure to a select committee, so that we might get the advice of those people who are most intimately concerned. The various local governing bodies should know exactly how this Bill would apply to them, and what would be the effect on them if the Bill as it stands should become an Act. Any slight delay involved in a reference to a select committee would be amply compensated if it resulted in an Act which would be a compliment at once to the wisdom of the House and to the present Administration. If any member moves for a select committee, I shall gladly support him. Meantime I support the second reading.

HON. W. T. GLASHEEN (South-East) [8.20]: In common with every member who has spoken, I find myself opposed to the Bill in its present form. However, I am inclined to think that eventually the House will make something of the measure, because of the generous remarks of the Colonial Secretary in moving the second reading. Mr. Drew emphasised that this was a non-party Bill. To me it appeared that the Minister extended a hearty invitation to the Chamber to amend the measure in any way members thought it should be amended. He also seemed to say that if we could prove our amendments to be good they would find favour with the Government. I hope that any amendments made here will find favour not only with the Government but also with the people whom the measure is intended to serve. I am the more disposed to think that this House will eventually make a good measure of the Bill because of a remark which has twice fallen from Mr. Willmott during my brief occupancy of this seat. Mr. Willmott assured us that this House was constituted of 30 members who were the very cream of the State's intellect. Accepting Mr. Willmott's declaration, I am inclined to say that a small matter like a Main Roads Bill is almost beneath our dignity. However, Mr. Hamersley has said that this is one of the most important measures that will come before the present session of Parliament. The hon. member might have added that it is also one of the most contentious. Therefore, notwithstanding Mr. Willmott's remarks, I think it will take the combined intelligence of the House to put the measure into proper shape. I am not prepared to accept some of the arguments enunciated with regard to the desirability of the measure. The Leader of the House said the Bill was justified because of the fact that a Main Roads Act was in operation in other States and working satisfactorily there. He said we were lagging behind the Eastern States in not having previously adopted such a measure as this. I cannot subscribe to that view at all. I contend that if we inaugurate legislation of this kind at the present juncture, we shall be forty years in advance of the Eastern States. I thing it quite safe to say that 50 years ago Victoria and New South Wales reached a greater stage of productivity and development, and had a greater population, and therefore a greater need for a Main Roads Act, than Western Australia has at the present time. Comparisons of that nature cannot be made with regard to the clock, or the week, or the year, or the calendar; but only with regard to the measure of productivity and of progress to population. Another reason advanced for passing the Bill is that various road board conferences have passed resolutions that such a measure is needed. I think I can undertake to read the minds of the movers of those resolutions and of the conferences which carried them. They considered that the construction of main roads of the State was beyond the resources of their revenue. What they had in mind was "We will ask the State to look after the main roads by borrowing money, but not by taking our revenue." I am sure that what was in the minds of those conferences was, "We will ask the State to borrow money, and then we shall not be so much concerned about its expenditure as people are when they have to foot the Bill locally." The moment it was proposed in this Main Roads Bill to collect revenue from the roads boards, practically every road board in the State was up in arms against the measure. Like Mr. Stewart and other members, I have received a protest against the measure in its present form from practically every road board

in my district. No law, not even statute law, is really valid unless it has public opinion behind it. In view of the opposition from the road boards to this Bill, it is evident that public opinion will not be behind the measure if it is enacted. The measure will prove unworkable because of that fact. It proposes, amongst other things, to construct the main roads of this State out of revenue, the revenue that the road boards and municipalities are now collecting. That proposal, to my way of thinking, is absolutely foreign to every modern law of progress. What position would this State be in to-day if it had been developed from revenue? We would not have our railways extended further than Midland Junction. What stage of development would the business houses of Perth be in if they had been developed out of revenue and profits alone? Let us come down to a simpler issue and ask, what stage of development would our farms and stations be in if they had been developed from revenue alone? If we want to be modern and progressive, we must not expect to tackle vast problems such as main road construction out of revenue, but must borrow money for the purpose, our borrowings being based upon the capacity of the revenue to meet interest and sinking fund. We have been given figures to show that all sources of revenue under the Bill, from both road boards and municipalities, would yield £190,000 annually. If it were worked out in simple figures it would be found that the £190,000, if set aside as money to pay interest and sinking fund on loans, would permit of our borrowing on a 7 per cent. basis, three millions sterling—4½ per cent. to be allocated to interest, and the other 2½ to a sinking fund, which would redeem the loan in roughly 30 years. The expenditure of three millions sterling would enable us to construct three thousand miles of road. What mileage of road could we construct out of revenue alone?

Hon. J. W. Kirwan: How about the maintenance of the road?

Hon. W. T. GLASHEEN: The maintenance costs are coming along behind us all the time. But having regard to the anticipations which underlie this Bill I should say that because of greater development and greater possibilities of revenue we should get level on maintenance cost. We can boil it down to another point. Road boards and municipalities have protested to me and to other members on the basis that if the Bill becomes law they will be robbed of anything from £250 to £600 of their revenue. If that amount be taken and it be fortified to the extent of £1,000, it will mean that each board will have about £1,000 for the construction of main roads. How far will that go? Figures have been submitted to prove that main roads constructed in Victoria have cost, approximately, £1,400 a mile. Administration costs will represent about 33 per cent., which will mean that in Western Australia about £700 will be available to each board for the actual work. If our main roads are to cost the same as in Victoria, we will be able to construct about half a mile of road annually in each district. We would be lucky if we were able to do that. I do not know definitely what will be considered main roads. I will draw a mental picture to emphasise what I think will be regarded as main roads throughout the road board areas. Take a country town: I should say that main roads would run north and south and east and west of that town. They would probably extend for 12 miles on each side, which would mean roughly about 50 miles of main road to be constructed in each road board area. Proceeding at the rate of half a mile a year, it will take 100 years to construct those 50 miles. What sort of satisfaction will be afforded by that rate of progress? I say emphatically that it will be a huge joke if we try to construct main roads out of revenue. The only way we can overcome the difficulty is to borrow money based upon the ability of the £190,000 that has been referred to, to pay interest and sinking fund.

Hon. J. J. Holmes: We shall be flying before that and will not require the roads.

Hon. W. T. GLASHEEN: At any rate we shall all be dead. If we take the amount I have mentioned from the road boards and municipalities, we shall sound the death knell of quite 75 per cent. of the local governing bodies. I speak particularly of those in the wheat belt and other members can relate the experiences likely to be the lot of road boards in other areas. Let me tell hon. members what is happening. There was a road board election last week in Wickepin. We had the greatest difficulty in getting people to nominate for the positions on the board. When we asked members to renominate they said, "What is the use of our wasting time in travelling month after month

to the board meetings only to find that we have a paltry £30 or £40 to spend? It is not worth the candle." Some of those members have had to travel 30 miles to attend the meetings and 30 miles back, making a journey of 60 miles in order to deal with the affairs of the ratepayers. If we take half the revenue of some of the boards and remember the difficulty in securing representatives to sit on the boards, there will not be enough incentive for these local governing bodies to function and they will fizzle out.

Hon. J. R. Brown: If only £15 is left it will not be of much use.

Hon. W. T. GLASHEEN: Many boards may not even have that. The civic spirit in the country is a great national asset and if we kill it, the Bill will not be welcome from that standpoint alone. I have not a legal mind and I do not profess to know whether Mr. Holmes was right or wrong—I thing he was wrong but I hope he was not. Mr. Holmes said the other night that if the Bill becomes law, unless the whole of Western Australia is a proclaimed area we will not be able to touch one shilling of the Federal grant. If that be so, it presents a big difficulty to be overcome. For the life of me, however, I cannot see why the proportion due to a proclaimed area could not be allocated from the Federal grant and those districts outside the proclaimed area left unrestricted as at present.

Hon. H. Stewart: That is, if the Bill is passed at it stands.

Hon. J. J. Holmes: I was dealing with the Bill as it is before us.

Hon. W. T. GLASHEEN: I would like to have an assurance from Mr. Nicholson as to the legal position. Under the provisions of the Bill, in spite of the fact that there is to be a board, it will be under the supervision of the Public Works Department. I do not know how long it is ago since I first heard people standing for Parliament repeating that there was a reckless expenditure of public moneys out of proportion to the services rendered. I do not know of any Government who have come into power who have not professed that they desire to clear up the public mess and obviate the dissatisfaction regarding the expenditure by the Public Works Department. During the last 40 years to my knowledge each Government has expressed a desire along those lines, and yet the existing system continues. If expenditure under the Bill is to be under the direction of the Public Works Department, which will also control the revenue, we will inevitably be dissatisfied with the quantity of work done and with the money available. I wish to emphasise one aspect in connection with the expenditure of public money. A good while ago a reference to this matter appeared, I think, in the "Sunday Times." I am not sure of the particulars, but a general reference to the incident will serve to lend point to my argument. The incident related to a lock on the door of a school or public store room in a country centre. The lock was out of repair. Someone reported it to the Public Works Department and immediately an officer was despatched in order that he might find out if the lock was out of repair and to report on the position. He duly reported that the lock was out of repair and he received his travelling expenses and salary. Then another officer was sent to report upon the question of how the lock should be repaired. He did his job, got his salary and received his fare and travelling expenses as well. Then a tradesman was sent along to put a lock in order according to specifications. He, too, did his job, got his salary and received his fare. Then after the work had been completed an inspector was sent along to certify that the work had been duly carried out.

Hon. J. R. Brown: And then a bird came along and stole the money.

Hon. W. T. GLASHEEN: The cost of the lock was about 12s., but the administration costs in connection with this incident ran up to £45. That is typical of public works expenditure. I give the Government credit for a desire to bring about a better state of affairs, but the fact that many Ministers have sincerely tackled the problem which still continues, convinces me that this system is deeply embedded and is difficult to overcome. If such conditions are to be continued under the terms of the Bill we shall have expenditure and no roads. Mr. Brown or Mr. Gray interjected the other night when it was stated that the local authorities would get the job carried out cheaper than could be done by anyone else because a lot of the work would be done by local farmers—"Why let the work to the farmers; why not let it to the poor beggars who are unemployed and looking for jobs?" I am in accord with the desire to give

work to any poor fellow who needs it. I have yet to find, however, any member of the unemployed in more need of work than farmers who have to make application to road boards for work. No matter what the circumstances may be or how prosperous farmers generally may be, there are always one or two right up against it. If those men were not given an opportunity of getting work, Mr. Gray would find that they would be reluctantly compelled to leave their farms and join the unemployed throng. I had to do this in my early pioneering days. I had to do road board work and if I had not done that, possibly I would not be on my farm to-day. The Minister has said that the Bill is justified because the machinery and organisation is in operation to-day in the Public Works Department all ready to go on with the construction programme. I can only retort that, considering the immensity of this project, the number and the length of the roads to be constructed, if the Public Works Department have had in the past, and still have, sufficient machinery and plant and organisation to carry on the work, it must have been having a splendid time up to the present. It is possible that the provisions of the Bill will allow the Public Works Department to let the work to local authorities. To-day there is a provision that when the local authorities get a portion of the Federal grant, they cannot sublet the work, but must do it by day labour. If that is to remain as a provision of the Main Roads Bill the Public Works Department had better carry out the job themselves, for it is more likely to be satisfactorily done in that way. The work is essentially seasonable, and can be done only in the spring. Practically every board in the wheat belt will want to do the work at the same moment. To carry out such a work from a central office is, of course, quite impossible. There is not a single instance in the wheat belt to show that anybody is sufficiently convinced of the continuity of the work to provide plant and equipment in order to tender for these road contracts. The only possibility there is of getting the work done is to let it to farmers at an opportune time. Every board will be wanting to let the work at the one season of the year. How, then, would it be possible for the Public Works Department to do the work all over the wheat belt at the same time? The whole thing is beyond possibility, and I subscribe to the view that the wisest thing to do with the measure is to refer it to a select committee. This is an instance where it will be wise to make haste slowly, until we get the report of the select committee. I am certain that the local authorities will not consent to hand over their revenue. Unless they get a Bill moulded on the Victorian measure, they will definitely say they do not want a Bill at all. I hope the select committee will be appointed, as I instinctively feel it will be, and in that expectation I will support the second reading.

HON. E. ROSE (South-West) [8.50]: It will be necessary to go very carefully. The Main Roads Bill has been talked of for many years and has been asked for, not only by the various local authorities, but by the Road Boards Association and by several annual conferences. The Bill before us requires a lot of amendments before it can be regarded as acceptable. The only way to secure a suitable measure is by referring the Bill to a select committee, who could get useful information from experienced men and draft something that would be acceptable to the whole State. While the Bill before us has a number of good points, it has a large number of others that will have to come out. I was interested in the remarks of Mr. Holmes last night when he spoke of the injury the petrol tax would do. Clause 30 provides for a tax on petrol, but I do not see how that can be worked, since three or four might club together and import 100 cases for their own use. They would not be selling the petrol, and therefore no tax could be levied. Again, others might import their petrol from the Eastern States, and we know that no tax can be levied in restraint of interstate trade. There are in the Bill many anomalies to be corrected. The petrol tax will very severely hit farmers and others who are using motor machines in the earning of their livelihood. The small amount to be collected from the tax will not be sufficient recompense for the irritation caused by its collection. As a motor owner, I have no objection to the petrol tax in respect of motors used for pleasure, but it will be very hard for those who use their vehicles in the earning of their livelihood. Of course, motor cars and lorries cut up our roads considerably, and it behoves us to go carefully into the question and see how the difficulty can be remedied. If there be no other way

than by the imposition of a tax, we shall have to differentiate between farmers and those who are using the roads merely for pleasure. There is on the roads of the South-West a tremendous lot of traffic from the metropolitan area. From those vehicles we receive no wheel tax whatever, although they are doing more harm to our roads than are the local vehicles. Again, what are the Government going to do about those local authorities that have borrowed considerable sums of money to spend on their roads? Do the Government propose to take over those loans in taking over the roads?

Hon. J. Ewing: Some of the roads may be worn out.

Hon. E. ROSE: The loans have to be met, whether the roads are worn out or not. Even now it is hard enough for some local authorities to make ends meet. All fees and licenses should remain with the local authorities as a means for maintaining minor roads. At the South-West conference held in Bunbury recently several resolutions were carried that had been carried in previous years. It was resolved that the real difficulty the South-West boards have to contend with is the great want of funds necessary to construct and maintain the district roads, irrespective of main roads, and that the South-West road boards should not be deprived of any of the motor license fees, or cart, carriage or wheel taxes now collected by them. Also it was resolved that the whole of the taxes derived from the assessment of land in the respective districts should revert to the revenue of the road boards as formerly, when the whole of the taxation of land was used for road purposes only. That means that instead of the Government collecting the land tax it should go to the local authorities for the maintenance of roads. Another resolution was that, in view of the fact that a sum of over three million pounds in duties, otherwise taxes, is being annually collected by the Commonwealth of Australia in respect of motors and accessories, and approximately £1,500,000 for land tax, a very much larger grant should be made to the State for road purposes. Those resolutions were passed by the annual conference, and I have been asked to bring them up here and point out how necessary it is that the local authorities should get all the license fees and the taxes for road purposes. I have here an extract from a South Australian paper discussing our Main Roads Bill. It reads as follows:—

> The Main Roads Bill (W.A.) is much on the lines of our Act (S.A.) passed a few years ago. The advisory board is to consist of five members; ours has three. As with us, main roads are only to be declared on the advice of the board.
>
> Two proposals in the Western Australian Bill cannot be commended, and will be the weak links in the otherwise excellent chain that is to hold together the road administration.
>
> These are: First, the advisory board is not to be entrusted with the construction of the roads. This is to be done by the roads and bridges branch of the Public Works Department.
>
> This introduces duplication and delay. The red tape to tie up the board's requests, that they may be safely conveyed into the pigeon holes of another department, fully engrossed with construction work of its own, will inevitably cause delay, lack of sympathetic co-ordination, and unsatisfactory workmanship.

We have seen in the past how often these things are pigeon-holed, and not put into operation. I agree with what is stated here that these questions should be removed from political interest. A matter of this sort should be taken out of the hands of the Public Works Department, for the road boards are the proper people to carry out the work. The board should be appointed to see that the roads are made and kept in good order. The newspaper article continues—

> The other faulty feature of the scheme is the intention provided in the Bill to remove the control of the main roads from local authorities. That is not only a retrograde step, but it is in direct violence of British instincts over the world, and is the main spring of our Empire success. That is to grant autonomy to the peoples that come under our Imperial sway. Local things can best be seen to locally. The facts about them are best known and understood by those on the spot who have their interests at heart, and know best how to supply their needs. It is a physical impossibility for a central authority to efficiently attend to minor requirements over the length and breadth of the land. Small repairs, choked water-tables and such like can be best attended to on the spot. The proposal to give the police the control of traffic is good, if supplemental to local control. Such authority would tend to make road abuse more careful, and would prevent wilful destruction and save large money.

I agree with that. The work could be done more cheaply and economically by the local boards. In the South-West, if the money from the Commonwealth grants that has been spent there had been given to the road boards for the making of roads, more would have been constructed and they would have been less cut up. One member said that

there is only one time of the year in which roads can be made. When I saw the road makers at work they were carrying out the operations in May and June, during the heavy rains. They cut up more roads in those two months than were being made. If the work were left to the local board they would know the best time of the year for the making of roads, and would choose that time. There are certain parts of the State where roads can be built during winter. Nearly all the road boards have high land in their districts, and that is dry enough to cart over during the winter. There are other parts of the State where it is ruinous to attempt to send heavy loads over the roads during the wet period. Greater economy and efficiency could be achieved if the road boards had the spending of the money instead of the Public Works Department. I believe the work could be done more cheaply by contract. It is certain that more work could be accomplished by the farmers, and the men who are living in the district, than by day labour. I am opposed to day labour, and to having the Commonwealth grant spent on roads that are being built as relief works. The grants, small as they are, assist us considerably, but we could do even better work if these undertakings were removed from political control. If we send the Bill to a select committee we shall get a measure of which we shall not be ashamed. Every clause will have to be gone into to see that it contains no loophole, and that there is no possibility of money being wasted, as has been the case in the past. I intend to support the second reading, and will vote for a motion to refer the Bill to a select committee.

On motion by Hon. J. Ewing, debate adjourned.

House adjourned at 9.5 p.m.

Legislative Assembly,

Wednesday, 9th September, 1925.

The SPEAKER took the Chair at 4.30 p.m., and read prayers.

QUESTION—ELECTORAL ACT, ALLEGED BREACH.

Mr. PANTON asked the Minister for Justice: 1, Has his attention been called to the sworn testimony of Mr. W. H. Carpenter, in his claim against the Fremantle Branch of the National Federation for balance of salary as secretary, wherein he stated that £558 was spent by that league to further the candidature of Captain Potter for the West Province seat in the Legislative Council? 2, If so, seeing that Section 172 of the Electoral Act, 1907, limits the expenditure of a candidate for election to the Legislative Council to £500, will he institute inquiries into this breach of the Act, and if necessary take legal proceedings?

The PREMIER (for the Minister for Justice) replied: 1, Yes. 2, No, the time in which this could be done, if a breach of the Act existed, has expired.

Mr. Richardson: You have slipped a bit, I think.

QUESTION—SOLDIER SETTLEMENT.

Mr. C. P. WANSBROUGH (for Mr. Thomson) asked the Minister for Lands: In view of the fact that there are 1,831 returned soldiers with qualifying certificates entitling them to come under the Discharged Soldiers' Settlement Scheme, and also that the Federal Government have