

nsw department of public works annual report

65—66

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No. 119

1966-67

PARLIAMENT OF NEW SOUTH WALES

REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

FOR THE

Year ended 30th June, 1966

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DEPARTMENT OF PUBLIC WORKS

NEW SOUTH WALES

Annual Report for the Year 1965-66

The Director of Public Works to the Honourable Davis Hughes, M.L.A., Minister for Public Works.

Sir,

I have the honour to present to the Minister the Annual Report of the Department of Public Works for the year ended 30th June, 1966.

I. ADMINISTRATION

The following officers were in charge of the various activities at 30th June, 1966:

- Director, J. C. Humphrey, LL.B.
- Chief Engineer, A. R. Ford, B.E., M.I.C.E., M.I.E. (Aust.).
- Government Architect, E. H. Farmer, B.Arch., F.R.A.I.A., F.R.S.H.
- Deputy Chief Engineer, A. Dance, B.Sc., B.E., M.I.E. (Aust.), M.I.C.E. (London).
- Assistant Director, W. C. McCaughan, M.B.E.
- Secretary, L. A. Davis, A.A.S.A., A.C.I.S.
- Principal Engineer, Water Supply and Sewerage, T. H. McGlenn, A.S.T.C., A.M.I.E. (Aust.).
- Principal Engineer, Harbours and Rivers, C. W. Thursby, L.S., A.S.T.C., M.I.E. (Aust.).
- Principal Designing Engineer, W. J. Russell, B.Sc., B.E.
- Local Government Engineer, J. A. E. Cameron, A.S.T.C., A.M.I.E. (Aust.).
- Principal Surveyor, R. E. Doyle, R.S., M.I.S. (Aust.).
- Plant Engineer, W. P. Bannister, A.M.I.E. (Aust.).
- Engineer Superintendent, Dredge Service, C. J. Howell, M.I.Mar.E. (London), M.I.E.I. (London), A.M.I.-A.A.E.
- Acting Manager, Building Construction and Maintenance Branch, R. H. Sindel.
- Senior Administrative Officer, T. H. Walker, LL.B.
- Accountant, A. G. Dunstan, A.A.S.A.
- Legal Officer, J. M. Dymock, LL.B.
- Chief Clerk, A. A. Poirrier.
- Superintendent of Stores, B. W. Phillips.
- Chief Testing Officer, J. McC. Shortis, A.S.T.C. (Chem.) A.R.A.C.I.
- Trading Undertakings:
 - Director, State Dockyard, Newcastle, H. D. Harding.
 - Manager, State Brickworks, J. L. Hobbs, A.S.T.C., A.R.A.C.I.
 - Manager, Government Motor Garage, F. J. Middleton.

II. LEGISLATION

There was no new legislation passed during the year.

III. FINANCIAL

SUMMARY

(For details see Appendix I)

Expenditure and repayments on works and services are summarized as follows:

	Gross Expenditure	Receipts and Repayments
	\$	\$
Consolidated Revenue	17,356,148.52	1,867,207.57
General Loans	21,845,107.44	2,886,792.84
Special Deposits Account	108,591,143.61	73,415,903.54
Consolidated Revenue—grants, loans, advances, etc.	8,216.97	.....
	147,800,616.54	78,169,903.95
Payments made direct by other Departments for works and services carried out	810,502.45	.....
Loan expenditure not costed in Head Office—		
State Dockyard	400,000.00	.....
State Terracotta Tileworks	5,910.11	12,445.85
	\$ 149,017,029.10	78,182,349.80

IV. HARBOURS AND RIVERS

(For details see Appendix II)

Expenditure on Harbours and Rivers construction works was \$10,953,000. This was an increase of \$611,000 on the programme for the preceding year.

NEWCASTLE

At Newcastle, the \$4,000,000 rock removal contract to deepen the harbour entrance by 10 feet was completed in April, 1966. The new depth of 36 feet achieved, will allow the accommodation of larger vessels in the port.

Considerable progress was made during the year on the construction of a new coal loading berth for the Maritime Services Board, at Carrington Basin, Newcastle. The berth, when completed towards the end of 1966, will form part of an overall project designed to provide modern coal loading plant and coal storage for the coal export trade from Newcastle.

In view of the world shipping trend towards container cargoes, the Maritime Services Board decided that work on the Throsby Basin No. 1 Berth should be redesigned to accommodate this type of cargo. At the request of the Board, work was suspended on this project pending the completion of a new design to meet the particular requirements of containerized cargoes.

The Island Development Project at Newcastle has developed to the stage where the pioneer industry, Greenleaf Fertilizers Pty Ltd, is now established and in initial production. In this, Newcastle is seeing industrial history in the making. A smaller industry, Tarmastic Pty Ltd, also completed its plant and installations on a four-acre site on Walsh Island. There has been a wide range of inquiries from other industrial undertakings, and further substantial industrial development on the area appears certain. Immediately adjacent to the initial subdivision of 400 acres, work has proceeded on the partial reclamation of a further 662 acres which will be the next area becoming available for subdivision and release over the next few years.

The emphasis of construction at the present time is on the provision of the facilities necessary to service the initial subdivision and the industries of the future. This emphasis will continue for at least the next twelve months. During the year, the construction of the embankment for the railway link to The Island was commenced and the sealing of subdivision roads continued. Work commenced in January, 1966, on the bulk handling berth on Walsh Island, which is being undertaken on behalf of the Maritime Services Board.

PORT KEMBLA

The completion of the tie-up berth within the Inner Harbour concluded major construction projects for the time being, but the Department has formulated a comprehensive \$40,000,000 development programme for the port.

Subject to shipping trade developing to justify the capital expenditure involved, it is proposed that progressive port development be carried out over a 15-year period.

An additional coal storage area for the loading and storage of coal from Huntley Colliery was provided to meet the increasing volume of material handled by the Port Kembla Coal Loader. The Coal Loader has continued to demonstrate its ability to perform in accordance with design requirements, and during the year handled 1,940,944 tons of coal, coke, and superphosphate. This represented an increase of 26 per cent on the figure for the preceding year.

CLARENCE HARBOUR WORKS

Development of a deep sea port at the mouth of the Clarence River continued with the northern breakwater being extended by a further 385 feet. This was achieved using 40-ton concrete blocks and stone of up to 32 tons from the Department's rock depot and quarry on Woodford Island. A seismic survey has shown that no rock exists in the harbour entrance other than at the reef. The knowledge gained from the survey has allowed planning of the internal port works to proceed. The Government has announced its intention of providing a depth of 32 feet for the port.

FISHING PORTS

The programme of port works to provide safe havens for the fishing fleets operating off the New South Wales coast line continued at Forster, while preliminary work commenced on new breakwater construction at Wollongong.

Work also commenced on the construction of a boat harbour for fishing vessels on the southern side of the Evans River.

The 600-foot extension of the northern breakwater at the entrance to the Richmond River proceeded satisfactorily.

DREDGING

Dredging was carried out in the main coastal rivers and ports to maintain navigable channels for commercial shipping. In Newcastle Harbour 4,700,000 barge tons of material were removed.

FLOOD MITIGATION

Subsidies to Councils for flood mitigation works exceeded \$2,600,000. The completion of extensive works on the Tweed, Richmond, Clarence, Macleay, Hunter, Hawkesbury and Shoalhaven Rivers has greatly minimized the destructive power of these rivers during flooding.

The only significant flood during the year was on the Richmond River in the month of July. This major flood demonstrated the efficiency of the flood mitigation works constructed to date.

Investigations were carried out into flood mitigation proposals for the Hastings River and a detailed investigation of the Lower Manning was completed and a report issued to the Manning Shire Council.

Further investigation of the Hawkesbury River was carried out for the Inter-departmental Committee set up to examine the flood mitigation requirements of the river.

MODEL STUDIES

The major investigation at the Department's Hydraulic Laboratory, Manly Vale, continued to involve studies on behalf of the Maritime Services Board with a view to reducing the incidence of siltation in Newcastle Harbour. The studies were virtually completed during the year and a final report is in the course of preparation.

New models were constructed at the Laboratory in relation to the Macleay River Flood Mitigation Scheme, Wollongong Harbour Breakwater, and the stability of rock facing on Hume Reservoir.

V. WATER SUPPLY AND SEWERAGE

(For details see Appendix IIIA)

Considerable progress has been made in the implementation of the Government's policy of accelerating the construction of country water supply and sewerage projects.

During the year, subsidies to the order of almost \$3,000,000 were paid to Councils for approved construction works which were carried out in a large number of country areas either by day labour, by contract or by local Councils working under the supervision of departmental engineers.

The Councils themselves contributed an equivalent amount, thus bringing the total value of the construction programme to about \$6 million. The Government contribution was an increase of more than \$1 million on the allocation for the previous year.

A forward construction programme has been planned on the basis of the fourteen year waiting period for Government subsidy being reduced to about seven years by 1970 in accordance with the Government's policy undertakings. The target of 1970 is contingent upon sufficient loan finance becoming available. Certainly, in the immediate years ahead, there will continue to be a progressive acceleration in the tempo of country water supply and sewerage construction.

Major Water Supplies

COBAR

This \$3 million scheme provides water for a group of mining companies in the area and also includes the augmentation and treatment of Council's existing water supply system. The scheme was put into operation during the year.

FISH RIVER

Work was completed on the third and final stage of this major scheme. Extension of the water supply to the Blue Mountains City Council was completed during the year, the Council receiving an augmented supply at the rate of about 2 million gallons a day.

The completed scheme is being operated by the Department.

LENNOX HEAD-BALLINA

This \$880,000 scheme will be supplied from an 80-million gallon capacity dam on Emigrant Creek. Water will be pumped from the dam through a rising main to a 250,000-gallon balance tank at Knockrow and from there to a 50,000-gallon reservoir at Newrybar. A gravitation main leading from the balance tank will carry the water to Halpin, Lennox Head, East Ballina and Tintenbar.

LOWER CLARENCE

This scheme, estimated to cost \$3,200,000 (50 per cent Government subsidy) is designed to supply water to towns and communities along the Lower Clarence River from Grafton to the coast, including parts of South Grafton. It will serve a population of 9,000 people and 20,000 head of stock.

Construction was carried out by day labour and work is scheduled for completion by early 1967.

MANNING DISTRICT

Supply for this \$3 million scheme comes from the Manning River. The water is pumped to an off-creek storage dam initially and then pumped to Wingham reservoir for distribution to Taree and Wingham. Water from a balance tank near Koorainghat is supplied through a gravitation main to Old Bar, Forster, Tuncurry, Nabic, Dyer's Crossing, Krumbach and Halliday's Point. Work is progressing satisfactorily.

THE ENTRANCE

The estimated cost of this scheme is \$3,000,000 with the Government providing a 30.5 per cent subsidy.

The construction of The Entrance reticulation has been completed and contracts let for the construction of the pumping station and two million gallon service reservoir at Bateau Bay.

WALCHA

This scheme, estimated to cost \$480,000 (50 per cent Government subsidy) draws water from an intake at a large pool in the MacDonald River. The water is then pumped to a balance tank on the Dividing Range. From this point a gravitation main carries the water to a 500,000-gallon reinforced concrete reservoir. The scheme is complete except for the construction of a chlorination and fluoridation building and the installation of plant.

WOOLGOOLGA

This scheme, estimated to cost \$430,000 (50 per cent Government subsidy), consists of a small concrete pipe head weir on Woolgoolga Creek approximately 5 miles from Woolgoolga. A gravitation main will carry the water supply to an off-creek storage dam of 60,000,000 gallons capacity. From the dam the water will be pumped to a 1,000,000-gallon reservoir located on the headland and a 100,000-gallon reservoir in the town.

A satisfactory rate of progress was maintained during the year.

WYONG

This scheme, estimated to cost \$2,600,000 (31.9 per cent Government subsidy), involves augmentation of supply from the Mardi Dam near Wyong to serve some villages in the Tuggerah Lakes and surrounding areas. The scheme is approximately 30 per cent complete.

OTHER WATER SUPPLY WORKS

Apart from the major works referred to, substantial works were undertaken at Barooga and Tumut.

Sewerage Works

A sewerage scheme was completed at Braidwood, while projects at Bellingen, Blayney, Coolamon, Gilgandra, Jerilderie, Lawson and Werris Creek were nearing completion: at the close of the financial year.

Major sewerage schemes were commenced at Adelong, Barham, Batlow and Quirindi, and the \$1,200,000 Tweed Heads project was well advanced. Investigation and designs were undertaken in respect of 38 different country sewerage projects.

River Murray Work

HUME RESERVOIR

During the year more rock was placed on the main embankment to give increased stability and additional protection against wave action. This work involves a volume of 340,600 cubic yards of rock, of which 78,000 cubic yards was placed this year. This work is nearly complete.

The raising of the Bethanga Bridge was continued and virtually completed. The bridge will be re-decked during the financial year 1966-67.

VI. SYDNEY OPERA HOUSE

Construction of the complex roof structure is expected to be completed early in 1967.

In August, 1965, the architect, Mr Utzon, presented to the Government an estimate of \$49,400,000 which he said provided the most accurate figure that could be determined on the information then available.

This estimate was not accepted by the Government as a final figure because of the major aspects of planning which had yet to be resolved. The question of patrons car parking had also to be decided.

On 28th February, 1966, Mr Utzon submitted his resignation as architect for the Opera House.

Upon his resignation the Government decided that it was vital to provide for more effective control of the project both from cost and planning points of view.

A new architectural panel, Messrs Hall, Todd and Littlemore, acting with the Government Architect, was appointed to complete the project. These architects are eminent in their fields, and in the short time they have been responsible for the project, have made considerable headway in the transition from Stage II to Stage III.

Tenders for the first phase of the Stage III construction are expected to be invited towards the end of 1967.

VII. ARCHITECTURAL

(For details see Appendix IV)

The Branch was honoured during the year when the Government Architect was awarded the Blakett Award for the design of the Taree Technical College, an exceptionally fine building of which the main design elements are off-the-form concrete and concrete blocks.

The Sir John Sulman Medal for 1964 was also awarded jointly to the Government Architect for the design of Goldstein Hall at the University of N.S.W., and a private architect, in respect of another building.

Expenditure on the construction of new buildings was to the order of \$82,000,000 which was more than half of the total expenditure of the Department.

Designs were prepared for a wide range of public buildings estimated to cost \$123.7 million in all.

The largest single sectors of the architectural programme continued to be in the fields of education and public health.

Major development is contemplated at the Liverpool District Hospital. Designs have been prepared for a scheme to increase the bed accommodation from 400 to 500 to serve the growing needs of Liverpool and the surrounding district, where extensive housing development is taking place. An estimated cost of \$8 million is at present anticipated for this project.

Investigation and planning continued on the development of the Parramatta District Hospital, where it is proposed to construct a multi-storey block to accommodate 500 patients, at an estimated cost of \$10 million.

Planning commenced during the year on proposed major hospital construction projects at Balmain, Bateman's Bay, Coff's Harbour, Crown Street, Forbes, Mater Misericordiae, Waratah, and Tamworth.

Substantial progress was made on a complex programme of modernizing State and Psychiatric Hospitals. Projects estimated to cost \$6 million within this category were commenced during the year.

At Rydalmere Hospital a \$1.8 million contract was let for the construction of six wards for geriatric patients on a new site recently prepared on the opposite side of Victoria Road to the existing main buildings.

Major contracts also were let for the construction of two new-forty-bed wards for adult patients, and an acute observation ward, at North Ryde Psychiatric Centre.

Of particular significance to the problem of intellectually handicapped children is the proposed establishment of a training centre for retarded persons at Parramatta. Planning was completed for this \$3 million centre which will provide 300 beds upon completion. The design concept is one of the most modern and advanced of its type in the world.

Sketch plans were commenced for a new Coroner's Court, Division of Forensic Medicine and Morgue in Parramatta Road, Camperdown, estimated to cost \$1.8 million. This building is intended to replace the existing City Morgue and Coroner's Court on the west side of Circular Quay.

The planning and preparation of contract documents for new school construction was on an unprecedented scale.

Designs were prepared for 247 projects estimated to cost \$55 million, and working drawings for 225 projects estimated to cost \$60 million.

A rationalized design for primary school buildings was prepared, utilizing standard drawings and specifications which can be adapted to a variety of circumstances with the minimum use of labour.

Plans for the first stage of the N.S.W. Institute of Technology were well advanced. Contract documents for work estimated to cost \$12 million in the first stage are expected to be in readiness by June, 1967.

A new Schools Research and Development group has been established with the aim of further improving the building technology of school construction.

The Department was entrusted with the completion of major projects at all four universities.

Contract documents were completed for eight major buildings at the University of New England and preliminary plans were prepared for a further ten buildings which, it is expected, will be constructed during the 1967-1969 triennium.

For the University of N.S.W., Phillip Baxter College, Stage III, was completed, and sketch plans prepared for International House, estimated to cost \$507,000.

With the Macquarie University as client, sketch plans were prepared for the Halls of Residence, estimated to cost \$1.1 million, and a contract to the value of \$676,000 let for the construction of the Macquarie University Library.

The State Government Office Block was largely completed except for the specially designed areas in the Premier's Wing and the State Reception area on Floor 31 of the Tower. The handing over of the building for occupation was retarded by a fire in one of the service ducts, which necessitated restoration work by the contractor using about twenty-seven different sub-contractors.

Major court house construction works were carried out at Newcastle, Blacktown, Fairfield, and Port Kembla, while planning was well advanced on a major scheme of additions and remodelling of the Wollongong Courthouse, at an estimated cost of \$1.5 million.

A report is being prepared on the future development of the Liverpool Street site of the Sydney Courts of Petty Sessions.

Plans were prepared for two projects, each of a similar character, comprising a courthouse, police station and government offices for proposed construction at Liverpool and Parramatta. The combined cost of these buildings will be to the order of about \$3 million.

Further expansion has taken place in the programme of constructing central office buildings for government departments in country towns. New Government Office Blocks at Albury, Narrabri, and Inverell were well advanced towards completion, and tenders were invited for a similar project at Goulburn. Plans were prepared for other offices at Wagga Wagga, Grafton, and Moree.

The Department was engaged in the planning of a number of other important projects associated with government accommodation including:

- A new State Government Office Block in Hunter Street, estimated to cost \$5.9 million;
- a repository for public records at Kingswood, estimated to cost \$2 million;
- a new home at Kurri Kurri for 200 delinquent boys;
- a \$3 million redevelopment scheme on the site of the State Treasury;
- a new furniture centre at Smithfield for the Department of Education. This building will cover some eight acres and is estimated to cost \$3.5 million.

The Engineering Division continued to be of major importance to the programme, the engineering component comprising approximately 25 per cent of the total building construction costs.

VIII. BUILDING CONSTRUCTION AND MAINTENANCE

(For details see Appendix V)

The total expenditure on construction, alterations, repairs and maintenance to schools, public buildings, hospitals, and other institutions was \$12,009,802 as compared with expenditure of \$11,265,410 in 1964-65.

The sum of \$4,430,019 was expended on the maintenance, repair and renovation of public buildings and state institutions. Extensive renovations and alterations to State and psychiatric hospitals contributed significantly to this figure.

Some of the more important renovations and alterations were at Parramatta Psychiatric Hospital—Male Wards A, B, C, and D; Rydalmere Hospital—Wards 1 and 2; Gladesville Hospital—Wards 3 and 4, and Callan Park Hospital. Recreation Hall, and Chapel.

Further extensive renovations were carried out to the Registrar General's Department while new accommodation, a fire escape, and a book lift were also provided.

The Construction Section completed 234 classrooms at 79 locations in the metropolitan area, while \$2,638,568 was spent on maintenance in this area. Country school maintenance involved the expenditure of \$1,850,000.

The day labour staff attached to the country depots at 30th June, 1966, was 757. In addition to the expenditure on school maintenance, \$877,805 was spent on repairs and maintenance to public buildings from the Department's Revenue Vote allocation.

The day labour strength in the metropolitan area varied slightly from the previous year, totalling 1,876, as compared to 2,065 in 1964-65.

IX. LOCAL GOVERNMENT ENGINEERING

(For details see Appendix VI)

During the year 458 grants totalling \$14,563,871 were made to Local Government Authorities, the major allocation being from the Commonwealth Aid Road Funds. From this source the sum of \$13,644,657 was distributed among Councils for rural road reconstruction and development, restoration of flood and storm damage, road dedication surveys, level crossings replacement, bridge construction and other works.

The Commonwealth Aid Road allocation grants totalling \$12,103,372 to 198 Councils for road works and reconstruction. This involved the construction of approximately 1,000 miles of road inclusive of drainage structures.

The sum of \$267,473 was distributed to various Councils for flood and bushfire damage including the replacement of five bridges estimated to cost \$360,000.

A large number of councils participated in the allocation of \$210,077 in grants for special purposes and a further \$827,729 for bridge construction. In addition, \$211,324 was spent on the construction of bridges to replace Government subsidized ferries.

Other smaller amounts were made available for level crossings and road dedication surveys.

Funds totalling \$1,400,000 were also provided from Commonwealth Aid Roads funds to the Department of Main Roads for developmental roads and works and for the construction of unclassified roads and works in the Western Division of the State.

Revenue funds amounting to \$201,214 were made available in 113 grants to assist councils in repair, renewal and construction programmes and the restoration of flood damage to works, the construction of levee banks, etc.

Grants totalling \$160,000 were made to 26 councils to assist in the construction of swimming pools in country areas. These grants are on the basis of 25 per cent of the actual cost, or to a maximum of \$20,000 in each individual case. In many cases, designs and specifications, review of proposals and technical advice for councils and client departments, were provided.

The Branch assisted in the provision of the civil engineering services on major building projects, especially in liaison with the Government Architect. This included the investigation, design and supervision of construction of roadworks, drainage, ground improvements in many public schools, hospitals and other institutions.

Civil engineering works are currently being undertaken on behalf of the Metropolitan Meat Industry Board on the construction of new sheep and cattle saleyards and allied works at the Homebush Abattoirs in Sydney, estimated to cost \$2 million.

Civil engineering works were commenced on behalf of the Child Welfare Department at Kurri Kurri Boys' Welfare Home.

X. ENGINEERING DESIGN BRANCH AND TESTING BRANCH

(For details see Appendix VII)

The more important works for which designs were prepared were the Wyong District and Manning District Water Supply schemes, the new saleyards for the Metropolitan Meat Industries Board at Homebush, and the drainage of the campus area of the University of New South Wales.

Designs for two bridges on the Clarence and Manning Rivers to replace ferries at Goodwood Island and Dumaresq Island, respectively, were completed.

Extensive proposals for improvements works at Lock No. 10, Wentworth, and Lock No. 15, Euston, were investigated for the River Murray Commission.

Other schemes for water supply and sewerage in country towns were designed and numerous proposals for flood mitigation works, bridges and other local-government works, were reviewed on behalf of local-government authorities.

The volume of the testing of cement in the Testing Branch showed a slight decline in comparison with the previous year, but 975 certificates were nevertheless issued to cement manufacturers covering the sampling, testing and analysis of over 4,172,000 bags.

XI. SURVEY AND SURVEY DRAFTING

(For details see Appendix VIII)

A great variety of engineering and land survey work was carried out for Public Works and other departments, Government Instrumentalities and Local Government Bodies.

Surveys were made for country towns water supplies and sewerage works, harbours and rivers works, drainage and flood mitigation schemes, and reclamations. Surveys were also made to assist the functions of mines, child welfare, aborigines' welfare, buildings (universities, schools, hospitals, court houses, police stations, fire stations, etc.), as well as necessary surveys required for the purchase, sale and lease of departmental lands.

A large volume of work was again carried out for the Department of Education, including engineering surveys such as contour plans for sewerage, drainage and ground improvements, and numerous boundary surveys for the acquisition of sites for new schools, additions to existing sites, as well as marking out and reporting on established sites.

The total of surveys undertaken was about equal to that of the previous year and it was again necessary to engage surveyors in private practice.

The survey drafting section was under considerable pressure, particularly in engineering matters, the number of plans increasing from 222 in 1964-65 to 667 this year. There was some reduction in the number of land matters requiring attention.

In the Photographic and Plan Printing Section 171,681 negatives and 217,165 prints were produced. Ammonia prints totalled 189,532. These were prepared for numerous client departments and instrumentalities. The microfilming of departmental plan records was virtually completed during the year.

Plans lodged in the Plan Room have been culled and recorded on microfilm to reduce storage space.

Approximately 182,000 plans have been examined, of which about 115,000 were microfilmed.

XII. STORES

(For details see Appendix IX)

The purchase of stores and materials showed a continued increase primarily due to purchasing for State Psychiatric services and because of the acceleration of the country water supply and sewerage construction programme.

The inspection of steelwork, asbestos cement and earthenware pipes and fittings, cement, cast-iron pipes and other similar, materials continued at the premises of various manufacturers throughout the year.

The Department's workshop and store at Leichhardt were occupied in the fabrication of steelwork for public buildings, repairs to plant and the receipt and issue of stores and materials.

XIII. PLANT

(For details see Appendix X)

No. 1 Plant to a value of approximately \$553,702 was acquired during the year, including \$333,660 for earthmoving equipment and \$220,042 for motor vehicles. Other instruments, minor stores and miscellaneous equipment were purchased for Departmental projects to the value of \$21,555. The capital cost of equipment now held is \$4,216,530 as compared with \$3,663,044 in 1965-66. The policy of replacing old plant with new equipment of modern type was continued and has resulted in improved plant availability, decreased maintenance costs in relation to the value of plant in service and increased revenue. Although the purchase cost of new plant has steadily risen, the improved general standard of plant in operation has permitted these costs to be absorbed with only slight increases in hire rates.

Close liaison was maintained with all construction branches of the Department and technical assistant given when necessary.

Items of plant were also available on hire on request to other Government Departments, State Instrumentalities, councils and local-government bodies.

The Scientific Instrument Section continued an effective maintenance and repair service of all departmental instruments and carried out instrument servicing to other departments and authorities in increasing volume. The manufacture of commemorative and other plaques has substantially increased in volume.

XIV. STATE DOCKYARD

(For details see Appendix XI)

The Dockyard again operated profitably and for the 24th successive year returned a surplus, the turnover and net profit being \$8,765,560 and \$388,734 respectively. The sum of \$188,342 was allocated for payment of weekly profit sharing dividends to employees during 1966-67, the total set aside since the inception of the profit sharing scheme in 1951 being \$3,727,952. The average profit sharing dividend during the year was \$3.75 per week.

Employees at the close of the period totalled 1,824, compared with 1,706 at 1st July, 1965.

The m.v. *Moresby*, a 3,600-ton d.w. cargo vessel for Burns Philp and Company Ltd, was completed and handed over for service. Two (2) 120-ft diesel propelled harbour and coastal tugs for use at the new BP refinery at Westernport, Victoria, were completed and delivered to the owners, the Public Works Department of Victoria.

Vessels under construction and orders in hand at the close of the year included two (2) 19,600-ton d.w. oil tankers for BP (Australia) Ltd and a 95-ft harbour and coastal tug for the N.S.W. Department of Public Works.

Since the inception of the Dockyard 63 vessels have been completed and 3 are under construction.

Heavy engineering works were carried out for the steel industries at Newcastle and Port Kembla. Work continued on condensing plant and heaters for Munmorah Power Station and heavy machining was undertaken for other industries.

Docking and ship repair work maintained a high level of activity, tonnage of vessels docked and/or repaired for the year being 2,190,159.

The programme of modernization of plant and shipbuilding facilities progressed, and during the year several major units of modern shipyard plant were installed to ensure the continued efficient operation of the undertaking.

XV. STATE BRICKWORKS

(For details see Appendix XII)

The net profit for the year 1965-66 was \$512,099. Production was 20,642, 416 face bricks, 6,394,192 cream bricks, and 40,152,936 common bricks.

The manufacture of new type of face bricks, using the reserve capacity of common brick kilns, has continued. Acceptance of this product on the market was consolidated and yield increased.

Moving bar stokers installed on one down-draft kiln were successful. The different firing conditions in the kiln have allowed the production of a wider range of colours.

Two Clayton Goodfellow brick machines from England have been delivered and the bricks produced have been very satisfactory, confirming expectations at time of ordering.

Employees increased by three Public Service Board appointees and 18 ministerial employees, to 44 and 490 respectively. Two additional contract brick carters were engaged making 56 carters and 6 hired vehicles with drivers.

XVI. GOVERNMENT MOTOR GARAGE

(For details see Appendix XIII)

Expenditure for the year was \$362,712, while receipts were \$384,939. These figures showed a slight increase on those of the preceding year.

Some special assignments were:

The construction of twelve new police patrol van bodies including interior fittings;

Fitting out an International truck with rescue equipment for the Police Flood Rescue Squad;

Fitting forty-one electric sirens and modulators (which operate intermittently instead of continuously) to police patrol cars.

An automatic car washing machine was installed as a new service to Government vehicles.

XVII. STANDARDS ASSOCIATION OF AUSTRALIA

The Department continued to make available the services of its officers for representation on association committees dealing with the issue of new specifications and codes, revising existing publications and interpreting the technical character of specifications, etc.

Assistance was also rendered to the Association in the revision of draft standards, from not only Australia but also Commonwealth and overseas sources.

XVIII. PERSONNEL

(For details see Appendix XIV)

The financial year 1965-66 was one in which considerable demands were made on the resources of the Personnel Section. This was partly brought about by the fact that inductions totalled 410, an increase of more than 100 in the previous year. These included 28 professional officers recruited from overseas. In cases of overseas arrivals, families were met and welcomed, accommodation booked, and refund of excess accommodation expenses arranged. In September, 1965, authority was delegated to the Department to recruit engineers and architects up to a maximum salary of Grade I as well as Assistants, Photographic and Plan Printing Section. Twenty-seven staff were recruited under this authority.

There were 41 trainees recruited, this being the largest intake for any year since trainees were first appointed to the Service. There is now a total of 133 full-time trainees attending courses in Engineering, Architecture, Surveying and Building at Sydney University, University of New South Wales and Newcastle University.

The total number of apprentices receiving training in various trades increased to 279, of whom 106 are in country areas. The Department has asked for the recruitment of approximately 90 additional apprentices for 1967. Detailed information on apprenticeship training within the Department was submitted to the Public Service Board for presentation to the Apprenticeship Inquiry set up by the Government. Other additional information relating to all trades in which apprentices are employed by the Department was compiled for use by the Board's Recruiting Division in a brochure on technical careers. A special reporting form was designed and introduced to improve the quality of apprenticeship training in country areas. The scheme was launched by personal visits to all centres by the Personnel Officer and the Supervisor of Apprentices.

The Training Officer, appointed in May, 1965, has taken over the principal training activities including the conduct of an induction school, trainees induction programme and tutorial discussion classes. The Personnel Officer, however, is still closely involved in many training activities and lectures to the various groups.

Approval was given for 171 members of the staff to take study leave concessions for attendance at part-time certificate, diploma or degree courses. This is more than twice the number of staff who were granted study leave last year and is tangible evidence of the increasing interest in obtaining tertiary qualifications.

Plans are now in the final stages for the introduction of a staff reporting scheme to cover junior professional officers in the Engineering Division.

XIX. MANAGEMENT AND ADMINISTRATION REVIEWS

The Organization and Methods unit consists of two investigating teams assisted by a Methods Officer whose main function is to provide assistance to Branches in implementing approved proposals arising from organization and methods survey.

During the year surveys were carried out as follows:

The Engineering Division of the Government Architects Branch;

The store layout at the Government Motor Garage;

The Clerical Section of the Harbours and Rivers Branch;

The organization and procedures of the Electrical Services Workshop.

It is expected that greater efficiency, flexibility and improved use of materials, machines and personnel, will result from these surveys.

During the year also the nucleus of the Common Services Organization was established prior to the forthcoming move to the State Government Office Block. The planning of the facilities and services to be used by the different departments to occupy the building, was completed.

Preliminary arrangements were commenced for the actual physical move to the new building.

Of particular significance to the Common Services Organization is the Document Reproduction Centre which will meet the duplicating and copying needs of the various departments. The Document Reproduction Centre was set up on a temporary basis in this Department prior to the move, and is already in a position to provide a high standard of reproduction work for most of the day to day needs of the Department.

XX. STAFF

The officers who retired during the year following long and meritorious service, were:

Mr R. Barry, Car Driver, Stores Branch.

Miss S. D. Coburn, Shorthandwriter and Typist, Building Construction and Maintenance Branch.

Mr E. C. Costello, Engineer, Engineering Design Branch.

Mr A. C. Duckworth, Inspector, Building Construction and Maintenance Branch.

Mr E. S. Hain, Clerk, Government Architect's Branch.

Mr C. S. Kenning, Foreman, Metropolitan.

Mr J. D. Luke, Timekeeping Section Leader, Building Construction and Maintenance Branch.

Mr E. A. McLerie, Architect, Government Architect's Branch.

Mr R. L. MacKay, Car Driver, Stores Branch.

Mr W. A. Moody, District Engineer, Port Kembla.

Mr D. J. O'Donoghue, Engineer, Water Supply and Sewerage.

Mr A. G. Robertson, Inspecting Architect, Government Architect's Branch.

Mr W. F. Sandstrom, Clerk, Water Supply and Sewerage.

Mr A. I. Skene, Clerk, Government Motor Garage.

Mr A. G. Stewart, Administrative Officer (General).

Mr W. H. Thompson, Foreman, Newcastle.

Mr J. M. White, Senior Messenger, Records and Postal.

It is with regret that I record the death of:

Mr F. J. Dight, Clerk, Accounts Branch.

Mr M. Le Gay Brereton, Architect, Government Architect's Branch.

Mr A. J. White, Manager, Building Construction and Maintenance Branch.

Each of these three officers had given many years of willing and conscientious service to the Department. Mr White

was a Branch Head who had contributed significantly to the growth and efficiency of the Building Construction and Maintenance Branch.

XXI. CONCLUSION

A record expenditure of \$149 million was achieved during the year which reflects the growth of, and heavy demands made upon, the wide range of services which the Department provides as a major constructing authority.

I wish to express my personal thanks to the staff and employees for their loyalty, co-operation, and dedication to duty, so readily shown to me as Permanent Head, throughout the year.

Detailed reports of the various branches are attached.

J. C. HUMPHREY, LL.B.,

Director of Public Works.

APPENDIX I

FINANCIAL

Expenditure

WORKS AND SERVICES

The expenditure and repayments in respect of works and services are summarised as follows:—

	Gross Expenditure	Receipts and Repayments
	\$	\$
Consolidated Revenue	17,356,148.52	1,867,207.57
General Loans	21,845,107.44	2,886,792.84
Special Deposits Account . .	108,591,143.61	73,415,903.54
Consolidated Revenue— Grants, Loans, Advances, etc.	8,216.97	.....
	147,800,616.54	78,169,903.95
Payments made direct by other Departments for Works and Services carried out	810,502.45	.....
	148,611,118.99	78,169,903.95
Add loan expenditure not costed in Head Office— State Dockyard	400,000.00	.....
State Terracotta Tileworks . .	5,910.11	12,445.85
	149,017,029.10	78,182,349.80
Gross Expenditure	149,017,029.10	.....
Less Receipts	78,182,349.80	.....
Net Expenditure \$	70,834,679.30	.....

Consolidated Revenue Fund

DETAILS OF EXPENDITURE AND RECEIPTS

	Expenditure	Receipts
	\$	\$
Salaries and payments in the nature of salaries	5,040,853.38	.....
Maintenance and working expenses other than salaries	530,978.04	.....
Maintenance of Public Works and Services— Harbours and Rivers	763,872.04	.....
Dredge Service	648,778.89	.....
Public Buildings	3,190,000.00	.....
Water Supply, Sewerage and Storm water drainages	6,116.11	.....
State Telephone Service	1,001,921.51	.....
Electricity and Gas	2,169,478.70	.....
River Murray Works	284,000.00	.....
Miscellaneous Works and Services not elsewhere included	273,795.55	.....
Other Services— June Water Supply—estimated deficit on working	36,000.00	.....
South West Tablelands Water Supply—estimated deficit on working	202,000.00	.....
Leichhardt Depot—care and custody of idle plant and stock	9,000.00	.....
Grants to Municipal and Shire and County Councils for construction, repairs and renewal of works	109,939.66	.....
Grants to Municipal and Shire Councils in respect of flood damage	61,274.00	.....
Circular Quay improvements—cleaning promenade, painting and general maintenance	362.16	.....
Department magazine <i>Stateworks</i> —subsidy towards publication costs	460.00	.....
Australian Engineering Conference and Committee's contribution towards secretarial costs etc.	150.00	.....

DETAILS OF EXPENDITURE AND RECEIPTS—continued

	Expenditure	Receipts
	\$	\$
Other Services—continued		
Fees payable to consultants in respect of architectural works	2,870,134.51	.....
National Association of Testing Authorities Grant	529.50	.....
Post Graduate and other courses for departmental officers	12,580.84	.....
Newcastle floating dock-crane and slipway repairs	74,523.00	.....
Departmental Trainees fees, superannuation etc.	15,283.20	.....
Overseas visits by Departmental officers . .	9,556.74	.....
Timber Inspection fees	14,523.71	.....
Treasury Head Office—Consolidated Revenue Previous years—Treasury Miscellaneous . . . . .	.....	.....
Treasury Special Revenue Vote . . . . .	.....	.....
Monetary value of leave payable to dependents relatives of deceased Public Servants	4,998.15	.....
Payments as acts of grace in respect of claims for compensation etc.	617.90	.....
Contribution towards swamp reclamation at Lismore	30,000.00	.....
Minister's out of pocket expenses on overseas visit	36.98	.....
Exchange on remittances	2,600.92	.....
Revenue received and paid into consolidated revenue— Repayments to previous years . . . . .	.....	315,206.91
Miscellaneous services rendered—cost of supervision . . . . .	.....	121,036.12
Receipts returned—transfer under Section 31 Audit Act . . . . .	.....	4,488.23
Rent ex-land . . . . .	.....	59,047.53
Oncost to cover design and supervision in connection with architectural works . . . . .	.....	922,828.00
Commission to cover cost of collection of Premium-group Assurance schemes, etc. . . . .	.....	5,064.15
Payments by undertakings of Department of Public Works of the employees liability to State Superannuation . . . . .	.....	81,313.28
Unclassified receipts—rent for special port facilities, sale of plans, transfer of material etc. . . . .	.....	277,965.57
Profit on sale of land at Shea's Creek . . . .	.....	47,520.00
Profit on sale of Government property . . . .	.....	24,131.75
Sale of Government property . . . . .	.....	7,377.18
Interest on outstanding balances . . . . .	.....	1,228.85
Repayments in respect of Public Works fund expenditure Previous Years . . . . .	.....	.....
	\$ 17,364,365.49	1,867,207.57

General Loan Account

DETAILS OF EXPENDITURE AND REPAYMENTS

	Expenditure	Unissuable
	\$	\$
Harbours and Rivers and Dredges	3,889,311.69	1,316,888.01
Water Supply Works	105,205.02	71,386.42
Sewerage and Stormwater drainage . . . . .	.....	20,700.32
Construction of Water supplies and sewerages in Shires and Municipalities	2,919,999.38	1,318,270.00
Public Buildings	14,600,000.00	12,527.39
Leichhardt Depot extensions . . . . .	.....	.....
River Murray Commission	94,800.00	.....
Government Motor Garage . . . . .	.....	.....
Circular Quay Improvements . . . . .	.....	.....
Advances to Councils for construction of country killing centres . . . . .	.....	108,505.04
Construction of miscellaneous works in Shires and Municipalities	160,000.00	.....
State Brickworks . . . . .	.....	38,515.66
Water Supply and Sewerage Schemes— Preliminary Investigations	75,791.35	.....
	\$ 21,845,107.44	2,886,792.84

Special Deposits Account

DETAILS OF EXPENDITURE AND RECEIPTS

	Balance at 1st July, 1965	Receipts	Expenditure	Balance at 30th June, 1966
	\$	\$	\$	\$
Public Works Store Advance Account	303,786.88	1,510,126.86	1,591,728.29	222,185.45
Building Construction and Maintenance Branch Working Account	1,380,434.17	11,928,884.53	11,929,415.28	1,379,903.42
Government Engineering and Shipbuilding Undertaking Working Account .....	.....	243.26	124,189.94	123,946.68 <i>Dr.</i>
Dredge Service Trading Undertaking Working Account	1,442,443.44	3,385,363.22	3,361,448.78	1,466,357.88
Unclaimed Salaries and Wages	6,640.02	12,874.11	14,706.93	4,807.20
Unclaimed Moneys Account	5,967.51	2,084.13	2,562.40	5,489.24
Public Works Department Working Account— 309	489,938.40	19,348,688.03	19,097,276.22	741,350.21
Public Works Department Working Account— 3091	16,505.13 <i>Dr.</i>	331,243.35	333,814.30	19,076.08 <i>Dr.</i>
Public Works Department Working Account— 3092	73,850.69 <i>Dr.</i>	442,652.76	436,647.57	67,845.50 <i>Dr.</i>
Public Works Department Working Account— 3093	91,469.63 <i>Dr.</i>	2,774,364.11	2,824,158.57	141,264.09 <i>Dr.</i>
Public Works Department Working Account— 3094	23,303.72	615,163.81	755,538.43	117,070.90 <i>Dr.</i>
Public Works Department Working Account— 3095	19,468.79 <i>Dr.</i>	142,179.04	122,321.66	388.59
Hunter Valley Flood Mitigation Account	686,383.01	24,686.47	484,269.17	226,800.31
Dredge Service Investment Account	540,000.00	.....	.....	540,000.00
Security Deposit Trust Account	298,790.28	123,414.46	121,294.06	300,910.68
Junee Water Supply Working Account	1,789.38	87,442.37	86,177.53	3,054.22
Junee Water Supply Renewal Reserve Account— Cash	2,886.79 <i>Dr.</i>	7,799.02	3,584.27	1,327.96
Junee Water Supply Renewal Reserve Account— Securities	149,857.50	.....	.....	149,857.50
Bethungra Water Supply	2,800.17	1,261.60	1,433.74	2,628.03
Plant Control Account	177,483.37	1,217,347.59	1,324,553.80	70,277.16
South West Tablelands Water Supply Working Account	70,399.50	480,557.15	507,562.28	43,394.37
South West Tablelands Water Supply Renewal Reserve Account—Cash	7,390.26 <i>Dr.</i>	41,270.97	8,480.97	25,399.74
South West Tablelands Water Supply Renewal Reserve Account—Securities	777,039.25	.....	.....	777,039.25
Leichhardt Depot Working Account	104,418.09	723,943.09	711,424.17	116,937.01
Testing Branch Working Account	33,352.42	197,637.33	188,020.91	42,968.84
Testing Branch Leave and Depreciation Reserve—Securities Account	48,800.00	.....	.....	48,800.00
Balance of Salaries Adjustment Account	74,529.97	101,477.00	74,529.97	101,477.00
Advances to Officers for Purchase of Motor Cars Mulwala Water Supply and Sewerage Working Account	11,885.86 <i>Dr.</i>	7,607.85	2,679.30	6,957.31 <i>Dr.</i>
.....	6,739.37	25,053.50	24,876.22	6,916.65
Commonwealth Aid Roads and Works Act, 1954 Commonwealth-State Grants for Restoration of Flood Damaged Roads and Bridges	14,814,873.85	24,249.37	14,226,900.65	612,222.57
.....	14,893.49	.....	.....	14,893.49
Fish River Water Supply Working Account ..	243,771.91	553,336.63	559,887.77	237,220.77
Fish River Water Supply Renewal Reserve Account—Securities	147,084.80	.....	.....	147,084.80
Fish River Water Supply Renewal Reserve Account—Cash	10,749.03 <i>Dr.</i>	20,846.22	7,387.20	2,709.99
Testing Branch Investment Account	62,000.00	.....	.....	62,000.00
Chowilla Reservoir Commonwealth Payments ..	806,800.00	.....	472,000.00	334,800.00
Sydney Opera House	14,481,974.15	1,469.00	3,868,447.55	10,614,995.60
Homebush Saleyards Working Account .....	.....	.....	13,891.41	13,891.41 <i>Dr.</i>
Public Works Suspense Account Generally ..	2,883,224.89	2,272,561.11	4,427,979.83	727,806.17
Annual Sick and Long Service Leave to Ministerial Employees	17,911.18	1,239,343.11	756,477.01	500,777.28
Hospitals Commission	6,218,812.68	1,871.85	6,762,164.04	541,479.51 <i>Dr.</i>
Capital Grants for Water Supplies and Sewerage Construction in Shires and Municipalities .....	.....	.....	.....	.....
Hume Reservoir Construction	137,749.06	482,192.60	449,604.70	170,336.96
Miscellaneous Deductions	54,904.58	295,696.16	248,482.55	102,118.19
Bills of Quantities	5,388.60	3,566.62	3,027.42	5,927.80
Architectural Works	741,158.67 <i>Dr.</i>	24,749,112.99	26,599,695.86	2,591,741.54 <i>Dr.</i>
Water Transport Works	609,574.18	30,095.34	327,718.44	311,951.08
Commonwealth Grant for Alleviation of Unemployment	224,514.08	827.98	216,286.78	9,055.28
Armida Water Supply	50,000.00	.....	41,938.73	8,061.27
Attunga Water Supply	1,925.47	.....	275.24	1,650.23
Ashford Water Supply	11,292.51	.....	.....	11,292.51
Broken Hill Water Board	9,441.89	1,307.92	2,494.22	8,255.59
Bourke Water Supply	8,041.17	.....	.....	8,041.17
Bulahdelah Water Supply	4,347.12 <i>Dr.</i>	.....	1,625.33	5,972.45 <i>Dr.</i>
Bathurst Water Supply	7,723.19	2,754.82	2,827.32	7,650.69
Bendemeer Water Supply	12,181.63	.....	268.14	11,913.49
Berrima District Water Supply	38,693.54	19,420.44	41,786.25	16,327.73
Clarencetown Water Supply	12,691.68	.....	1,096.94	11,594.74
Cobar Shire Council Water Supply	176,661.74	81.46	111,131.80	65,611.40

Special Deposits Account—Details of Expenditure and Receipts—continued

	Balance at 1st July, 1965	Receipts	Expenditure	Balance at 30th June, 1966
	\$	\$	\$	\$
Cobar Water Board Works	220,751.94	15,006.46	244,244.01	8,485.61 <i>Dr.</i>
Coonabarabran Water Supply	1,996.11	44.62	107.49	1,933.24
Denman Water Supply	3,411.39	.....	11,217.16	7,805.77 <i>Dr.</i>
Gilgandra Water Supply	76,029.54	5,775.83	73,366.64	8,438.73
Geurie Water Supply	397.14 <i>Dr.</i>	.....	3,848.68	4,245.82 <i>Dr.</i>
Guyra Water Supply	11,530.42	.....	283.88	11,246.54
Gunning Water Supply	673.89	.....	562.83	111.06
Ivanhoe Water Supply	5,260.68	.....	5,068.52	192.16
Kootingal-Moonbi Water Supply	3,934.41	.....	245.80	3,688.61
Lennox Head Water Supply	150,000.00	144.48	183,582.93	33,438.45 <i>Dr.</i>
Lower Macleay Water Supply	14,000.00	.....	10,990.64	3,009.36
Manning District Water Supply	456,000.00	500.72	397,650.32	58,850.40
Lower Clarence Water Supply	261,777.28	19,054.93	309,195.20	28,362.99 <i>Dr.</i>
Mathoura Water Supply	5,955.79	.....	9,627.75	3,671.96 <i>Dr.</i>
Mendooran Water Supply	71,280.14	261.10	64,971.73	6,569.51
Moss Vale Water Supply	4,154.20	613.42	773.68	3,993.94
Molong Water Supply	7,983.51	234.00	2,202.00	6,015.51
Mittagong Water Supply	10,794.24	848.47	14.35	11,628.36
Port Macquarie Water Supply	134.03 <i>Dr.</i>	.....	.....	134.03 <i>Dr.</i>
Rylstone-Kandos Water Supply	95.37 <i>Dr.</i>	.....	2.10	97.47 <i>Dr.</i>
Stroud Water Supply	9,341.24	.....	2,590.10	6,751.14
Sawtell Water Supply	3,173.81	.....	.....	3,173.81
Tathra Water Supply	2,688.94 <i>Dr.</i>	.....	.....	2,688.94 <i>Dr.</i>
The Entrance Water Supply	294,590.23	10,977.46	266,450.75	39,116.94
Tenterfield Water Supply	1,600.00	.....	.....	1,600.00
Tea Gardens Water Supply	64,755.50	.....	63,384.75	1,370.75
Tantawangalo Water Supply	278.48	.....	.....	278.48
Walcha Water Supply	129,406.63	10,208.77	158,820.41	19,205.01 <i>Dr.</i>
Warialda Water Supply	3,487.16	.....	.....	3,487.16
Werris Creek Water Supply	52.14 <i>Dr.</i>	.....	.....	52.14 <i>Dr.</i>
Woodenbong-Urbenville Water Supply	40,000.00	.....	71,548.66	31,548.66 <i>Dr.</i>
Wooli Water Supply	103,091.48	4,128.28	83,436.55	23,783.21
Wyong Water Supply	864,076.16	20,454.08	565,305.36	319,224.88
Yeoval Water Supply	26,219.54	232.61	3,359.58	23,092.57
Adelong Sewerage	60,000.00	24.00	21,511.47	38,512.53
Boorowa Sewerage	50.42	30.01	40.13	40.30
Barham Sewerage	70,000.00	406.59	93,702.93	23,296.34 <i>Dr.</i>
Barraba Sewerage	756.05 <i>Dr.</i>	.....	14.49	770.54 <i>Dr.</i>
Batlow Sewerage	80,000.00	133.71	65,445.86	14,687.85
Bellingen Sewerage	62,284.66	7,444.93	71,530.33	1,800.74 <i>Dr.</i>
Blayney Sewerage	207,326.88	11,543.66	169,602.00	49,268.54
Braidwood Sewerage	27,681.79	7,305.72	35,494.22	506.71 <i>Dr.</i>
Canowindra Sewerage	15,700.00	.....	16,983.83	1,283.83 <i>Dr.</i>
Coff's Harbour Sewerage	17,686.94	43.91	2,975.05	14,755.80
Coolamon Sewerage	153,597.33	402.94	225,537.11	71,536.84 <i>Dr.</i>
Crookwell Sewerage	1,823.18	1,481.75	678.09	2,626.84
Coonabarabran Sewerage	24,955.32	1,368.60	273.96	26,049.96
Coonamble Sewerage	20,669.31	6.50	43.08	20,632.73
Gilgandra Sewerage	277,980.31	5,607.03	318,262.63	34,675.29 <i>Dr.</i>
Holbrook Sewerage	9,000.00	.....	4,714.12	4,285.88
Jerilderie Sewerage	158,249.30	781.29	246,168.98	87,138.39 <i>Dr.</i>
Kyogle Sewerage	622.12	.....	.....	622.12
Lawson Sewerage	167,960.88	20,439.94	315,787.85	127,387.03 <i>Dr.</i>
Moree Sewerage	6,459.75	.....	.....	6,459.75
Mullumbimby Sewerage	11,558.31	6,133.73	17,497.36	194.68
Murwillumbah Sewerage	943.27	.....	.....	943.27
Moama Sewerage	17,000.00	.....	11,233.34	5,766.66
Narrabri West Sewerage	11,800.00	.....	.....	11,800.00
Nyngan Sewerage	1,107.69	.....	.....	1,107.69
Portland Sewerage	2,085.14 <i>Dr.</i>	3,730.00	2,437.79	792.93 <i>Dr.</i>
Oberon Sewerage	21,163.52	1,934.24	3,932.17	19,165.59
Quirindi Sewerage	40,000.00	39.00	18,252.94	21,786.06
Springwood Sewerage	3,121.30	5,472.66	4,272.82	4,321.14
Tweed Heads Sewerage	678,776.39	6,584.69	691,036.98	5,675.90 <i>Dr.</i>
Uralla Sewerage	5,000.00	.....	22,830.99	17,830.99 <i>Dr.</i>
Wingham Sewerage	347.52 <i>Dr.</i>	.....	.....	347.52 <i>Dr.</i>
Wentworth Sewerage	4,326.08	251.64	4,583.47	5.75 <i>Dr.</i>
Werris Creek Sewerage	170,000.00	13,719.96	240,232.53	56,512.57 <i>Dr.</i>
Walgett Sewerage	7,000.00	.....	9,210.13	2,210.13 <i>Dr.</i>
Wyong Sewerage	22,600.00	.....	6,380.44	16,219.56
Woolgoolga Water Supply	80,000.00	432.58	161,534.71	81,102.13 <i>Dr.</i>
\$	51,972,756.94	73,415,903.54	108,591,143.61	16,797,516.87

Payments Made Direct by Other Departments for Works and Services Carried Out

Authority	Expenditure
River Murray Commission	\$ 810,502.45

Staff

The numerical strength of staff and the estimated annual salary charges as at 30th June, 1966, compared with the previous year are as follows:

	Permanent Officers				Temporary Officers				Total Staff			
	Number		Salaries		Number		Salaries		Number		Salaries	
	1964-65	1965-66	1964-65	1965-66	1964-65	1965-66	1964-65	1965-66	1964-65	1965-66	1964-65	1965-66
			\$	\$			\$	\$			\$	\$
General Staff	1,398	1,535	5,527,178	5,922,360	686	829	1,319,916	1,582,246	2,084	2,364	6,847,094	7,504,606
Tradesmen and apprentices appointed under the Public Service Act	..	..	..	..	1,631	1,537	3,689,130	3,533,229	1,631	1,537	3,689,130	3,533,229
	1,398	1,535	5,527,178	5,922,360	2,317	2,366	5,009,046	5,115,475	3,715	3,901	10,536,224	11,037,835

N.B.—Dredge Service excluded

Fish River Water Supply

STATEMENT OF INCOME AND EXPENDITURE FOR YEAR ENDED 31ST DECEMBER, 1965

INCOME			EXPENDITURE		
Previous Year \$		\$	Previous Year \$		\$
	Water Sales:			Salaries, wages and expenses	35,338
..	Blue Mountains City Council ..	134,050	32,216	Stores and Materials used	4,134
52,850	Lithgow City Council ..	52,850	3,920	Transport	1,896
30,292	Blaxland Shire Council ..	30,643	1,868	Plant costs	8,010
10,562	Oberon Shire Council ..	11,706	4,968	Miscellaneous charges	7,382
315,000	Electricity Commission ..	315,000	4,578	Electricity for pumping	5,360
4,038	Minor Consumers ..	4,319	4,984	Renewals reserve	14,000
7,516	Meter rents, etc.	3,400	14,000	Storm damage reserve	4,000
37,092	Net loss	13,088	4,000	Capital contribution rebates	10,216
			10,216	Interest charges, etc.	438,100
			348,320	Sinking fund payment	36,620
			28,280		
\$457,350		\$565,056	\$457,350		\$565,056

Fish River Water Supply

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST DECEMBER, 1965

ASSETS			LIABILITIES		
Previous Year \$		\$	Previous Year \$		\$
11,686,010	Fixed Assets:			Capital Contributions:	
	Storage dam, pipe lines, reservoirs mains, plant and equipment ..	11,828,982	1,431,486	Commonwealth Government ..	1,431,486
127,444	Assets vested in councils	127,444	777,000	State Government	777,000
	Current Assets:		136,344	Blaxland Shire Council	135,554
7,722	Stores and Materials ..	7,246	11,590	Oberon Shire Council	11,760
80,580	Sundry Debtors	108,736	176,630	Lithgow City Council	173,028
		115,982	2,533,050		2,528,828
	Cash at Treasury—Un-expended capital:		9,120,184	Capital Debt in respect of augmentation works	9,229,004
14,894	Contributions	14,894		Reserves:	
35,788	Working Account	6,590	5,410	Plant repairs	6,708
		21,484	5,708	Employees' Leave	5,300
133,428	Renewal Reserve Fund	146,376	23,676	Storm Damage	17,846
			125,724	Sinking Fund	162,344
			133,428	Renewals	146,376
			32,916	Capital Adjustments	37,138
			10,932	Current Liabilities:	
			94,838	Sundry creditors	24,974
				Accumulated Profit and Loss Account	81,750
\$12,085,866		\$12,240,268	\$12,085,866		\$12,240,268

There was a loss in 1965 of \$13,088 compared to a loss of \$37,092 in 1964. The quantity of water delivered during the year was 1,772,179,000 gallons compared with 1,420,534,000 in 1964. Consumption by Councils and minor consumers increased by 303,432,000 gallons and consumption at the Wallerawang Power Station increased by 48,213,000 gallons.

The amount of Capital Debt in respect of augmentation works was \$9,229,004 compared to \$9,120,184 in 1964.

South West Tablelands Water Supply

STATEMENT OF INCOME AND EXPENDITURE FOR YEAR ENDED 31ST DECEMBER, 1965

INCOME			EXPENDITURE		
Previous Year \$		\$	Previous Year \$		\$
	Water Sales:			Salaries Wages and Expenses	121,418
216,270	Councils	245,788	111,626	Stores and Materials	16,454
7,820	Railway Department	7,344	15,300	Electricity	140,014
20,448	Minor Consumers	25,958	130,750	Transport	4,430
			4,334	Miscellaneous	12,508
			12,406	Interest etc. on capital debt	149,348
244,538		279,090	142,622	Renewal Reserve Contribution	3,282
3,598	Meter Rents etc.	4,032	3,188	Sinking Fund Contribution	34,100
204,210	Deficiency	198,432	32,120		
\$452,346		\$481,554	\$452,346		\$481,554

South West Tablelands Water Supply

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST DECEMBER, 1965

ASSETS			LIABILITIES		
Previous year \$		\$	Previous year \$		\$
	Fixed Assets:		3,301,286	Capital Debt	3,322,688
	Land, buildings, reservoirs, mains, equipment	3,328,886	407,300	Less repaid	441,400
3,312,444			2,893,986		2,881,288
	Investments:			Capital contributions:	
	Renewal Reserve—	\$	8,200	Demondrille Shire Council	8,200
745,440	Inscribed stock	754,240		Reserves:	
2,764	Cash at Treasury	25,686	407,300	Debt Repayment—	
				Reserved and repaid	
		779,926	747,904	(as above)	441,400
	Current Assets:			Renewal	779,926
23,222	Stores and Materials	21,360	1,970		1,221,326
92,478	Debtors for water	85,752		Current Liabilities:	
19,520	Cash at Treasury	34,260		Plant Repairs Reserve	1,952
		141,372		Creditors:	
			79,932	Treasurer for advance on account	
			56,576	of deficiencies	81,500
				Stores and Services	55,918
\$4,195,868		\$4,250,184	\$4,195,868		\$4,250,184

The excess of expenditure over income of \$198,432 was \$5,778 less than that of the previous year.

The volume of water delivered during 1965 was 915,606,853 gallons at a cost per 1,000 gallons of 52.593 cents compared with 801,784,588 gallons in 1964 at 56.422 cents per 1,000 gallons.

Water pumped during 1965 was 996,641,000 gallons compared with 953,450,000 gallons in 1964.

Rates charged for the sale of water were as follows:

- Bulk supplies to Councils and the Railway Department—30 cents per 1,000 gallons from 1st January, 1958;
- Supplies to Councils for public baths—22.5 cents per 1,000 gallons from 1st January, 1958;
- Supplies to minor consumers—35 cents per 1,000 gallons from 1st April, 1958.

The construction programme for the undertaking for 1965 involved an expenditure of \$29,882.

Junee Water Supply

STATEMENT OF INCOME AND EXPENDITURE FOR YEAR ENDED 31ST DECEMBER, 1965

INCOME			EXPENDITURE		
Previous year			Previous year		
\$		\$	\$		\$
5,062	Water Sales—		20,356	Salaries, wages and expenses	21,252
29,896	Railway Department	4,344	2,152	Stores and Materials	2,612
.....	Junee Municipal Council	37,760	18,598	Electricity	20,642
2,874	Northern Riverina County Council	40	1,214	Transport	1,914
	Minor consumers	3,482	828	Miscellaneous	952
			22,850	Interest etc on capital debt and Working Capital	23,330
37,832		45,626	454	Renewal Reserve Contribution	452
244	Meter rents, etc	774	8,400	Sinking Fund Contribution	8,840
36,770	Deficiency	33,594			
<u>\$74,846</u>		<u>\$79,994</u>	<u>\$74,846</u>		<u>\$79,994</u>

Junee Water Supply

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST DECEMBER, 1965

ASSETS			LIABILITIES		
Previous Year			Previous year		
\$		\$	\$		\$
536,458	Fixed Assets—		544,432	Capital Debt	548,286
	Land, buildings, re-		121,944	Less repaid	130,784
	servoirs, mains and				
	equipment	542,978	422,488	Reserves—	417,502
	Investments—			Debt repayment—Re-	
142,058	Renewal Reserve—In-		121,944	served and repaid (as	
928	scribed stock	146,858	142,986	above)	130,784
	Cash at Treasury	2,122	148,980	Renewal	148,978
					279,762
142,986			264,930	Current Liabilities—	
1,194	Current Assets—			Creditors	
13,438	Stores and Materials ..	590		The Treasurer, advances	
	Debtors—for water etc.	19,248		on account of defi-	
	—The Treasurer, ad-			ciencies	3,134
772	advances on account of			Stores and Services ..	14,124
2,348	deficiencies	2,726	9,778		17,258
	Cash at Treasury	22,564	9,778		
17,752			9,778		
<u>\$697,196</u>		<u>\$714,522</u>	<u>\$697,196</u>		<u>\$714,522</u>

The deficiency of \$33,594 was \$3,176 less than that for the previous year.

The volume of water delivered during 1965 was 151,578,900 gallons at a cost per 1,000 gallons of 52.774 cents compared with 125,126,600 gallons in 1964 at 59.816 cents per 1,000 gallons.

Water pumped during 1965 was 162,663,000 gallons compared with 129,832,000 gallons in 1964.

Rates charged for the sale of water were as follows:

Bulk supplies—30 cents per 1,000 gallons from 1st January, 1958.

Supplies for public baths—22.5 cents per 1,000 gallons from 1st January, 1958.

Supplies to minor consumers—35 cents per 1,000 gallons from 1st April, 1958.

Bethungra Water Supply

Operations for the year 1965 resulted in a surplus of \$950 compared with \$1,184 for the previous year. Of the surplus income of \$3,736 for the period 1962 to 1965 amounts totalling \$1,600 have been transferred to consolidated revenue. The balance amounting to \$2,136 has been retained pending completion of improvements to the outlet works at the dam wall. The total amount transferred to consolidated revenue since the commencement of operations in 1917 is \$23,406.

Mulwala Water Supply and Sewerage

STATEMENT OF INCOME AND EXPENDITURE FOR YEAR ENDED 31ST DECEMBER, 1965

INCOME			EXPENDITURE		
Previous year			Previous year		
\$		\$	\$		\$
3,716	Water Sales:		14,076	Salaries, Wages, and expenses	14,102
504	Corowa Shire Council	4,636	2,476	Stores and materials used	2,898
	Department of the Interior	426	4,518	Electricity	5,664
4,220		5,062	920	Miscellaneous charges	1,570
			200	Interest on working capital	208
17,970	Balance of Cost of Operations	19,380			
	chargeable to Department of Supply				
\$22,190		\$24,442	\$22,190		\$24,442

Mulwala Water Supply and Sewerage

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST DECEMBER, 1965

ASSETS			LIABILITIES		
Previous year			Previous year		
\$		\$	\$		\$
243,208	Fixed Assets:		161,464	Capital Debt:	
1,882	Reservoir, Pumping Station, Mains, etc.	243,208	81,744	Commonwealth Government	161,464
	Plant and Equipment	2,464		State Government	81,744
		245,672	243,208		243,208
4,382	Current Assets:		4,000	Current Liabilities:	
2,550	Sundry Debtors	4,620	5,402	Working Capital	6,000
588	Stores and Materials	2,584		Sundry Creditors	5,338
	Cash at Treasury	1,670			
		8,874			
\$252,610		\$254,546	\$252,610		\$254,546

The Mulwala Water Supply and Sewerage Undertaking was constructed by the State on behalf of the Commonwealth and the net cost of operations is met by the Commonwealth Department of Supply. The amount chargeable to that Department for 1965 was \$19,380, and 187,928,000 gallons of water were delivered during the year.

Building Construction and Maintenance Branch Working Account

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 30TH JUNE, 1966

INCOME			EXPENDITURE		
Previous year			Previous year		
\$		\$	\$		\$
11,186,766	Recoupments	12,050,565	4,020,808	Wages	4,097,388
68,332	Net Loss	..	3,504,860	Materials	3,837,287
			869,422	Contract Payments	1,276,027
			259,320	Other Charges	161,628
			827,040	Supervision wages and salaries	813,373
			163,352	Workers compensation premium	175,504
			137,430	Pay roll tax	145,152
			187,232	Public Holidays	178,929
			115,202	Sick leave, etc.	140,313
				Annual and long service leave provisions	510,043
			498,158	Plant costs	147,895
			140,758	Transport costs	310,576
			297,176	Sundry expenses	108,515
			94,772	Interest on Working Capital	61,750
			61,750	Net store operating costs	70,958
			77,818	Net Profit	15,227
			..		
\$11,255,098		\$12,050,565	\$11,255,098		\$12,050,565

Testing Branch

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST DECEMBER, 1965

ASSETS			LIABILITIES		
Previous Year			Previous Year		
\$		\$	\$		\$
70,962	Fixed Assets—		22,416	Sundry Creditors.....	30,400
	Plant and Major Equipment	74,020		Reserves—	
2,756	Air Conditioning Equipment	2,756	32,238	Annual and Long Service	
	and Fog Room			Leave	34,416
4,550	Working Tools and Minor	5,560	5,920	Repairs, Maintenance and	
	Equipment			Alterations	5,756
		82,336	39,784	Depreciation and Renewal of	
	Investments—			Plant and Equipment ..	45,074
	Metropolitan Water Sewerage		183,852	Accumulated Profit and Loss Account	85,246
	and Drainage Board				201,544
	and Electricity Commission				
110,800	Loans	110,800			
	Current Assets—				
42,856	Sundry Debtors—for services	67,134			
	rendered				
52,286	Cash in Special Deposit Account	56,920			
	at Treasury				
		124,054			
\$284,210		\$317,190	\$284,210		\$317,190

There was a net profit of \$16,240 for the year ended 31st December, 1965, compared with a net profit of \$4,496 for the year ended 31st December, 1964.

Fees for services rendered increased by \$22,342 compared with the previous year, while expenditure increased by \$10,670 over the same period.

No. 1 Plant Control

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31ST MARCH, 1966

INCOME		EXPENDITURE	
Previous Year		Previous Year	
\$	\$	\$	\$
874,616	Hire Charges	200,316	Repairs and Renewals
	Service Charges	17,930	Servicing
3,458	Profit on Realization of Plant	28,714	Insurance Premiums
12,220	Miscellaneous Revenue	352,298	Depreciation
5,572		70,940	Administrative Salaries and Expenses ..
		93,700	Interest, etc., on Capital
		8,862	Miscellaneous
			Net Profit transferred to Accumulated
		123,106	Profit and Loss Account
			166,459
\$895,866	\$1,000,281	\$895,866	\$1,000,281

No. 1 Plant Control

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST MARCH, 1966

ASSETS		LIABILITIES	
Previous year		Previous year	
\$	\$	\$	\$
2,187,950	General and floating plant.....	1,940,000	Capital debt
165,480	Sundry debtors	150,390	Less repaid
237,418	Cash at Treasury		164,711
		1,789,610	
		56,128	Repairs and renewals reserve
		248,604	Sundry creditors
			Cash Deficiency at Treasury
			Accumulated Profit and Loss
			Account:
		370,482	Accumulated funds at
		123,106	1st April, 1965 ..
		2,918	Net profit for year ..
			Adjustment
			662,965
\$2,590,848	\$2,655,181	\$2,590,848	\$2,655,181

The profit for 1965-1966 was \$166,459 compared with a profit of \$123,106 in 1964-1965, an increase of \$43,353.

Realization of plant resulted in a profit of \$11,141 in 1965-1966 compared to \$12,220 in 1964-1965. The results are included in the above figures. Revenue from hire and service charges in 1965-1966 was \$110,114 more than in 1964-1965 mainly due to increased Departmental activity. Expenditure for the year was \$61,062 more than the previous year.

Leichhardt Depot Working Account

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31ST MARCH, 1966

INCOME		EXPENDITURE	
Previous year		Previous year	
\$	\$	\$	\$
531,910	Services rendered 580,952	136,290	Wages 148,880
1,032	Miscellaneous revenue 1,600	191,578	Stores used 237,790
		33,772	Cartage 30,192
		2,084	Miscellaneous charges 1,724
		19,582	Workshop supervision 20,373
		22,210	Workshop operating costs 29,620
		20,026	Leave and Public Holidays 23,966
		10,818	Depreciation 11,223
		18,220	Interest on Advances 18,710
		22,110	Salaries 22,759
		5,588	Workers' Compensation premiums 5,987
		5,508	Pay Roll Tax 6,054
		19,280	Sundry Expenses 22,714
			Net profit transferred to Accumulated Profit and Loss Account .. 2,560
		25,876	
\$532,942	\$582,552	\$532,942	\$582,552

Leichhardt Depot Working Account

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST MARCH, 1966

ASSETS		LIABILITIES	
Previous year		Previous year	
\$	\$	\$	\$
147,720	Buildings, fences, etc. 139,486		Capital Debt:
70,100	Plant, machinery, and working equipment 58,164	395,240	Provided from Loan
252	Stores and railway stamps on hand 141	20,358	Vote Funds 382,712
359,712	Sundry Debtors 351,656		Less Sinking Fund
45,540	Balance in Special Deposits Account at the Treasury 93,468	374,882	payments 22,868
			359,844
		20,608	Reserves:
		8,948	For Annual and Long Service Leave 21,861
		29,556	For repairs and renewals of buildings and equipment 8,280
		65,830	
		153,056	Sundry Creditors 30,141
\$623,324	\$642,915	\$623,324	Accumulated Profit and Loss Account 155,616
			\$642,915

The profit for 1965-66 was \$2,560, compared with a profit of \$25,876 in 1964-65. Services rendered totalled \$580,952, an increase of \$49,042 from \$531,910 earned in 1964-65. The Leichhardt Depot Workshop provides facilities for general engineering and mechanical requirements and undertakes plant repairs, steel fabrications, etc.

Leichhardt Depot Store Advance Account

OPERATIONS FOR THE YEAR ENDED 31ST MARCH, 1966

The value of stores issued in 1965-66 was \$845,637 compared with \$812,950 in 1964-65 and purchases amounted to \$931,336 as compared to \$817,738. Store operating costs were \$101,261 as against \$103,856 in 1964-65.

The value of stock on hand at the end of the financial year was \$556,993, an increase of \$78,471 compared to the previous year's figure of \$478,522.

Leichhardt Depot Store operates generally as a central bulk depot for the Department and also provides commercial cartage services. The net profit for 1965-66 was \$24,938 compared to \$14,204 in 1964-65. An increase in income earned coupled with a general decrease in operating and overhead expenditure contributed to the increased operating margin. Operating costs of the store are financed by an oncost on the value of stores issued.

State Brickworks

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 31ST MARCH, 1966

INCOME			EXPENDITURE		
Previous Year			Previous Year		
\$		\$	\$		\$
2,451,622	Sales	2,585,158	977,240	Wages	1,015,990
83,522	Add stock on hand at 31st March, 1966	86,325	20,788	Pay Roll Tax	21,617
			23,728	Workers' Compensation Ins.....	24,664
			14,602	Silicosis Insurance	15,259
2,535,144		2,671,483	161,880	Coal	149,789
106,056	Less stock on hand at 1st April, 1965	83,522	92,716	Stores	104,559
			60,510	Electricity	60,112
2,429,088		2,587,961	35,858	Plant Hire	33,637
435,368	Cartage recovered	480,544	282,760	Repairs and Maintenance	322,474
23,624	Sundry Income	32,886	71,214	Depreciation	73,184
			2,156	Water and Sewerage	2,366
			1,386	Insurance of Mobile Plant.....	1,433
			17,318	Local Government Assistance Fund Contribution	17,318
			445,438	Cartage etc.	490,741
			208,178	Administration and General Office Expenses	224,567
			27,550	Interest etc., on Capital.....	19,422
			5,680	Sinking Fund Contributions.....	5,570
			..	Interest and Expenses on land purchased from M.M.I. Board..	6,590
			110,722	Profit for the year:	
			328,356	Employees' profit-sharing div. ..	116,068
				Carried to Accumulated Funds..	396,031
\$2,888,080		\$3,101,391	\$2,888,080		\$3,101,391

STATEMENT OF ASSETS AND LIABILITIES AS AT 31ST MARCH, 1966

ASSETS			LIABILITIES		
Previous Year			Previous Year		
\$	\$	\$	\$	\$	\$
	Fixed Assets:		431,604	General Loan	393,088
	Land, buildings, kilns, railway sidings and tracks, plant and machinery	1,800,173	61,494	Less repaid	67,064
1,418,866	Less Depreciation ..	344,059	370,110		326,024
348,498			61,494	Reserves and provisions:	
1,070,368		1,456,114	345,966	Capital repayments	67,064
	Plant, tools and office equipment ..	437,655	119,560	Employees' leave	372,476
381,526	Less Depreciation ..	272,361	7,310	Repairs and maintenance ..	152,609
236,680		165,294	65,200	Mobile plant insurance ...	8,295
144,846			599,530	Employees' profit-sharing dividend	68,300
		1,621,408	149,828		668,744
	Investments:		15,026	Current liabilities:	
	Depreciation Reserve —Commonwealth		164,854	Creditors	171,413
210,000	Inscribed Stock ..	206,000	1,016,752	Deposits on orders	10,292
138,000	Metropolitan Water, Sewerage and Drainage Board ..	138,000	328,356		181,705
498	Deposit at Treasury	59	1,345,108	Accumulated Funds:	
200,000	Fixed Deposit	200,000		As at 1st April, 1965	1,273,608
548,498		544,059		Unappropriated \$	
	Current Assets:			profit for year ..	396,031
83,522	Brick stocks	86,326		Less:	
70,880	Stores and Materials	84,856		Interest and expenses on land purchased from M.M.I. Board ..	21,728
324,894	Sundry Debtors ..	353,152	69,546	Road expenditure written off ....	..
50,000	Less provision for bad debts	58,000	1,954	Stock Adjustment ..	..
274,894		295,152	1,273,608		374,303
215,094	Cash at Treasury and in hand	192,583			1,647,911
		658,917			
\$2,408,102		\$2,824,384	\$2,408,102		\$2,824,384

The net profit for 1965-66 was \$396,031 compared with \$328,356 in 1964-65. An amount of \$116,068 was transferred to Employees' Profit-sharing Dividend Fund and \$396,031 to Accumulated Profit and Loss Account.

The total quantity of bricks sold increased from 66,437,076 in 1964-65, sold at an average price of \$36.90 per 1,000 returning an amount of \$2,451,622 to 67,233,261 in 1965-66, sold at an average price of \$38.45 per 1,000 returning an amount of \$2,585,158.

Government Motor Garage

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 30TH JUNE, 1966

INCOME			EXPENDITURE		
Previous year			Previous year		
\$		\$	\$		\$
352,912	Service rendered	357,006	86,436	Wages	86,353
6,768	Miscellaneous revenue	8,105	18,516	Annual, long service, sick leave, etc.	16,666
			134,828	Stores and Materials used	142,848
			1,692	Electricity used	1,792
			11,332	Shop supervision	19,625
			7,754	Repairs and maintenance	9,836
			1,614	Depreciation on plant and tools	2,602
			11,312	Sundry trading expenses	11,069
			34,568	Managerial, clerical and storekeepers' salaries	40,362
			2,590	Workers' Compensation Insurance premiums	2,705
			4,078	Payroll Tax	3,998
			6,524	Cleaning and Caretaking	6,786
			1,512	Insurance on buildings, plant, stock, etc.	1,738
			2,144	Depreciation on buildings, office furniture and equipment	2,206
			1,900	Interest etc., on loan debt	1,890
			6,952	Sundry overhead expenses	7,307
			25,928	Profit for year carried to accumulated funds	7,328
\$359,680		\$365,111	\$359,680		\$365,111

Government Motor Garage

STATEMENT OF ASSETS AND LIABILITIES AS AT 30TH JUNE, 1966

ASSETS			LIABILITIES		
Previous year			Previous year		
\$		\$	\$		\$
93,546	Land, building, plant, tools and equipment	89,847	153,860	Capital Debt	153,860
13,290	Stores and Materials	10,289	121,384	Less repaid	121,944
98,044	Debtors	112,524	32,476		31,916
25,542	Cash	22,257	38,250	Reserves:	
			4,598	Employees' Leave	32,207
			2,696	Renovations	2,475
				Stock Disposal adjustments	3,718
					38,400
				Current liabilities:	
			36,288	Sundry creditors for stores and services ..	41,159
			116,114	Accumulated Profit and Loss Account	123,442
\$230,422		\$234,917	\$230,422		\$234,917

Net profit for 1965-66 was \$7,328 compared to \$25,928 in the previous year. Services rendered totalled \$357,006 in 1965-66, as against \$352,912 in 1964-65.

The revenue of the Government Motor Garage is principally derived from a calculated hourly rate, and materials including oncost, charged to repair orders. Productive man hours in 1965-66 totalled 76,966 as against 76,240 in 1964-65.

The Government Motor Garage undertakes repairs and maintenance to all classes of motor vehicles including accident repairs on behalf of the Government Insurance Office.

Dredge Service

STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 30TH SEPTEMBER, 1965

INCOME		EXPENDITURE	
Previous year		Previous year	
\$	\$	\$	\$
2,841,622	Hire charges 2,913,408	809,570	Salaries, wages, etc. 765,386
118	Net loss transferred to accumulated funds	282,456	Stores purchased 259,820
		3,470	Miscellaneous charges 3,122
		21,614	Rental of berths, etc. 22,206
		688,000	Repairs and overhauls 660,000
		365,176	Depreciation 363,822
		84,960	Provision for losses or damage .. 78,164
		87,254	Employees' leave and public holidays 100,926
		37,218	Employer's superannuation cont... 36,068
		28,120	Workers' Compensation Premiums 28,120
		19,858	Pay Roll Tax 21,252
		71,796	Administrative charges 81,710
		341,846	Interest charges 348,194
		402	Loss on disposal of dredge
		..	Net profit transferred to accumulated funds 144,618
		..	
\$2,841,740	\$2,913,408	\$2,841,740	\$2,913,408

Dredge Service

STATEMENT OF ASSETS AND LIABILITIES AS AT 30TH SEPTEMBER, 1965

ASSETS		LIABILITIES	
Previous year		Previous year	
\$	\$	\$	\$
6,972,600	General plant and equipment 6,609,216	7,440,224	Capital Debt 7,440,224
9,506	Coal in shore bunkers 16,514	101,940	Less repaid 236,740
662,126	Sundry debtors 632,098		
5,300	Workshop operating account	7,338,284	7,203,484
200,000	Investments 740,000	396,610	Sundry creditors 459,594
567,404	Cash at Treasury 678,230		Reserves:
		243,124	Repairs and overhauls 316,260
		178,090	Employees' leave .. 199,812
		249,024	Losses or damage .. 335,436
		8,748	Maintenance of berths, etc. 13,798
		3,056	Accumulated funds 865,306
			147,674
\$8,416,936	\$8,676,058	\$8,416,936	\$8,676,058

The operating expenditure of the Dredge Service during the undertakings financial year ended 30th September, 1965 was \$2,768,790. Hire charges received amounted to \$2,913,408. The net surplus of \$144,618 resulted in an increase in accumulated funds from \$3,056 at 30th September, 1964 to \$147,674 at 30th September, 1965. Of hire charges received 74 per cent were met by the Maritime Services Board, 23 per cent from Departmental Accounts, and 3 per cent by other users including the B.H.P. Co. Ltd.

APPENDIX II

HARBOURS AND RIVERS

FUNCTIONS

Generally

The planning, investigation, preliminary design- construction and maintenance for all maritime works (other than some minor works carried out by Councils) outside the ports of Sydney, Newcastle and Botany Bay, comprising breakwaters, training walls, wharves, jetties, cranes, cargo sheds, rail and road access, slipways, dredging, etc.

Investigations

Investigations regarding long-range harbour development and port planning.

General research into matters affecting maritime structures including tide and wave action, sand movement, foreshore erosion, dredging, marine organisms and corrosion.

Control and operation of Manly Hydraulic and Soils Laboratory.

The formulation of flood mitigation schemes for the tidal sections of coastal rivers, including the initial investigation, survey, overall design, estimating and preparation of the report on the problems involved and the proposals recommended. The administration of the grants made by the State and Commonwealth Governments and the oversight of the works carried out. The preliminary design of flood mitigation works in the Lower Hunter Valley, and the supervision of the design of flood mitigation works on other coastal rivers carried out by Shire and County Councils.

Construction

Construction and maintenance of harbour works including works on behalf of the Maritime Services Board at Newcastle.

Construction of Hunter River flood mitigation works and the oversight of construction of flood mitigation works on other tidal rivers.

Construction of maritime engineering portions of work of departmental trading undertakings.

Constructing Authority for other Departments for works of a maritime nature.

Dredge Service

The administration and control of the large fleet of dredges and associated plant engaged in dredging all outports including Newcastle Harbour, river entrances and tidal sections of coastal rivers where necessary for navigation.

The planning and supervision of the construction of new items of dredging plant.

Administration

Examination of and advice on Local Government works of a maritime nature where financial assistance has been sought from the Department and/or where construction is on a flood plain.

Provision of engineering advice to the Chief Secretary's Lands and Mines Departments on leases, permissive occupancies, etc., in tidal waters (i.e. dredging, sand removal, reclamation, etc.).

Policing the Rivers and Foreshores Improvement Act (i.e. protection of river banks within two chains of such banks).

Investigations of proposals for the formation of drainage unions under the Drainage Act, 1939 (as amended), and recommending their constitution or otherwise, to the Minister.

Finance

The following figures give the expenditure and a comparison with the previous year's figures:

	Expenditure 1964-65	Expenditure 1965-66
	\$	\$
Loan Vote excluding Flood Mitigation Works	2,084,000	1,944,000
Harbours and Rivers Revenue Vote	628,000	764,000
Water Transport Works	508,000	302,000*
Flood Mitigation Works—		
† Contributions to Councils	1,992,000	1,945,000
Hunter River Works	630,000	470,000
Grants to stimulate Employment—Flood Mitigation		48,000
Dredge Service Revenue Vote	572,000	649,000
Works on behalf of—		
State Dockyard, Newcastle	244,000	266,000
Maritime Services Board, Newcastle	3,684,000	4,565,000
	\$ 10,342,000	10,953,000

* This item is allocated to 31st December, 1966. Expenditure is to 30th June, 1966.

† The flood mitigation works carried out by the Councils is subsidised and this figure represents the subsidy only.

OPERATIONS—COASTAL RIVERS AND PORTS

Tweed River

Further dredging by the *Harwood* in Myall Creek was undertaken to provide a navigable channel for fishing boats. The quantity removed was 21,341 tons.

A channel was dredged in Terranora Creek to improve channel depths.

Brunswick Heads

Fifty-eight thousand tons were dredged from between the boat harbour and the South Arm. Indurated sand in the main channel was removed by blasting.

Richmond River

Extension of the northern breakwater proceeded throughout the year. One hundred and seventy-one thousand four hundred and ninety-five tons of rock were placed at a cost of \$151,797.

Dredging of river crossings continued by the *Neptune*, which removed 42,400 tons of material.

Evans Head

Work commenced in May, 1966, on construction of a fishing boat harbour adjacent to the road bridge on the southern side of the Evans River. Six hundred feet of training wall and 300 feet of access road have been completed by day labour with rock quarried from Barne's Quarry, Evans Head. Tenders have been invited for dredging work.

To date 13,000 tons of rock have been placed.

Sandon River

Further investigations have been carried out and a revised estimate submitted for channel improvements.

Clarence River

Dredging operations continued with work being undertaken on the bar and up-river channels. The location of dredging and the quantities removed were as follows:

Dredge Gosford	Tons
Middle Channel	25,000
Englert's Creek	18,500
Ashby Dock Approaches	6,470
Woolbin Island	7,450
Yargai Island Channel	42,350

Dredge <i>H. E. Street</i>	
Bar	40,600
Yamba Channel	12,800
Palmer's Island Crossing	18,400
Dredge <i>Hermes</i>	
Palmer's Island Crossing	14,800
Dredge <i>Neptune</i>	
Palmer's Island Crossing	66,500

The total of all dredging was 252,870 tons.

The expenditure on developing the Clarence Harbour as a deep sea port was \$794,000.

Construction of the Northern breakwater resulted in an advance of 385 feet. Materials placed consisted of stone to 32-ton and 40-ton concrete blocks with a total of 110,439 tons being used.

The seismic survey contract has been completed, showing that no rock exists in the entrance other than at the reef, which means that port-planning can proceed with realistic target depths, channel location, and wharfage layout.

Coff's Harbour

Repairs to the jetty continued during the year, with the replacement of girders, kerbing, decking, etc., at a cost of \$25,905.

Camden Haven River

Forty-one thousand tons of sand were dredged from the bar by the *Antleon* during the period November, 1965–June, 1966.

Forster–Tuncurry Port Improvement Works

Entrance improvements works, consisting of the construction of a new breakwater on the Tuncurry side and extension of the existing breakwater on the Forster side, were carried out during the last twelve months.

One thousand four hundred and fifty feet of the Tuncurry Breakwater have been completed, and the Forster Breakwater extended 20 feet.

The rock is obtained from a quarry 5 miles south of Forster which is worked by Departmental employees and plant.

A total of 125,000 tons of rock has been placed to date at a cost of \$285,566.

Newcastle

Work on the Islands Reclamation Scheme continue during the year.

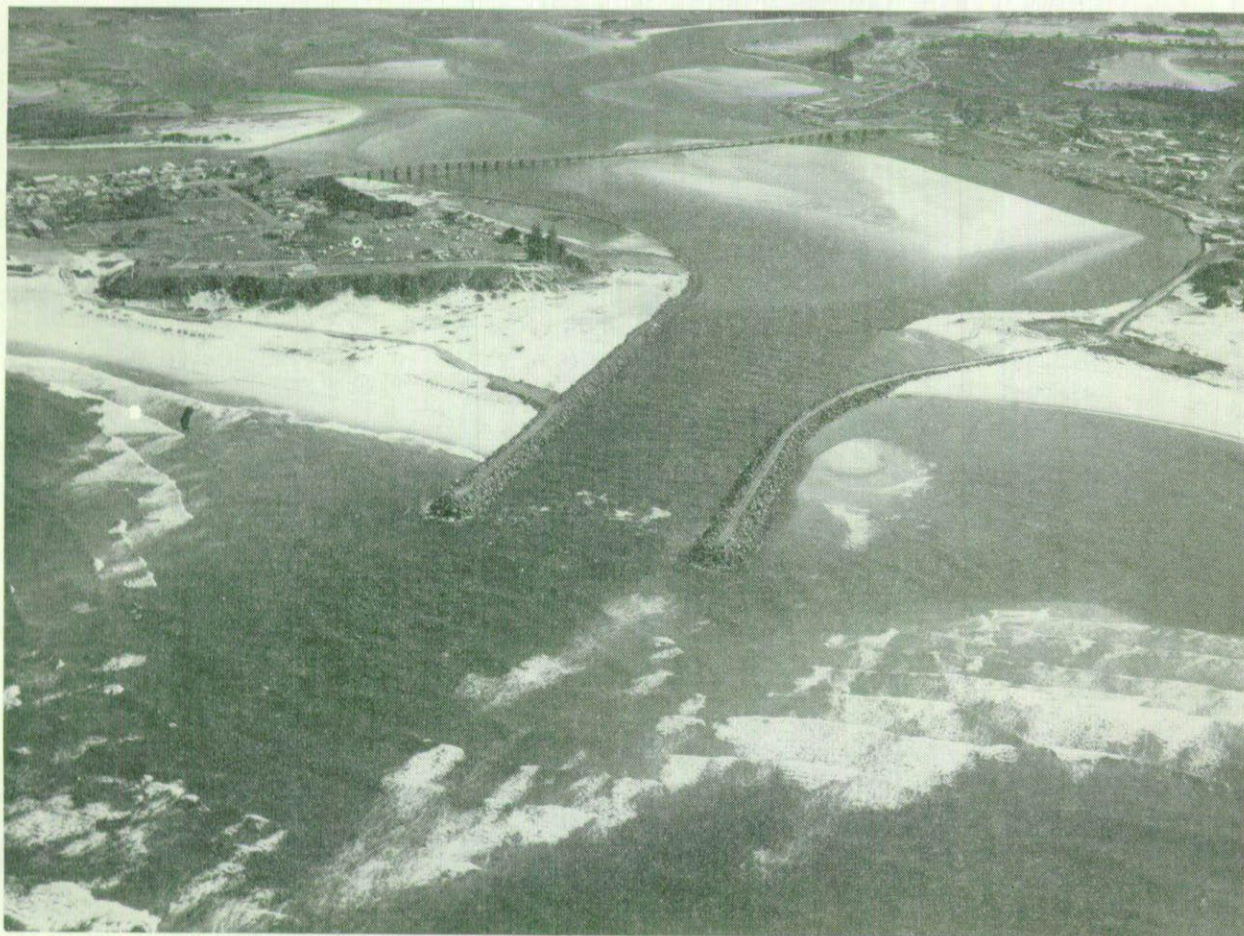
The Drag Suction Dredges *William J. McKell* and *Richard Vowell* discharged most of the spoil dredged from the harbour on to Dempsey Island. A total of 507,000 cubic yards of material, most of which was silt, was pumped ashore by these dredges.

In addition, 468,175 cubic yards of sand was pumped on to Dempsey Island from the South Arm of the Hunter River by the Cutter Suction Dredge *C.S.1* and the suction dredge *Forster*.

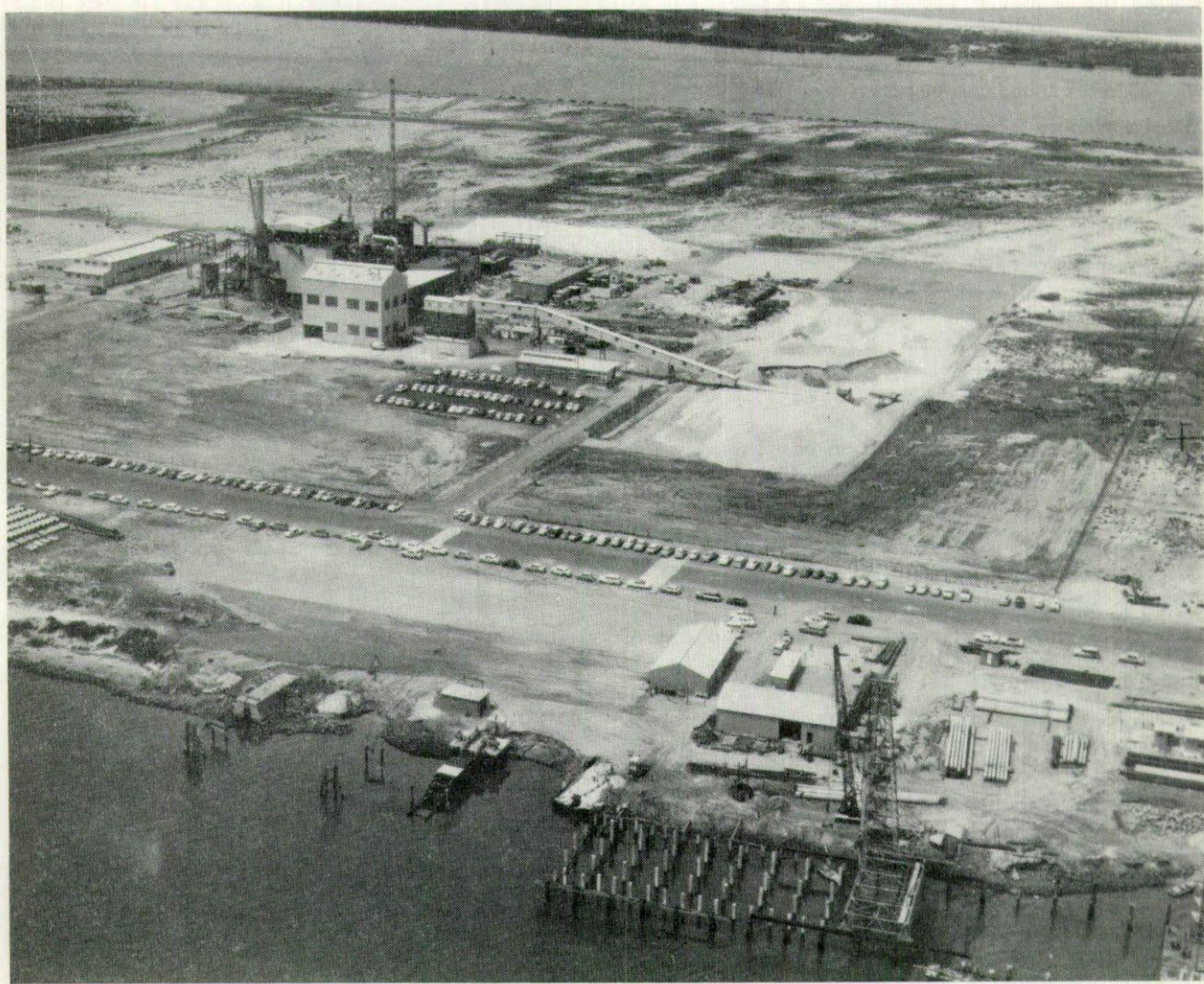
The construction of the embankment for the railway link to the islands was commenced during the latter part of the year. The embankment will be 4 miles 40 chains long and contain approximately 500,000 cubic yards of sand fill and 300,000 tons of blast furnace slag when completed.

Various lengths of embankment were constructed to retain dredged filling. A new pump ashore berth was built in the South Arm of the Hunter River and the subdivision roads on Walsh Island were sealed.

The Greenleaf Fertiliser plant on Walsh Island commenced production of phosphoric acid in March, 1966, and thus became the first industry commissioned on the reclaimed islands.



Forster-Tuncurry Harbour Works—New Breakwater Construction



The Island Reclamation Scheme—Greenleaf Fertilisers Plant and New Wharf under construction

Swansea

The section of training wall between the road bridge and the entrance to Black Ned's Bay at Swansea was repaired by placing approximately 2,000 tons of igneous rock at a cost of \$7,012.

Lord Howe Island

A contract was arranged for the supply of a slipway winch for the Ned's Beach cargo handling facility. The cargo handling gantry and slipway were erected.

Cook's River

Steel sheet piling bank protection work, channel widening, and river bed protection to protect Tempe Railway Bridge from scouring damage were carried out during the year.

After minor piling repairs, Canterbury Boat Harbour was handed over to the Canterbury Municipal Council for operation.

Wollongong Harbour

A programme of general maintenance and restoration of the masonry walls of the harbour has been commenced.

Repairs and minor modifications to the fendering system have been effected to improve the mooring points for shipping.

Work has commenced on the necessary access roads to the proposed new breakwater, which is designed to commence just south of the Wollongong Baths.

Port Kembla Inner Harbour

New Coal Berth and Associated Works.—The loading of coal, coke, and superphosphate proceeded satisfactorily.

Adjustments and modifications were made to the Lauchamer Reclaimers and the Rail Tippler Unit to ensure their safer operation.

An additional coal storage area for loading and storage of coal from Huntley Colliery was provided.

Paving of the access roads have now been completed and the cathodic protection to the coal wharf piles appear to be operating effectively.

Adequate facilities now exist for maintenance of the plant with the completion of a workshop and stores building.

Tie-up Berth.—All major items have now been completed, and installation of essential services is almost finished.

Port Kembla Outer Harbour

Minor works associated with the strengthening and reinforcing weakened sections of the northern and eastern breakwaters have been undertaken as required.

No. 3 Jetty.—The programme of structural and deck reconstruction commenced during 1964–65 has been continued. The inshore ends of both inner berths have been reconstructed and new heavier section rails laid.

A programme of pile protection by the placing of sand/cement mortar in fibreglass sleeves has been completed on the inshore piles.

A substantial area of the outer berths has been reconstructed including rail replacement.

No. 4 Jetty.—Maintenance and repair work have been undertaken as required.

Inflammable Liquids Berth.—The fresh water supply main to the berth has been replaced and general maintenance and repair work have been carried out.

No. 6 Jetty.—Six additional mooring bollards have been installed.

Mechanical and Electrical Maintenance.—The increase in shipping using the port coupled with the increasing tendency to the wider use of the harbour facilities including the new Coal Loader Plant has resulted in a further increase in the demand for maintenance work.

Expenditure this year was \$373,843.

General.—Maintenance dredging and deepening of several locations in the Port Kembla Harbour were undertaken during the year.

Further reclamation of the area between Nos 2 and 3 Jetties has been achieved by placing fill from adjacent construction projects.

Miscellaneous repairs and improvements including the modernization and extension of the Maritime Services Board's Amenities Building, have been undertaken to the general harbour facilities.

Eden

Repairs to the jetty were completed in April, 1966. Expenditure on the work this year was \$43,274.

WORK FOR OTHER DEPARTMENTS

Maritime Services Board

At Newcastle the Department as Constructing Authority for the Maritime Services Board, carried out the maintenance and construction of wharfage, sea, and river works, and other harbour and river installations, dredging for maintenance and improvement of navigable channels, and hydrographic surveys. The construction and maintenance of boatsheds, slipways, and navigation aids, were carried out at all of the coastal ports and rivers except Sydney and Botany Bay.

Newcastle Harbour

The harbour deepening contract was completed on 29th April, 1966. During the year the contractors, Haunstrup Pomeroy Dredging Industries, removed 71,000 cubic yards of rock and 17,000 cubic yards of other than rock from the harbour entrance to provide a clear depth of 36 feet, 500 feet wide between the breakwaters.

The work was carried out using the drill barge *Intrepid* for drilling and breaking the rock and the grab dredge *Benson* for excavating the broken rock. A 6½-cubic-yard dragline dredge which was commissioned in June, 1965, was used to augment dredging broken rock until 29th January, 1966.

Construction of the new coal-loading berth in Carrington Basin proceeded satisfactorily during the year.

The wharf is a cast-in-situ reinforced concrete deck supported on composite steel and prestressed concrete piles. It is approximately 1,250 ft long and 56 ft wide with a timber pile dolphin at the seaward end and timber fendering.

Piledriving was completed in March, 1966. The deck was started in July, 1965, and completed in May, 1966. Fore-shore reclamation and bank ballasting is almost complete.

The main items of construction completed to date are:

Work	Previous years	1965-66	Remarks
Reclamation and Bank Filling	160,000 tons	60,000 tons	Almost completed.
Rock Ballasting	19,000 tons	21,800 tons	Almost completed.
Composite Piles Driven	170 No.	437 No.	Completed.
Reinforcing Steel in Deck	..	785 tons	Completed.
Deck Concrete	..	4,000 cu yd	Completed.
Timber Fender Piles Driven	15	106	Completed.
Concrete Deck Topping	..	600 cu yd	45 per cent completed.

Expenditure for the year was \$1,253,837. The wharf construction is scheduled for completion during 1966.

A bulk handling berth is under construction by the Department for the Maritime Services Board at Walsh Island. The wharf will be a reinforced concrete deck 598 ft long by 65 ft 6 in wide supported by 285 composite steel and prestressed concrete piles.

Pile driving was commenced in January, 1966, and completed in June, 1966. Bank ballasting and cutting off piles to level is now in progress in preparation for casting of the concrete deck.

Expenditure for the year was \$486,606.

Further preliminary work was carried out on the Throsby Basin, No. 1 Berth. This comprised some dredging of the berth site, most of the bank excavation and filling required, the completion of demolition of the old wharf, cleaning up of the depot area, relocation of existing services and establishment of some temporary construction buildings.

In May, 1966, work was deferred pending further advice from the Maritime Services Board, who are planning to redesign the wharf to accommodate container cargoes.

Expenditure for the year was \$167,500.

Extensive repairs were carried out on the Western and Eastern Basin Wharves and Lee Wharf. This consisted of pile, girder, headstock, fender, etc., as replacement. Expenditure was \$69,175.

Repairs to the Steelworks channel seawall and the southern and northern breakwater involved an expenditure of \$37,287.

State Dockyard

As Constructing Authority for the State Dockyard, Newcastle, the Department carried out many minor repairs to roads, crane tracks, and wharves, constructed numerous machine foundations, concrete floors, inspected, cleared, and repaired stormwater drainage pipes and excavated numerous trenches prior to the laying of electrical supply cables.

The total expenditure incurred on behalf of the State Dockyard amounted to \$306,117.

Forty per cent of the reconstruction work on the No. 1 Building Berth has now been completed. The main work completed to date has been the construction of a reinforced concrete retaining wall, and the filling and consolidation of an area of 30,000 sq ft enclosed by the wall. Reinforced concrete groundways have been constructed on the filled area. The expenditure for the year was \$136,955.

Modifications and extensions to the Nos 2 and 3 Building Berths, involving the driving of turpentine piles and construction of steel superstructure were carried out at a cost of \$73,939.

The repairs to the eastern fitting-out wharf were completed at a cost of \$3,165.

A new 2,000-ft access road, reinforced concrete foundations for a conveyor system and a logatome machine and numerous concrete tables for ship construction purposes were constructed at a total cost of \$48,497.

Water Conservation and Irrigation Commission

Several inspections in connection with applications under the Water Act were carried out.

Lands Department and Mines Department

Numerous applications for permissive occupancies, special leases, dredging leases, and other land matters were investigated and technical reports issued.

Chief Secretary's Department

On behalf of the Fisheries Branch of the Chief Secretary's Department, maintenance, investigation, and construction of boatsheds, slipways, and other structures were undertaken.

Police Department

Maintenance work was carried out to police boatsheds, slipways, and jetties as required.

FLOOD MITIGATION

Construction of flood-mitigation work by councils and county councils continued during the year on coastal rivers.

Subsidies to council's work were six-sevenths for the Hunter River, four-fifths for the Tweed, Richmond, Clarence, Macleay, and Shoalhaven Rivers, and two-thirds for the Hawkesbury River.

The only significant flood during the year was on the Richmond River in July. This could be classed as a major flood and it demonstrated the efficacy of the flood-mitigation works constructed to date.

Tweed River Flood Mitigation

A number of floodgates in the Tyngalah and Condon areas were completed during the year.

Subsidy for the year was \$138,000.

Richmond River Flood Mitigation

Construction by the Richmond River County Council continued during the year. Major works completed were floodgates and drains in the Coraki, Wyrallah, and Swan Bay areas.

Subsidy for the year was \$324,400.

Clarence River Flood Mitigation

The Clarence River County Council completed the following major works—as well as numerous smaller ones—Cowper drains and floodgates, Great Marlow drains and floodgates, and South Grafton drain and floodgates.

Subsidy for the year was \$540,000.

Macleay River Flood Mitigation

Major works completed during the year were bank protection programmes from Glenrock to Frederickton and at Summer Island below Smithtown. Work continued on a major drainage project in the Gladstone area.

Subsidy for the year was \$393,600.

Hunter Valley Flood Mitigation

As Constructing Authority for the Lower Hunter Valley Flood Mitigation Scheme, works were carried out for a total expenditure of \$409,500 during 1965-66. The total expenditure to 30th June, 1966, on the scheme is now \$1,945,597. Investigation and design work for current and future projects was also carried out.

Major works were undertaken as follows:

Area Scheme	Description of Works	Expenditure
		\$
Bank Protection Works	Rock bank protection ..	22,500
Oakhampton Floodway	Control bank completed	14,500
Louth Park	Completion of floodgates and canal, and construction of another floodgate and canal ..	33,500
Woodville-Wallalong ..	Completion of two floodgates and two flood canals	33,000
Brisbane Fields	Work on two floodgates and a flood canal	28,000
Swan Reach	Completion of two floodgates and three canals with completion of farm crossings and commencement of earthworks for Control Banks	103,500
Eskdale Swamp-Nelsons Plains-Miller's Forest	Completion of a control bank, with levee construction	
	Completion of two floodgates and three canals with work on several farm crossings	52,500
Phoenix Park	Levee remodelling	4,000

Hawkesbury River Flood Mitigation

The Windsor Municipal Council completed Mackenzie's Dam, which will lessen the flood frequency in the Pitt Town Bottoms area.

The Council also commenced the construction of drains and floodgates in the Peninsula area and the restoration of the river bank at Ridge's farm in the Cornwallis area.

The Colo Shire Council completed work on the enlargement of Addy's Creek. This council also commenced work on bank protection at Freeman's Reach and the enlargement of Wheeny Creek.

Subsidy for the year was \$40,000.

Shoalhaven River Flood Mitigation

The Shoalhaven Shire Council commenced work on the Bolong, Numbaa, and Eelwina Creek areas.

Subsidy for the year was \$152,000.

INVESTIGATIONS

Fishing Ports

Investigation for enlargement of Wollongong Harbour was completed (including a model study) and a design prepared.

Field data was obtained for future investigation of Camden Haven and Port Macquarie.

Hydrographic Surveys

The hydrographic surveyor was engaged throughout the year on a detailed survey of Port Hacking.

Investigation for Future Flood Mitigation

A detailed investigation of the Lower Manning River was completed and a report issued.

An investigation was started on the Hastings River.

Further investigation on the Hawkesbury was carried out for the inter-departmental committee which is examining that river. An investigation of Georges River was nearing completion and a flood-warning technique was developed for the Civil Defence Organisation.

Hydraulic and Soils Laboratory

The volume of investigations in both hydraulics and soils increased again as in previous years. The increase has been particularly noticeable in the Soils Laboratory.

Hydraulics Section

Newcastle Harbour Siltation.—Model studies which are being carried out in consultation with Wallingford Hydraulics Laboratory, England, continued during the year. Testing work was nearing completion and preparations were made for compilation of a final report.

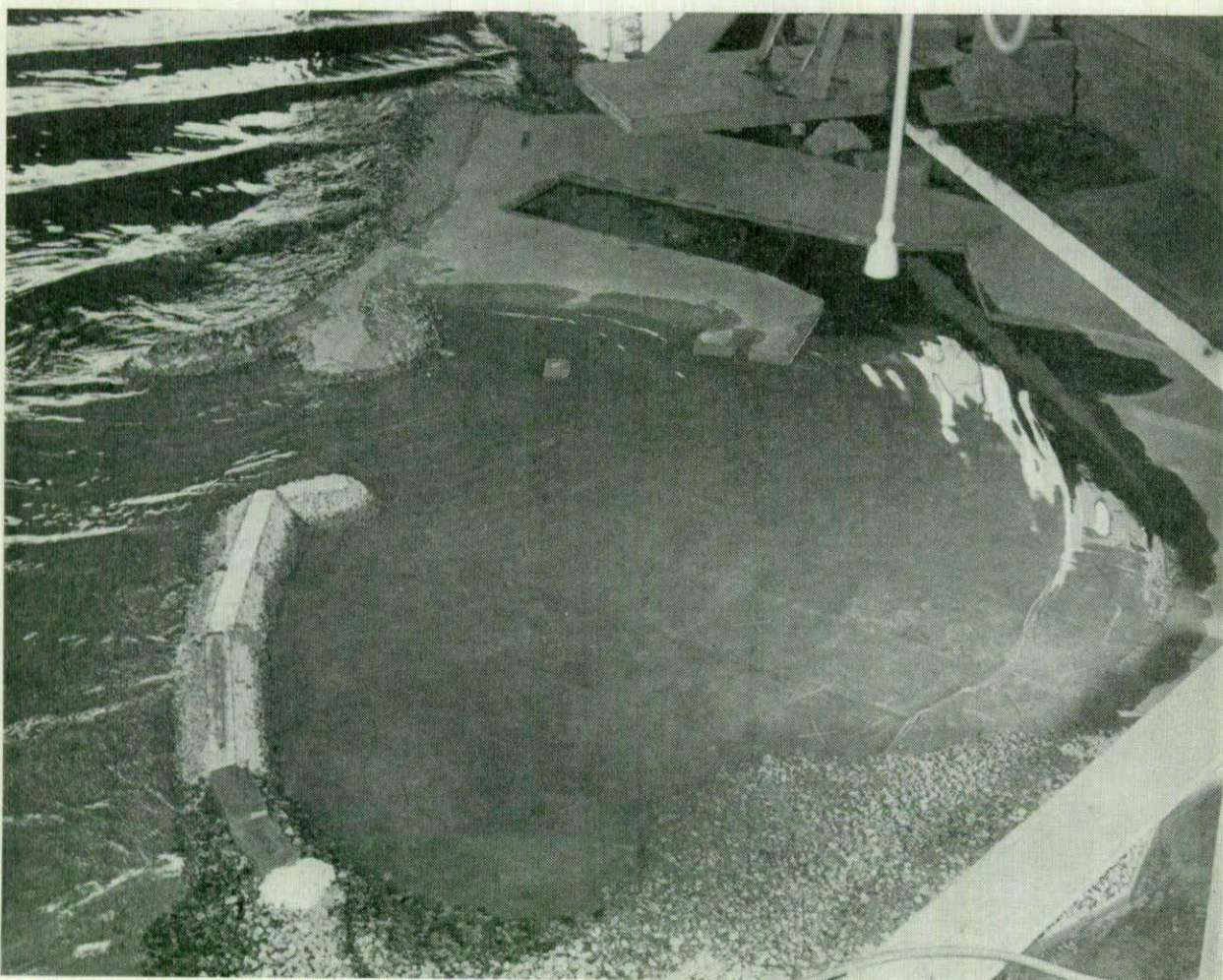
Newcastle Wave Model.—Work on this model is also being carried out in consultation with Wallingford. Testing of a number of methods for reducing the entrance shoal was almost completed.

Radioactive sand tracing was used to check deductions made in sand movement off Newcastle entrance. This was carried out in conjunction with the Australian Atomic Energy Commission.

Coff's Harbour Model.—Model testing of means of reducing wave action in Coff's Harbour and of proposals for a fishing haven were completed. A report is being prepared.

Belmore-Kinchela Creek Flood Mitigation Model.—Work continued on this model which was used to determine a system of levees and floodways for the flood mitigation scheme being constructed by the Macleay River County Council.

Korogora Creek Flood Mitigation Model.—A model was constructed to test the behaviour of a proposal to divert flood waters from the Macleay River flood plain to the ocean at Korogora Creek.



Manly Hydraulics Laboratory—Model of Belmore Basin, Wollongong, with proposed breakwater extensions

Wollongong Harbour.—A model study was made of proposals for construction of a breakwater to give a large mooring area at Wollongong Harbour.

Water Hammer Measurements.—Measurements were made of water hammer at Berrima, Moss Vale and The Entrance. This information was required by Design Branch for future design and to check present behaviour.

Wave Statistics.—A fifteen-year analysis of wave heights, directions and periods was made for the Port Kembla area. This was carried out for the Shell Oil Company with funds provided by that Company.

Hume Reservoir.—A flume study was made of the stability of rock facing on the earthen embankment.

Soils Laboratory

The work of this Laboratory has expanded to include arranging and supervising foundation and soils investigation in the field as well as testing of soils samples. Training of field staff in soils compaction and placement control was also arranged.

Investigation and testing was carried out for all engineering branches during the year. Major works with which the Soils Laboratory was concerned were:

Hume Reservoir.—A large amount of testing of soils in the existing earth embankment was carried out.

Lower Macleay Water Supply.—A detailed investigation of sand and gravel beds was arranged in the Hat Head and South West Rocks areas and also upstream of Kempsey. The investigation included drilling, seismic and resistivity surveys.

Smithfield Furniture Factory

The foundations for a proposed factory were investigated for the Local Government Engineer's Branch.

Other investigations included road and bridge sites on Newcastle Islands Reclamation, several swimming pools, water supply reservoirs and several bridge sites.

Approval was given for building extensions to the Soils Laboratory.

DREDGE SERVICE

The dredge service fleet now consists of twenty-nine vessels, plus six dumb hopper barges. The Grab Dredge *Minmi* was withdrawn from service during the year prior to disposal.

As a trading undertaking, the dredge service undertook dredging in Newcastle Harbour on behalf of the Maritime Services Board. Maintenance dredging was carried out by various units of the dredging fleet in order to maintain sufficient depth in navigable channels and at berths for the safe movement and berthing of shipping. A total of 1,532,020 barge tons of mud, clay, silt and sand was removed for an expenditure of \$804,254.

In addition work aimed at deepening the Harbour to 36 ft was carried out in the access channel to the new coal loader. Dredging to a depth of 30 ft at the approaches to the new bulk handling berth at Walsh Island was executed. The work was done by the dredges *John Main*, *Juno*, *R. Vowell*, *E.O.K. Green*, *M.K. Weir* and the *William J. McKell*, and in all a total of 3,185,750 barge tons of material were removed at a cost of \$1,285,324.

Two million, one hundred and seventy-six thousand, nine hundred barge tons of silt and sand were pumped ashore for reclamation purposes and 468,175 cubic yards were pumped onto Dempsey Island from the South Arm of the Hunter River by the *Cutter Suction No. 1* and the Medium Sand Pump *Forster*.

The Dredge Service also undertook dredging of various out-ports. The expenditure on these works is met from Dredge Service Revenue Vote and the following is a summary of the work undertaken:

River or Port	Quantity Dredged Barge Tons	Cost \$
Tweed River	21,341	28,871
Richmond River	42,400	84,377
Clarence River	252,870	299,644
Camden Haven	40,900	107,211
Hunter River (exclud- ing Newcastle Har- bour)	72,500	57,939
Port Kembla	66,700	24,000
Total	496,711	\$602,042

In addition to the above works carried out by Dredge Service vessels the following were also charged to Dredge Service Revenue Vote:

	\$
Port Kembla Rock Removal	1,375
Temporary Wharf Laurieton	3,026
Crebert Street Dolphin	5,670
Other minor works	1,417
Total	\$11,488

DOCKING OPERATIONS

Docks continued to operate at Ashby, Terranora and Riley's Hill. The principal users of these docks were Departmental vessels, Dredge Service vessels and vehicular ferries operated by the Department of Main Roads and local councils.

Ashby Dock

Was in use for fourteen weeks of the year, as follows:

Oxenfords	1 week
D.M.R.	5 weeks
Dayal Singh Construction	1 week
Clarence Harbour Works	7 weeks

Revenue earned in the current year was \$1,027.

Riley's Hill Dock

Eight vessels used the dock over a period of twenty-four weeks. Further improvement has been made to the pumping machinery installation.

Terranora Dock

The dredge *Harwood* spent the first eight weeks of the year in the dock until the completion of its overhaul. An electric motor for operation of pumping equipment has been installed.

RIVER ENTRANCE SOUNDINGS

YEAR ENDED 30TH JUNE, 1966

River	Location	Maximum	Average	Minimum
		ft in	ft in	ft. in.
Tweed	Bar	15 0	14 8	14 0
Tweed	Inner Crossing	13 0	12 4	11 0
Richmond	Bar	18 0	16 0	12 6
Richmond	Inner Crossing	15 0	13 10	12 0
Clarence	Bar	17 6	15 4	11 0
Clarence	Inner Crossing	20 0	20 0	20 0
Clarence	North Channel	16 0	14 6	13 6
Camden Haven	Bar	6 6	4 5	2 6
Macleay	Bar	8 9	7 8	7 0
Hastings	Bar	6 6	6 1	5 6
Hastings	Inner Crossing	4 9	4 9	4 9
Cape Hawke	Bar	4 6	3 8	2 6
Cape Hawke	Inner Crossing	21 0	13 0	7 6
Clyde	Bar	5 6	5 1	4 6
Moruya	Bar	11 3	9 11	7 0
Moruya	Inner Crossing	9 0	9 0	9 0
Wagonga	Bar	6 6	5 5	4 0

N.B.: As soundings are not taken every day these soundings are not conclusive.

REPRESENTATION ON COMMITTEES

The Department is represented by officers of this Branch on the following Committees:

- (1) Newcastle Port Advisory Committee.
- (2) Port Kembla Advisory Committee.
- (3) Hunter Valley Conservation Trust,
- (4) Hunter Valley Research Foundation—
 - (a) Siltation Investigation Committee;
 - (b) Hydrology Sub-committee.
- (5) Public Service Board's Examination Committee and Special Committee of Review.
- (6) Hawkesbury River Flood Warning Panel.
- (7) Pokolbin Soil Conservation Trial Committee.
- (8) Rivers and Foreshores Improvement Board.
- (9) Hydraulic Laboratories Co-ordinating Committee.
- (10) Standards Association of Australia.
- (11) Joint Committee appointed under Section 13, Maritime Services Board (Amendment) Act.
- (12) Botany Bay, Northern Foreshores (Land Reclamation) Committee.
- (13) Fishing Ports—Priorities Committee.

APPENDIX IIIA

WATER SUPPLY AND SEWERAGE

FUNCTIONS

The functions of the Water Supply and Sewerage Branch include the technical and administrative activities associated with the works of water supply, sewerage and stormwater drainage throughout the State with the exception of the areas under the control of the Metropolitan Water, Sewerage and Drainage Board in Sydney, the Hunter District Water Board in Newcastle, the Grafton and South Grafton Water Board and Broken Hill Water Board.

These functions comprise:

1. Water Supply and Sewerage schemes—

- (a) the construction of works in country towns by the departmental day labour organization and by contracts;
- (b) supervision of works being constructed by Councils and by the Broken Hill Water Board;
- (c) provision of services for State institutions and hospitals;
- (d) investigation of schemes, augmentations and extensions in country towns, institutions and hospitals.

2. Water Supply Purification—

The investigation, supervision of design, construction, installation and inspection of plant and equipment for the purification of trade wastes, domestic water supplies and bathing pools in country towns, institutions and hospitals and public schools.

3. Miscellaneous—

- (a) operation and maintenance of water supply works controlled by the Department;
- (b) supervision of the mechanical and electrical activities in connection with water supply and sewerage constructions;
- (c) investigation and supervision of installation for fluoridation of water supplies in conjunction with Department of Public Health;
- (d) construction, operation and maintenance of River Murray Works on behalf of the River Murray Commission;
- (e) finalization of handover of stormwater drainage structures in the Newcastle and Metropolitan areas to the Water Boards; technical advice to Councils on stormwater drainage proposals outside the areas of operation of the Metropolitan and Newcastle Water Boards.

OPERATIONS

I. Water Supplies

(A) CONSTRUCTION

WORKS UNDER CONSTRUCTION OR COMPLETED BY THE DEPARTMENT

Cobar Water Supply Augmentation (Cobar Shire Council).—The System provides water for a group of mining companies but also included augmentation and treatment of Council's existing domestic scheme.

All works except the installation of the automatic control system have been completed and the scheme is now in operation.

Denman Water Supply (Muswellbrook Shire Council).—The major portion of this scheme has been completed. The adequacy of the intake well, sunk by contract, was in doubt at one stage. However, subsequent tests revealed that the yield of the well is satisfactory. A contract has now been let for supply and installation of the pumping machinery.

The estimated cost is \$93,200 with a Government subsidy of \$33,200.

Fish River Water Supply.—Work in respect of this scheme developed in three stages. The first stage was the construction of the Oberon dam together with associated pipeline work, pumping station, etc., for supply of water to Oberon, Wallerawang, Wallerawang Power Station, Lidsdale, Portland, Cullen Bullen, Glen Davis and Lithgow.

The second stage included the raising of the level of the Oberon Dam, the construction of a duplicate main from the dam to Wallerawang, provision of storage at Rydal and Lidsdale and a booster pumping station and ancillary work at Wallerawang.

The third stage provided for extension of supply to the Blue Mountains City area, and an additional supply from a pipe-head weir on the Duckmaloi River feeding into the whole scheme at the break pressure tank after chlorination. Water is now being supplied to the Blue Mountains City Council at the rate of approximately 2,000,000 gallons a day. Approximately five minor consumer connections have been made to the Leura line.

The Fish River Water supply scheme comprising of each of the above stages has now been completed and is being operated by the Department, the administrator being the Director, and water is sold in bulk to the Oberon and Blaxland Shires, the Lithgow and Blue Mountains City Councils and to the Wallerawang Power station.

Gilgandra Water Supply (Gilgandra Shire Council).—The source of supply for this scheme is the Castlereagh River, which ceases to flow in dry periods. Well points have been sunk in the river bed to provide a permanent supply.

The scheme consists of a pumpwell on the bank of the river drawing water from approximately 30 spear points and delivery of a 10 in rising main $1\frac{1}{2}$ miles long to a 500,000 gallon mild steel reservoir, town reticulation in 4 in and 6 in AC mains. Estimated total cost is \$286,000 with 24 per cent Government subsidy. The scheme is in operation but difficulty is being experienced in obtaining sufficient water from the well points, and the sinking of further well points upstream is being investigated.

Hume Reservoir.—The purpose and special features of this project were described in a previous report. During the year, the additional rock protection for No. 1 bank was completed except for a small quantity to be placed near the south wing wall. Work also commenced for an improved crest and downstream slope drainage scheme on this bank.

The raising of Bethanga Bridge recommenced in December, 1965, and is virtually complete. Preparations are well advanced for the replacement of the timber deck with precast lightweight concrete panels.

Lennox Head Ballina Water Supply (Tintenbar Shire and Ballina Municipal Councils).—This scheme provides for an 80,000,000 gallon capacity dam on Emigrant Creek and a pumping station with duplicate 90,000 g.p.h. pumps. The water will be pumped from the dam through 4,250 ft of 15 in cement-lined cast-iron rising main to a 250,000-gallon reinforced concrete balance tank at Knockrow. The water is to be chlorinated prior to entry into the balance tank.

From the Knockrow balance tank water is to be pumped by duplicate 5,000 g.p.h. pumps in No. 2 pumping station through 22,600 ft of 6 in AC rising main to a 50,000-gallon reinforced concrete service reservoir to be constructed at Newrybar. From this rising main 6,500 ft of 4 in AC pipe will gravitate water to Halpin.

Also from the Knockrow balance tank water is to be gravitated to three towns as follows:

- (a) Through 30,000 ft of 8 in and 15 in AC pipe to a 500,000-gallon reinforced concrete reservoir to be constructed at Lennox Head.
- (b) Through 30,000 ft of 15 in CI and 24,000 ft of 12 in AC pipe to a 1,000,000-gallon steel reservoir to be constructed at East Ballina.
- (c) Tintenbar is to be supplied by a branch line from the Ballina gravitation main, consisting of 1,300 ft of 4 in AC pipe.

The reticulation mains in the townships mentioned above are also to be constructed whilst the 1,000,000-gallon reservoir at East Ballina is to be connected to the existing scheme. The dam, No. 1 pump station and part of the rising main is being constructed by day labour. The balance of the work consisting of four reservoirs, No. 2 pumping station, pipelines and reticulation is being constructed under three separate contracts.

The scheme was investigated, designed by the Department and the estimated cost is \$880,000.

Work on this scheme commenced in January, 1966, and three contracts have been let for the construction of—

- (a) A 1,000,000-gallon reservoir at East Ballina,
- (b) three concrete reservoirs,
- (c) mains and reticulation contract.

Lower Clarence District Water Supply (Lower Clarence County Council).—This is a district scheme involving supply of stock and domestic water from Grafton City Council's 7,000,000-gallon reservoir by gravity to towns and communities along the Lower Clarence River from Grafton to the coast, including part of South Grafton, Ulmarra, Bushgrove, Tucabia, Lawrence, Maclean and Yamba, also Woodford, Harwood, Chatsworth and Palmer's Islands. Extensions to the original scheme include supply to the Southgate and Mountain View-Carrs Creek areas of Copmanhurst Shire on the north bank of the Clarence River. The scheme involves 45 miles of trunk main reducing in stages from 20-in to 12-in diameter from South Grafton to Yamba, 180 miles of branch and reticulation mains, six service reservoirs ranging from 1,000,000-gallon capacity at Maclean to 20,000 gallons at Mountain View, and 2,400 service connections. It has a capacity of 2,500,000 gallons per day and will serve a population of 9,000 and some 20,000 head of stock.

The work has been carried out by day labour except for the main submarine crossing, the Harwood Bridge crossing and construction of the five smaller service reservoirs which are being carried out by contract. It should be completed in January, 1967.

The total estimated cost is \$3,200,000, with 50 per cent Government subsidy.

Manning District Water Supply (Manning River County Council).—The scheme consists of a pump on the Manning River delivering to an off-creek storage dam. Water is pumped from the storage dam into the Wingham reservoir for distribution to Taree and Wingham and to a balance tank adjacent to the Pacific Highway near Koorainghat. Water is gravitated from the balance tank to Old Bar, Forster, Tuncurry, Nubiach, Dyer's Crossing, Krambach and Halliday's Point.

The dam and outlet works, the pump house at the river and the pump house at the dam are being constructed by day labour.

Progress on day labour work—No. 1 Pumping Station 50 per cent complete, dam outlet works 30 per cent complete. Work well advanced on stripping of damsite and preparation of embankment foundations.

Contracts have been let for the rising main to Wingham and the rising main from the river to the dam and are nearing completion.

Tenders have been called for the gravitation main from the dam to Forster, the construction of the reservoir at Forster and the balance tank at Koorainghat.

Plans and specifications are being prepared for the calling of tenders for branch lines and reticulation and construction of services reservoirs at Krambach, Nubiach and Halliday's Point.

The work is estimated to cost \$3 million with a Government subsidy of just under \$1.2 million and is approximately 10 per cent complete.

Tea Gardens Water Supply (Stroud Shire Council).—Water is taken from 5 bores and pumped to a service reservoir from where the water gravitates to be reticulated in Tea Gardens and Hawkes Nest.

The Tea Gardens section is operating satisfactorily and the reticulation of Hawkes Nest is complete. A supply to the latter can be made on completion of the underwater crossing, which is expected to be completed shortly.

The revised estimated cost is \$292,000 with a 50 per cent Government subsidy.

The Entrance Water Supply (Wyong Shire Council).—A description of the scheme was given in a previous report.

The construction of The Entrance reticulation has been completed. Construction of rising main, service reservoir and reticulation for Ourimbah is 97 per cent complete, construction of booster station at Ourimbah is 95 per cent complete.

Contracts have been let for the construction of the pumping station and 2,000,000-gallon service reservoir at Bateau Bay.

Tenders have been received for Bateau Bay reticulation and are under review.

The scheme is estimated to cost \$3 million with a subsidy of approximately 30.5 per cent.

Urbenville-Woodenbong Water Supply (Kyogle and Tenterfield Shire Councils).—The joint scheme to serve both these villages draws a supply from a pool above the waterfall in the Toolom Creek two miles southwest of Urbenville. The work comprises a timber staging, suction main, pumpwell, and duplicate 15,000 g.p.h. high lift pumps delivering through 14,500 ft of 8-in rising main to a 200,000-gallon service reservoir located at Urbenville. The water will require chlorination.

Water for Urbenville will be reticulated through approximately 100 service connections. From the service reservoir in Urbenville water will gravitate to a booster station which will pump the water through a 6-in rising main to a 150,000-gallon service reservoir in Woodenbong. Reticulation in Woodenbong involves approximately 13,900 ft of rising main and 140 service connections.

The work to be constructed in the Tenterfield Shire will be operated and owned by that Council, and the balance by the Kyogle Shire Council who will purchase water from the Tenterfield Shire Council at a price determined by agreement between the two Councils.

The scheme is estimated to cost \$240,000 with a 50 per cent Government subsidy with the Councils providing the difference on a cost basis.

Walcha Water Supply (Walcha Shire Council).—The scheme comprises an intake from a large pool in the MacDonald River near Mulaurindie Station and which is pumped into a 50,000-gallon reinforced concrete balance tank situated on the Dividing Range, then gravitating to a 500,000-gallon reinforced concrete reservoir. Town reticulation consists of 7,000 ft of 6-in and 66,000 ft of 4-in asbestos cement branch mains. Work is complete except for the construction of a chlorinator and fluoridation building and the installation of plant. Some pipework within the pumping machinery contract is being replaced and a chlorinator is being installed.

The estimated cost is \$480,000 with a 50 per cent Government subsidy.

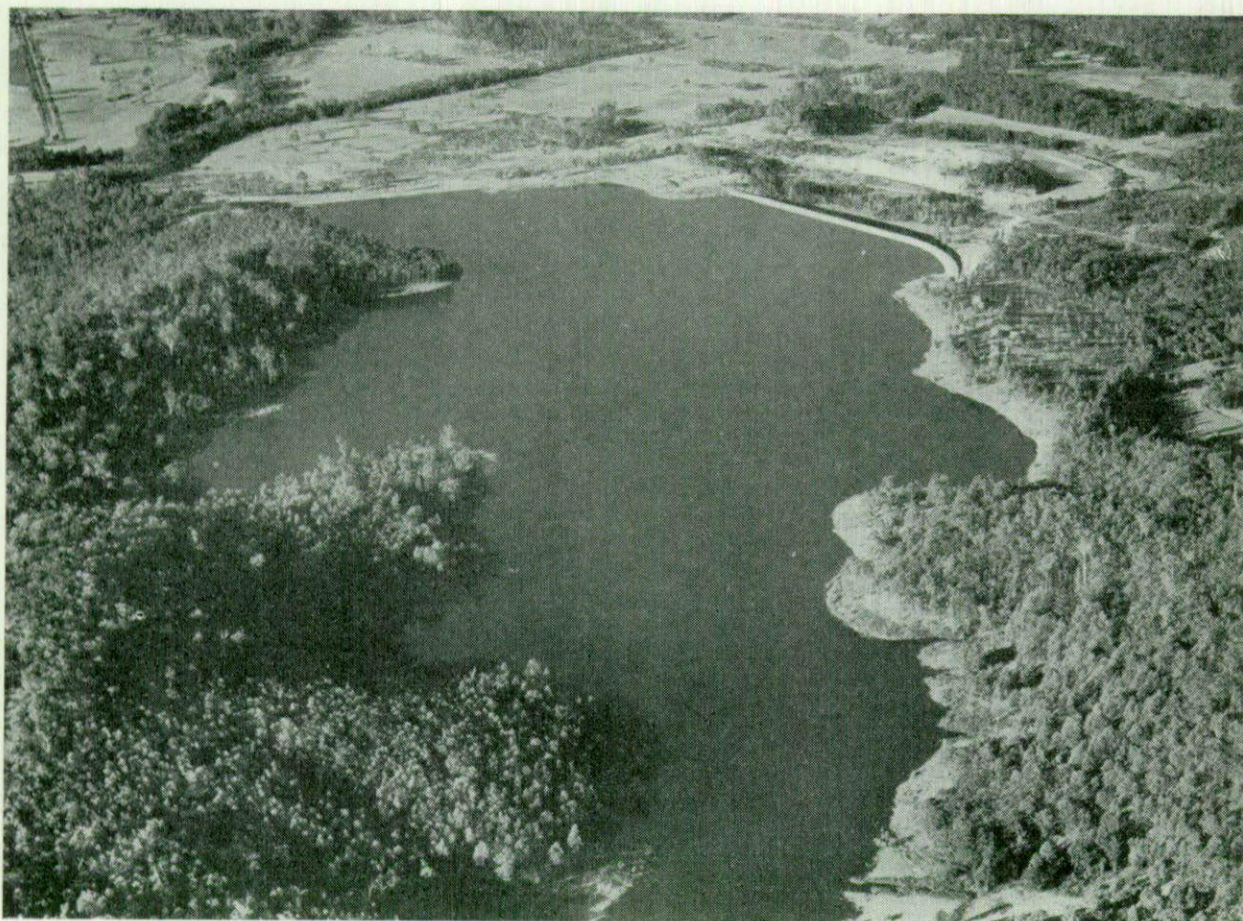
Wooli Water Supply (Ulmarra Shire Council).—This scheme involves pumping from Lake Hiawatha through 22,000 ft of 6-in rising main to a 250,000-gallon mild-steel service reservoir and associated reticulation mains.

The estimated cost is \$104,000 with a Government subsidy slightly less than 50 per cent. The scheme is approximately 80 per cent complete.

Woolgoolga Water Supply (Coff's Harbour Shire Council).—This scheme consists of a small concrete pipe head weir on Woolgoolga Creek approximately five miles from Woolgoolga. Approximately 23,000 ft of 9-in diameter gravitation main comprising mild steel, cast iron and asbestos cement pipe leads to an off-creek storage dam of 60 million gallons capacity on the outskirts of Woolgoolga. The pumping station is located downstream of the off-creek storage dam and pumps to a 1-million gallon reservoir located on the headland and a 100,000-gallon reservoir in the town.

Reticulation of the town is in approximately 8,000 ft of 6-in A.C. pipe and 37,000 ft of 4-in A.C. pipe. Construction of the pipe head weir and 4,000 ft of gravitation main in difficult country and the off-creek storage dam and pumping station is currently being done by day labour. The balance of the gravitation main and the reticulation are being currently constructed under contract by Coff's Harbour Shire Council, whilst the reservoirs are being constructed by another contract.

The estimated cost of the scheme is \$430,000 with a 50 per cent Government subsidy.



Mardi Dam, near Wyong—aerial view

*Wyong District Water Supply (Wyong Shire Council).—*The scheme involves augmentation of supply from the Mardi Dam near Wyong to Wyong township and extension to serve villages along western shore of Tuggerah Lake to Gorokan and thence to Toukley and villages along the eastern shore and seaboard to Buff Point and Halekulani.

Construction of the service reservoir at Wyong is complete, Kanwal reservoirs are 70 per cent complete, the trunk main from Mardi to Kanwal is 98 per cent complete and the second pumping station at Wyong is 95 per cent complete. A Contract for the reticulation work has been let and the construction is 70 per cent complete.

Contracts have been let for construction of the trunk main to Halekulani, 1,500,000-gallon reservoir at Halekulani and Stage II of the reticulation system.

The scheme is estimated to cost \$2.6 million with a subsidy of approximately 32 per cent and is approximately 30 per cent complete.

WORKS OF WHICH COUNCIL IS THE CONSTRUCTING AUTHORITY

Minor Water Supplies.—The following village schemes are under construction or have been completed with Government subsidy:

Scheme	Local Government Authority	Estimated total cost	Progress
		\$	
Merriwagga ..	Carrathool Shire Council	2,200	Complete.
Burouga	Wentworth Shire Council	21,246	Complete.
Gol Gol	Wentworth Shire Council	19,000	Complete.
Engonia	Darling Shire Council ..	24,000	Complete.
Gwabegar	Namoi Shire Council	36,000	30 per cent complete.
White Cliffs ..	Central Darling Shire Council.	10,800	Minor progress.
Barooga	Berrigan Shire Council ..	72,000	Nearing completion.
Beechwood ..	Hastings Shire Council ..	51,835	Complete.
Byrock	Darling Shire Council ..	8,354	30 per cent completed.
Morundah	Sth Riverina Shire Council	15,133	85 per cent completed.
Nemingha-			
Dungowa ..	Cockburn Shire Council	12,244	85 per cent completed.
Gays Hill	Tomki Shire Council	9,346	Complete.
Scott's Head ..	Nambucca Shire Council	.....	Minor progress.
Rankin Springs	Carrathool Shire Council	35,600	14 per cent completed.

WATER SUPPLIES TO STATE INSTITUTIONS AND HOSPITALS

Bellbrook Aboriginal Reserve: water supply.—The work includes the supply and erection of two 5,000-gallon galvanized steel tanks on 30-ft high tank stands and the connection of these tanks to the existing water supply scheme. The supply will be made by a movable pump mounted on a trackway so that the pump can be pulled up out of the river in case of flood.

Farrer Memorial High School and Agricultural Research Station, Tamworth: water supply.—This project comprises the construction of a 50,000-gallon concrete reservoir, pumphouse, rising main, two 5,000-gallon galvanized steel tanks on 50-ft high stands and reticulation. A tender for this work was let on 16th June, 1966.

Londonderry Mines Department Core Library: water supply.—A scheme for a domestic water supply and fire-fighting service has been investigated and a preliminary estimate has been prepared.

Moree Aboriginal Settlement, Maude Street: water supply.—The Moree Council have undertaken to construct under Departmental supervision a 6-in water main extension along Maude Street to the twenty-seven new cottages which will constitute the new Aboriginal Settlement. The programme includes reticulation to the cottages.

Mater Misericordiae Hospital, Waratah: water supply augmentation.—An elevated 30,000-gallon galvanized steel tank was constructed to augment the water supply. Painting of tank and stand and laying and jointing of pipes to existing mains was included in this work, now completed.

Morisset Hospital: water supply Augmentation.—An existing steel reservoir 26 feet diameter x 31 ft 3 in high was demolished and was replaced with a 100,000-gallon concrete reservoir, including incidental works necessary to put the new reservoir into operation.

Mount Penang Training Centre: water supply.—A 10,000-gallon steel storage tank and pumphouse together with 4-in asbestos cement gravitation and rising mains was constructed by contract.

The electrical installation was done by the Gosford Council. Work was supervised by the Metropolitan Engineer.

Orange Agricultural Research Station: water supply.—A scheme to pump water from Gosling Creek through 4,000 feet of A.C. rising main with duplicate pumps was completed by the Orange City Council under Departmental supervision.

Peat and Milson Island Hospital: water supply augmentation.—The existing 3-in gravitation main was cut at the north side of the Hawkesbury road bridge and replaced with a 4-in cast-iron main. The work included the construction of a disconnection pit, designed to prevent pollution of the M.W.S. & D. Board's mains by the existing hospital water supply. This scheme is completed.

State Penitentiary, Malabar Unconvicted Prisoners Section: water supply augmentation.—A 40,000-gallon elevated concrete reservoir is under construction by the Metropolitan Engineer, to provide an improved water supply and fire booster service to a new section of the gaol for unconvicted prisoners. The laying and jointing of 8-in and 6-in diameter cast-iron mains, the construction of pits for fire booster pumps and other incidental works is included in the scheme.

Stockton Hospital: water supply augmentation.—The construction of a 265,000-gallon reinforced concrete reservoir and a 50,000-gallon reinforced concrete balance tank and incidental works designed to provide an improved water supply to new buildings, is nearing completion.

N.S.W. University Upper Campus Development.—Work comprising a water supply, fire service, sewerage, stormwater drainage, crib block retaining wall, and roadwork including concrete kerb and gutters and footpaving to serve the Administration Building, Library, Arts, and Mathematics Building, Lecture Hall, Commerce Building, and Civil Engineering Building are complete and are now on maintenance.

(B) INVESTIGATION

District Schemes—

Investigations were carried out or continued during the year in connection with water supply proposals for the following districts:

Central Tablelands, Fish River, Gosford, Lower Clarence, Lower Macleay, Manning, Northern Riverina, Southern Riverina, Southwest Tablelands, Tweed, Wyong, Tanta-wanglo.

Towns—new schemes—

Investigations were carried out in connection with water supply schemes for the following towns:

Binalong, Bookham, Bowning, Galong, Goondah, and Boorowa; Bonalbo, Broomes Head, Bungendore, Byrock, Burringbar, and Mooball; Barooga, Cassilis, Calarie, Cumnock, Curlewis, Deepwater, Denman, Euabalong, Eumungerie, Gilgai, Glenreagh, Gilgandra, Inverell, Lennox Head, Merriwagga, Mogriguy, Marulan, Mian-detta, Mooney Mooney, Murrumbateman, Nundle, Ootha, Old Bonalbo, Premer, Red Rock and Corindi, Robertson, Rockley, Spring Ridge, Spring Hill, Stuart's Point, Tabulam, Tea Gardens, The Entrance, Tibbooburra, Tingha, Tooleybuc, Tyalgum, Ulamambri, Uki, Urbenville, and Woodenbong, Wallabadah, Wiangaree, Wool-goolga.

Towns—augmentations—

Investigations were carried out in connection with water supply augmentation for the following towns:

Armidale, Ballina, Barraba, Bathurst, Bowral, Bowra-ville, Macksville, Nambucca Heads, Bermagui, Brewar-ina, Broken Hill, Binnaway, Captains Flat, Coonabarabran, Coff's Harbour and Sawtell, Cowra, Forbes, Glen Innes, Goulburn, Gulgong, Guyra, Geurie, Ivanhoe, Junee, Leadville, Moss Vale, Murrurundi, Mittagong, Parkes, Peak Hill, Port Macquarie and Wauchope, Tamworth, Tantawanglo, Tenterfield, Uralla, Walgett, Warren, Yass.

Institutions—schemes for septic sewerage—

Investigations were carried out in connection with water supplies for septic sewerage schemes for the following public schools:

Allynbrook, Alectown, Arthurville, Borenore, Bilpin, Blandford, Dartbrook, Dooralong, Dundarrabin, Elderslie, Eltham, Ettrick, Fisher's Hill, Gum Flat, Gongolgon, Glossodia, Iona, Kincumber, McDonald Central, Moonan Flat, Maraylya, Mount Penang, Mount Pleasant, Numulgi,

Perthville, Penrose, Roughit, Somersby, Springside, Sunny Corner, Telegraph Point, Trunkay, Ulong, Wilberforce, Woolbrook, Wyrallah, Walcha Road.

Institutions—schemes for fire services—

Investigations were carried out in connection with water supplies for fire services for the following institutions:

Bloomfield Hospital, Garrawarra Hospital, Kirkconnel Prison Farm, Kenmore Psychiatric Hospital, Lidcombe State Hospital, Leichhardt Stores and Services Depot, Newcastle Psychiatric Centre, Ormond Girls Training School, Rydalmere Hospital, Stockton Psychiatric Hos-pital, Thornleigh Girls Training School.

Institutions—schemes for domestic services—

Investigations were carried out in connection with water supplies for domestic services in the following institutions:

Bellbrook Aboriginal Reserve, Orange Agricultural Re-search Station, Collarenebri Hospital, Cabbage Tree Island Aboriginal Reserve, Caroon Aboriginal Station, Chester Hill High School, Farrer Memorial Agricultural High School, Goulburn Hospital, Jenolan Caves, Lid-combe State Hospital, Murrin Bridge Aboriginal Station, Manly District Hospital, Morisset Hospital, Mount Penang Training School, Newcastle Psychiatric Centre, St Helier's Child Welfare Home, State Penitentiary, Stock-ton Psychiatric Hospital, Tibbooburra District Hospital, Tabulam Aboriginal Station, Yanco Agricultural Research Station, Yanco Agricultural High School, Wollongong Technical College.

Institutions—schemes for irrigation—

Investigations were carried out in connection with water supplies for agricultural and playing field irrigation at the following institutions:

Cronulla High School, Chester Hill School, J. J. Cahill Memorial High School, Port Macquarie Agricultural School, Sydney Technical High School.

Institutions—New schemes—

Investigations were carried out in connection with new water supply schemes for the following institutions:

Coleambally North Public School, Cassilis Public School, Mines Department Core Library, Mooney Mooney Public School, Wagga Wagga Teachers' College, Wahroonga Public School.

Department undertakings—

Investigations were carried out into the South West Table-lands Water Supply Scheme and the Junee Water Supply.

(C) PURIFICATION

Investigations were made regarding water treatment for the following:

Armidale, Bathurst, Hillston, Water Supplies (filtration plant augmentation); Bungendore, Burringbar-Moobal, Bourke, Crescent Head, Jerilderie, Manning District, Marulan, Rocky Creek, Water Supplies (Water Treatment Plants).

Coonabarabran Water Supply was also investigated for algae control.

Specifications were prepared for chlorination plants at Lennox Head-Ballina Water Supply, and Urbenville-Wooden-bong Water Supply. Specifications were also prepared for Tabulam Aboriginal Station (water treatment plant).

A water treatment plant was installed at Tea Gardens Water Supply and chlorination plants were installed and completed at Denman and Geurie Water Supplies.

A contract was arranged for filtration plant equipment for Cobar Water Supply and tenders were invited for filtration plant equipment for Cowra, Forbes, and Leeton Water Sup-plies. Tenders were also invited for items of equipment and the structure for the Tumut Water Filtration Plant.

Hospitals, schools, and institutions—

Contracts were arranged for water softening plants at Bel-mont Hospital and Goulburn Training Centre. Specifications were also prepared for a water softening plant at Canterbury District Hospital. A water treatment plant was completed at Bathurst District Hospital. Also an investigation was made into pipe corrosion at Lidcombe Hospital.

II. SEWERAGE

(A) CONSTRUCTION

WORKS UNDER CONSTRUCTION OR COMPLETED BY THE DEPARTMENT

Adelong Sewerage (Tumut Shire Council).—The estimated cost of the scheme is \$202,000 with a 50 per cent Government subsidy.

Contracts have been let for pumping machinery, supply of pipes, and reticulation of sewers. For the first time in Australia a PASVEER Pond type of treatment works will be installed in lieu of the conventional treatment works. The scheme is approximately 10 per cent complete.

Barham Sewerage (Wakool Shire Council).—The estimated cost of this scheme is \$262,000 with a 50 per cent Government subsidy.

Contracts have been let for the supply and delivery of pipes and construction of the reticulation sewers. The treatment works and pumping stations are being done by day labour and the project is approximately 25 per cent complete.

Batlow Sewerage (Tumut Shire Council).—The estimated cost of the scheme is \$254,000 with a 50 per cent Government subsidy. Contracts have been let for the following sections of the work:

- (1) Treatment works and pumping stations.
- (2) Supply and delivery of pipes.
- (3) Reticulation of sewers.
- (4) Pumping machinery.

Work on the scheme is approximately 25 per cent complete.

Blayney Sewerage (Lyndhurst Shire Council).—This scheme consists of approximately 60,000 feet of sewer reticulation, one large and one small pumping station and a conventional type treatment works of 2,000 persons capacity.

The estimated cost is \$272,000 with a 50 per cent Government subsidy.

The scheme is operating except for the north section of the town which depends on the completion of the No. 2 pumping station. The approved extensions are almost complete and finalisation is expected during the coming financial year.

Coolamon Sewerage (Coolamon Shire Council).—The scheme is estimated to cost \$300,000 with a 50 per cent Government subsidy.

Tenders have been let for the supply and delivery of pipes, and for the construction of the reticulation sewers. The treatment works is being constructed by day labour. Work is approximately 75 per cent complete.

Gilgandra Sewerage (Gilgandra Shire Council).—This scheme consists of approximately 59,000 feet of sewer mains ranging from 6 inches up to 12 inches draining into 5 pumping stations which will pump the sewage through 5,000 feet of rising mains to a treatment works of 3,000 persons capacity.

The scheme, together with extensions, is expected to be completed during August and the estimated cost is \$428,000 with a 50 per cent subsidy.

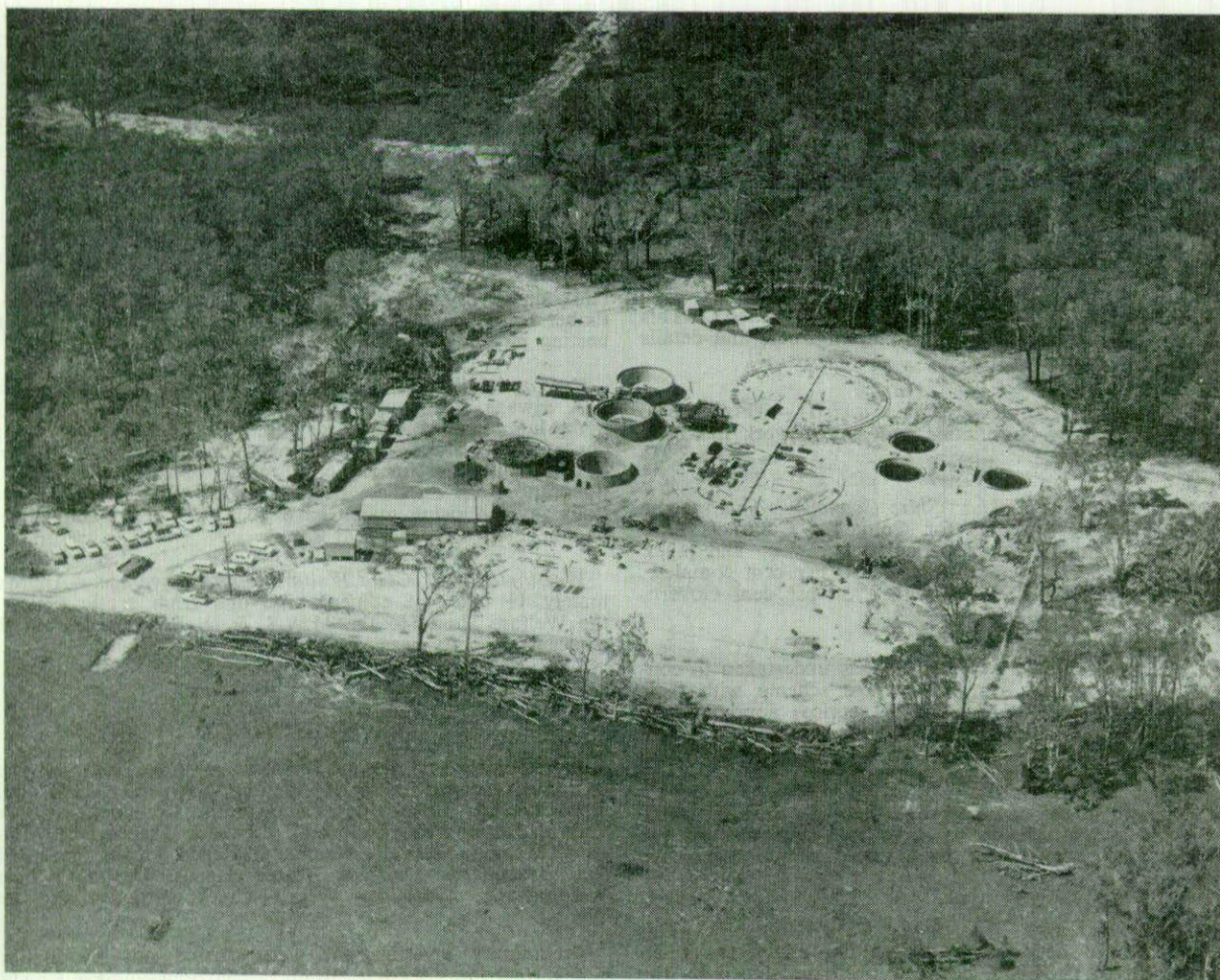
Jerilderie Sewerage (Jerilderie Shire Council).—The total estimated cost of the scheme is \$382,000 with a 50 per cent Government subsidy.

Contracts have been let for the supply and delivery of pipes, the construction of the reticulation sewers, and supply and installation of pumping machinery.

The treatment works and pumping stations are being constructed by day labour.

The scheme is approximately 75 per cent complete.

Lawson Sewerage (Blue Mountains City Council).—Comprises about 33 miles of 6-in to 15-in reticulation sewer mains, 11 pumping stations, and a treatment works of 5,500 persons



Tweed Heads Sewerage—Aerial View of Treatment Works under construction

capacity, serving Lawson, Bullaburra, and Hazelbrook. The work has been carried out by day labour, and is complete and in operation, except for installation of pumps in two pumping stations and a 4,000 feet extension being constructed at council's cost.

The estimated cost of the scheme is \$1,624,000 with a Government subsidy estimated at \$750,000.

Oberon Sewerage (Oberon Shire Council).—Construction of the treatment works, pumping station and reticulation has been completed and the scheme will shortly be handed over to the Council.

The estimated cost is \$450,000 with a Government subsidy of 50 per cent.

Tweed Heads Sewerage (Tweed Shire Council).—The scheme has been designed by consulting engineers and consists of eleven small manhole type pumping stations and three large pumping stations to serve the town. All sewerage will be pumped to the treatment works and effluent disposed of in large ponds. The work is being carried out by day labour and is programmed for completion in 1967.

The construction of the treatment works has commenced and a labour force of 120 men is at present employed. The cost is estimated at \$1,260,000 with a 50 per cent Government subsidy.

Werris Creek Sewerage (Peel Shire Council).—The scheme has been redesigned by the Department and is basically a gravitational scheme with one section of the town served by a small pumping station. The reticulation consists of 45,000 ft of 6-in, 4,000 ft of 9-in, 4,000 ft of 12-in and 1,000 ft of 15-in diameter mains. An asbestos cement main 2½-in diameter and 600 ft long will convey sewage from the pumping station to the gravitation sewers.

The estimated cost is \$437,400 with a 50 per cent Government subsidy.

The treatment works and small pumping station being constructed by day labour are well advanced and the reticulation which is being done by contract should be completed in October, 1966.

WORKS UNDER CONSTRUCTION OR COMPLETED BY COUNCILS WITH DEPARTMENTAL SUPERVISION

Berrigan Sewerage (Berrigan Shire Council).—The design of this scheme is being carried out by consulting engineers. The estimated cost is \$150,000 with a 50 per cent Government subsidy.

Bomaderry Sewerage (Shoalhaven Shire Council).—This scheme has been designed by consulting engineers and the survey has been completed.

Bombala Sewerage (Bombala Municipal Council).—This scheme has been designed by consulting engineers and details of the scheme are under review.

Finley Sewerage (Berrigan Shire Council).—This scheme has been designed by consultants and survey work has been completed.

Lockhart Sewerage (Lockhart Shire Council).—This scheme was designed by consultants for Council. Contracts have been let for treatment works, reticulation sewers, and pipes. Work on this scheme is approximately 50 per cent complete. The estimated cost is \$271,720 with a 50 per cent Government subsidy.

Port Macquarie Sewerage.—Council has undertaken to construct one part of the overall sewerage scheme with their own funds. This part, i.e., Stage I, services approximately 3,000 persons and is now complete, including reticulation, treatment works, and three pumping stations. The estimated cost of Stage I now completed is \$500,000.

The Department has now approved plans for Stage II which is an augmentation scheme to serve the remainder of the town, and construction work on Stage II should commence soon.

Tocumwal Sewerage (Berrigan Shire Council).—This scheme originally designed by consulting engineers at an estimated cost of \$484,000, has now been redesigned by the same consultants and consists of town reticulation, eight man-

hole and one conventional type pumping stations, rising mains, etc., to an existing treatment works purchased by Council from the Department of Interior. Contracts have been let for reticulated sewers and pumping stations and the work is now 70 per cent complete. The estimate cost of the redesigned scheme is \$368,000 with a 50 per cent Government subsidy.

Wauchope Sewerage (Hastings Shire Council).—Construction of the treatment works and pumping stations by contract is complete. The reticulation contract was cancelled and fresh tenders invited as the work was beyond the capacity of the original contractors.

Most of the scheme has been put into operation by the Council and the new contractor is satisfactorily proceeding to near completion in respect of the reticulation work.

The scheme is being constructed by Council at an estimated cost of \$481,400 with a Government subsidy of \$178,738.

An extension to serve the Bargo Road area estimated to cost \$14,250 has been included in the subsidized scheme and will be constructed shortly.

PROVISION OF SYSTEMS FOR STATE HOSPITALS AND INSTITUTIONS

Ballina District Hospital: Sewerage.—A contract was let on 18th May, 1966, for the construction of a septic tank, effluent storage well, rising main and the replacement and concrete encasement of existing sewerage lines.

Farrer Memorial High School and Agricultural Research Station: Sewerage.—An effluent pond and pumping station have been constructed, and additional work involving a spray irrigation method of disposal of the effluent is expected to be constructed within a few weeks.

Garrawarra Hospital: sewerage augmentation.—A new sedimentation tank, biological filter, timber frame shed, flow divider and comminutor chamber together with the pipelines and modifications to existing structures necessary for the integration of the new structures into the treatment works has been constructed.

Mona Vale Hospital: extension of effluent line to Warriewood Beach sewerage.—The effluent outfall main was extended to discharge sewage into the ocean.

Moree Aboriginal Settlement, Maude Street: sewerage.—This sewerage project will serve a new aboriginal settlement in Maude Street, Moree. Work now nearing completion includes sewerage reticulation, gravitation main, rising main and pumping station.

Morisset Hospital: sewerage treatment works augmentation.—The hospital sewage treatment works were augmented to include a new sedimentation tank, biological filter, humus tank, sludge drying beds, chlorination flume, tank and house, timber frame building, toilet building, effluent pond and connecting pipelines. Work has been completed.

Peat and Milson Island Hospital: sewerage treatment works.—A sewage treatment works consisting of a sedimentation tank, humus tank, sludge drying beds, rotary filter, pump-house, chlorination house, is nearing completion. A contract has been let for the construction of three pumping stations and work on these is in progress. Plans and specifications for the rising mains have been completed and tenders will be invited in the near future.

Werrington Park Child Welfare Home: sewerage.—Approximately 1½ miles of effluent pipe line from septic tanks at the Welfare Home to the M.W.S. & D. Board sewer on the adjacent property was completed by day labour.

(B) INVESTIGATION

Investigation and design for new sewerage schemes were continued for the towns of Adelong, Barham, Batlow, Bonalbo, Bowral, Bowraville, Canowindra, Coolamon, Coraki, Guyra, Hazelbrook, Holbrook, Lawson, Macksville, Mittagong, Moama, Mulwala, Nambucca Heads, Parkes, Peak Hill, Port Macquarie, Quirindi, Tweed Heads, Uralla, Walgett, Wallerawang, Warialda, Werris Creek, Woodenbong and Wyong.

Preliminary investigations were carried out for Ballina, Coff's Harbour, Camden Haven, Denman, Gunning, Kendall, Moulamein and Woolli.

Council's and consultants' proposals were reviewed for Bombala, Berrigan, Finley, Lockhart, Moree, Parkes, Port Macquarie and Tocumwal.

A total of 241 routine inspections were made of sewage treatment works and water filtration plans in country towns. In addition investigations have been made into the practicability of installing septic tanks at 53 public schools, 15 hospitals and 22 miscellaneous public buildings. Special investigations were made and advice was given on the connection of buildings to the sewer at six institutions. Sewage treatment works operators have been instructed in the operation and maintenance of sewage treatment works at Braidwood, Garrawarra Hospital, Barmedman, Port Macquarie, Bellingen and Portland.

Trade waste problems were investigated, with regard to waste effluent from Orange Gas Works, from Email Pty Ltd, Orange, and also from the cherry processing factory at Orange.

During the year a chlorination plant was installed at Portland sewerage, a sludge collector was installed at Tweed Heads sewerage, and a rotary distributor was installed at Blayne.

Contracts have been arranged to install rotary distributors for the following sewerages: Batlow, Bellingen, Coolamon, Gilgandra, Jerilderie, Tweed Heads, and Werris Creek.

Contracts for chlorination plants were also arranged for Bellingen and Tweed Heads sewerages.

Contracts were arranged for Morisset Hospital sewerage works for a rotary distributor and chlorination plant and a chlorination plant for Peat Island Hospital sewerage works.

A rotary distributor was installed at Garrawarra Hospital sewage treatment plant.

III. Stormwater Drainage

Newcastle.—There was a little minor repair work, amounting to \$500, carried out by the Department during the year.

Metropolitan Area.—No drainage works were carried out by the Department during the year.

IV. General

Investigation was made and technical data compiled for pumping machinery in the following schemes:

Water Supply.—Broken Hill (boosting to and from Umberumberka), Bredbo, Bonalbo, Bega, Howlong, Lennox Head, New Jindabyne, Parkes (Lachlan River Scheme), Tenterfield, Wallabadah, Wilcannia, and Yass.

Sewerage.—Coff's Harbour, Canowindra, Mullumbimby, Oberon, and Walgett.

Contracts were placed for supply, delivery, and installation of pumping machinery in the following schemes:

Water Supply.—Camden Haven, Manning District, Parkes (Lake Endeavour), The Entrance, Tumut, Urbenville-Woodenbong, and Woolgoolga.

Sewerage.—Barham, Coolamon, Jerilderie, Morisset Hospital, Moree Aboriginal Settlement, Peat and Milson Island Hospital, Quirindi, Tweed Heads, and Werris Creek.

Pumping machinery was installed at:

Water Supply.—Bourke, Coolah, Geurie, Gwabegar, Mendooran, Mt Penang Training School, State Penitentiary Long Bay, and Yanco Agricultural High School.

Sewerage.—Gilgandra and Moree Aboriginal Stations.

Acceptance tests were carried out on pumping machinery at:

Water Supply.—Denman, Gilgandra, Leeton, Mathoura, Tea Gardens and Walcha.

SEWERAGE (MISCELLANEOUS EQUIPMENT)

Adelong.—Tenders have been received for the supply and installation of pumping machinery for the main pumping station. Orders have; also been placed for the supply of a comminutor and venturi flume recorder.

Lawson.—Arrangements have been made for the equipment required for eleven pumping stations in this scheme. These incorporate conventional centrifugal pumping equipment, ejector machinery, "Mutrator" units, and submersible motor type pumps.

Moama.—Specifications prepared by consulting engineers for pumping machinery and other equipment have been reviewed.

WATER SUPPLY (MISCELLANEOUS EQUIPMENT)

Cobar.—A contract is still outstanding for the supply and installation of remote control equipment for automatic operation of the various pumping stations. The scheme will incorporate wireless control and control over underground and aerial lines from the water level in the service reservoirs.

Farrer Memorial High School.—Tenders have been called for the supply of duplicate in-line submersible motor type pumping units intended for boosting water from Dungowan main to the school area.

Forbes.—As part of the augmentation of the water supply and filtration plant at Forbes, modifications were carried out to the existing low-lift and high-lift pumping units to give increased capacity.

A contract was completed for the electrical installation in the filtration plant extensions.

Garrawarra Hospital.—A pumping unit has been purchased for installation as a fire booster pump at this hospital. Arrangements are being made for its installation by B.C. & M. Branch.

Kenmore Hospital.—An investigation has been made into requirements for a replacement pumping unit for irrigation purposes at this hospital. Following preparation of a tender plan and specification by the Design Branch tenders were called for supply and installation of machinery.

Parkes.—An existing steam-driven pumping unit on the Lake Endeavour gravitation main has been relocated in a new pumping station and equipped with electric motor drive.

Rydalmere Hospital.—Orders have been placed for the supply of pumping units to act as fire booster and domestic water supply booster pumps. Instructions have been prepared to enable the B.C. & M. Branch to carry out the installation.

Tumut.—A contract has been placed for the electric installation in the filtration plant.

Tantawanglo.—Tenders have been called for the supply and installation of pumping machinery for two booster stations on the gravitation mains in this scheme.

Wooli.—A contract is outstanding for the supply and installation of pumping machinery in this work. The pumping station will incorporate duplicate horizontal pumping units rated at 10,000 gph, against 246 feet head, and at the end of the period most of the installation work had been completed.

Quirindi.—Quotations have been received and are under review for the supply of submersible motor type pumping units for three stations.

Tocumwal.—A review has been made of tenders received by consulting engineers for the supply of pumping machinery for this work.

Wallerawang.—Specifications prepared by consulting engineers for pumping machinery and for other equipment have been reviewed.

MINOR WORKS

Pumping plant or other equipment was provided for the following minor works:

Avoca Beach Public School.
Ballina District Hospital.
Baradine Central School.
Ballina Infants School.
Brewarrina Central School.
Beacon Hill Public School.
Baukham Hills Public School.
Bogabilla Aboriginal Station.
Chester Hill High School.
Eglinton Central School.
Gulgong Central School.

Lidcombe State Hospital.
 Milton-Ulladulla Hospital.
 Murrin Bridge Aboriginal Station.
 Mines Department Core Library, Londonderry.
 Nyngan District Hospital.
 Pennant Hills High School.
 Rappville Public School.
 Spring Hill Public School.
 Terry Hills Public School.
 Walcha Central School.
 Woy Woy South Public School.
 Yenda Public School.

FLUORIDATION

An inspection was made regarding the proposed fluoridation of Glen Innes water supply.

Tenders were reviewed for fluoridation plants for Cowra, Manilla, Mullumbimby, Nowra, The Entrance, and Wellington Water Supplies.

A contract for a fluoridation plant was arranged for Gilgandra Water Supply.

The installation of fluoridation plants was completed for Hay and Cobar Water Supplies.

SWIMMING POOLS

Investigations were made into modification of the existing filtration system at Wahroonga Primary School, and at Grenfell Swimming Pool for the redesigning of the filtration system.

Tenders were reviewed for swimming pool filtration plants at Ardlethan, Berridale, Blayney, Carinda, and Warialda.

A contract has been let for a swimming pool filtration plant at Tomaree Hospital.

Filtration plants for swimming pools were installed at Morisset, North Ryde, and Bloomfield Hospitals.

MISCELLANEOUS ACTIVITIES

V. Operation

This branch continues to be responsible for the Head office supervision of the operation and maintenance of the South West Tablelands, Junee, Mulwala, and Fish River Water Supply schemes.

Reticulation extensions costing approximately \$19,000 were carried out at Young, Cootamundra, Ungarie, and West Wyalong.

Stage III of Fish River Water Supply Scheme (line to Leura, etc.) has been taken over for operation and maintenance.

FINANCE

During the year expenditure on the Fish River Water Supply Scheme was \$89,000, South West Tablelands Water Supply \$14,700, and Junee Water Supply \$1,500. The New South Wales Government contribution to the River Murray Commission for capital works was \$566,800 (of which \$472,000 was provided by the Commonwealth Government as an advance for works associated with the Chowilla Dam) and for operation and maintenance \$284,000.

Government assistant towards the construction of water supply and sewerage works for shires and municipalities was approximately \$3,000,000 and councils contributed about an equivalent amount. An additional \$9,400 was financed from revenue funds for maintenance and repairs of weirs, stormwater channels, and other stormwater drainage work.

The amended allocation for 1965-66 for assisted water supply and sewerage works was \$2,920,000, in comparison with \$1,900,000 for the previous year and a new impetus was given to this field of activity. A still further substantial increase in the allocation is required before there can be any significant reduction in the time councils are required to wait before subsidy is available. The estimated total value of Government funds involved in approved works awaiting implementation at 30th June, 1966, was approximately \$57,500,000.

VI. Representation on Committees

The Water Supply and Sewerage Branch is represented on the following committees:

- Pollution of Streams.
- Pollution of Navigable Waters.
- Inter-Departmental Sewage Treatment Works.
- Fluoridation of Water Supplies.
- Hydrogen Sulphide Corrosion.
- Australian Water and Waste Water Association.
- Inter-Departmental Swimming Pool Standards.
- Shoalhaven Water Supply Investigation.
- Water Research Foundation of Australia—N.S.W. State Committee.
- Catchment Areas Protection Board.
- Water Resources of Australia—Technical Committee on Surface Water and State Committee on Underground Water Resources.
- Plumbing Trades Advisory Committee.
- Standard Association of Australia—Explosives Committee.
- Australian National Committee, International Commission on Large Dams.
- N.S.W. Sewerage Authorities—Sewer Pipe Joints.

APPENDIX IIIB

RIVER MURRAY WATERS

FUNCTIONS

Construction, operation and maintenance of the River Murray Works on behalf of the River Murray Commission.

FINANCE

N.S.W. Government contributions to the River Murray Commission for capital works were \$566,800 (of which \$472,000 was provided by the Commonwealth Government as an advance for works associated with Chowilla Dam) and \$284,000 for operation and maintenance.

REPRESENTATION ON COMMITTEES

River Murray Commission—Committee of Interstate Engineers.

HUME RESERVOIR

CONSTRUCTION

The placing of rock on No. 1 bank, required for stability and for additional protection against wave action, was completed (except for the Cone End) in November, 1965. This work involved a total volume of 340,600 cubic yards of rock, some 78,000 cubic yards being placed in this period. Placing of rock at the Cone End of the bank, adjacent to the South Wing Wall, is 95 per cent complete, and placing of the small amount of rock still required below RL 590 will be done by barge when the reservoir level rises.

Work commenced in November on the provision of an improved crest and downstream slope drainage scheme for the No. 1 bank and this work is now 60 per cent complete.

A contract for the drilling and sampling of 6 No. bore holes in No. 1 bank, was completed in August, 1965. Work is currently proceeding in the Department's Manly Hydraulic Laboratory on testing the samples.

A wave height indicator was installed pending purchase and installation of a wave height recording instrument scheduled for 1966-67.

Raising of Bethanga Bridge was commenced in 1963, and then delayed due to the urgency of the protective works on No. 1 bank. Raising recommenced in December, 1965, and is now virtually complete. Approval has been given to redecking, using precast lightweight concrete panels. This redecking will be constructed with maintenance funds and is scheduled for commencement early in 1966-67.

A fire-proof room was constructed in a position adjoining the main office.

The following observations have been carried out regularly:

Concrete Dam: Deflection of wall, tilting of wall, uplift pressures, flow from drainholes, seepage from prestressed cable strands, corrosion of cable samples.

In addition, residual loads were measured in Cables 16U3 and 16U5.

No. 1 Bank: Settlement of bank, deflection of core wall, tilting of core wall, leakage into gallery.

An inspection by the Committee of Interstate Engineers in respect of No. 1 bank core wall movements was made in November, 1965.

No. 2 Bank: Uplift pressures at downstream toe.

Earthquake: On 4th May an earthquake, centred in the locality of the Albury District, was reported.

The only effect at the dam appeared as a slight upstream movement of the No. 1 bank corewall, which subsequently recovered.

MAINTENANCE

Reservoir level was 604 ft 11½ in on 1st July, 1965, and with minor fluctuations rose to 622 ft 11½ in on 14th December, 1965, after which it fell to 576 ft 2½ in on 29th April, the reservoir then containing some 18 per cent of its full capacity and being at its lowest level since May, 1962. The reservoir then rose gradually standing at 587 ft 3¼ in on 30th June, 1966.

Quality of the water was generally good throughout the year.

Monthly evaporation and rainfall figures were as follows:

	Evaporation inches	Rainfall inches
July	0.90	2.09
August	1.17	4.23
September	1.38	2.55
October	3.91	2.02
November	5.29	1.46
December	8.14	0.97
January	9.11	0.63
February	7.45	1.75
March	6.04	2.28
April	3.53	0.80
May	1.59	2.85
June	0.94	3.04

Total evaporation for year was 49.45 inches.

Total rainfall for year was 24.67 inches.

Quarterly averages of pH values were:

Quarter Ending	Downstream	Upstream	Mitta Arm	Murray Arm
30th September, 1965 ..	7.3	7.2	7.0	7.1
31st December, 1965 ..	7.0	7.3	7.3	7.1
31st March, 1966	7.1	7.1	7.2	7.3
30th June, 1966 .....	..	7.3	..	..

Spillway gates have been raised only for maintenance purposes during the period.

Needle valves were exercised regularly and maintained in good order. Repairs to fitting on No. 3 irrigation valve cone were tried using an epoxy resin compound and then protecting with a vinyl paint. This work was carried out in December and appears to be satisfactory.

The auxiliary turbine after being out of service for runner blade repairs was brought back on to line on 29th April. It is expected that repairs to the turbine governor will be arranged for 1966-67. Total generation of electricity from this turbine was 209,274 kWh.

HUME POWER STATION (Electricity Commission)

Water released through the 50 M.W. power station generated 149,605,000 kWh.

Painting and general maintenance were continued on Bethanga Bridge. A total of 227 timber deck planks were replaced during the period.

Cracks were located on several piers of this bridge and following discussions with the S.R.W.S.C. of Victoria, repairs have commenced.

A telemark remote registering unit was coupled to the existing water level recorder at Doctor's Point and connected by telephone line to Hume Office. A Munro anemometer was installed at the dam during the year, and recorded a maximum wind velocity of 62 m.p.h. on 16th November, 1965. All recording gauges and water level indicators operated satisfactorily.

Routine maintenance was carried out on machinery, plantations, grounds, firebreaks, communications, building services and intercommunications. Some pine trees have been lost in the foreshore plantations owing to dry conditions following the excessively wet year of 1964. Replacement and repairs to electricity cables in the cottage and works areas have been carried out at the request of the Electricity Authority of N.S.W.

The remaining six cottages retained by the Department in the holiday village area were handed over to the Hume Shire Council. The Village Store and cottage were also sold to Council.

WEIRS AND LOCKS ON RIVER MURRAY

Weir and Lock 10 Wentworth

The weir was in position throughout the year, and the maximum and minimum levels recorded were R.L. 104.5 and R.L. 103.6, respectively.

Following difficulties in replacing the weir in January, 1965, remedial measures were taken to reduce leakage and this has been at a satisfactory level through the remainder of 1965-66.

At the request of the River Murray Commission, various proposals for the rehabilitation of this structure were studied and three remedial courses of action were submitted for the Commission's consideration.

Construction of a new cottage for the Assistant Lockmaster has been delayed due to unsatisfactory tenders.

Routine maintenance of structures, buildings, grounds, equipment, machinery and plant was carried out.

Two steamers and forty-five launches passed the structure during this period.

Weir and Lock 15 at Euston

The weir was in position throughout the year, and maximum and minimum levels recorded were R.L. 159.9 and R.L. 155.15, respectively.

Tenders closed for the electrification of the gantry hoist but owing to unsatisfactory price, will be again called in 1966-67.

Work has commenced on the construction by contract of a public amenities block.

Placing of beaching material on the New South Wales bank scour continued and is virtually complete.

Head Office investigations are proceeding into the raising of pool level some three feet above the existing level.

Maintenance of the ground area, structures, buildings, vehicle, plant and equipment, was carried out.

Two steamers and three launches passed the structure during this period.

WEIRS ON THE MURRUMBIDGEE RIVER

Weir 5 at Redbank

Flooding commenced on 7th July, 1965, and continued with minor interruptions until 24th December, 1965. Storage operations commenced from this date and continued to 29th March, 1966. The gates were lifted for open river between 29th March, 1966, and 16th June, 1966. Flooding recommenced on 16th June, 1966.

General maintenance of the structure, all machinery, buildings, grounds and access road and telephone line, was carried out. The level at 1st July, 1965, was 217.0 and at 30th June, 1966, 223.50.

Head Office investigations have commenced into the possibility of increasing the differential head and/or upper pool level at Redbank.

Weir 7 at Maude

Flooding commenced on 27th July, 1965, and terminated on 26th November, 1965. Storage operations commenced on 27th November, 1965, and continued to 10th June, 1966, except for the period 25th March, 1966, to 31st March, 1966, when the gates were raised for open river. Flooding recommenced on 11th June, 1966.

A new workshop was constructed during the period, and the old one dismantled. All normal maintenance of structures, plant machinery, access road and telephone line was carried out.

The level at 1st July, 1965, was 242.60 and at 30th June, 1966, 250.00.

Head Office investigations have commenced with the possibility of increasing the differential head and/or upper pool level at Maude.

Chowilla Dam

The Department is responsible for resumption of lands affected in N.S.W. and the Water Supply and Sewerage Branch has been represented at several conferences arranged by the Constructing Authority for South Australia.

APPENDIX IV

ARCHITECTURAL

FUNCTIONS

(1) The preliminary investigation, design and preparation of plans and specifications for the construction and equipment of all new State Government public buildings and extensions and alterations thereto; this includes mechanical and engineering services, e.g., lifts, steam raising and heating equipment, sterilizing equipment, operating theatres, laundry equipment, x-ray, radio and telephone equipment.

(2) The supervision of the works referred to in (1) above.

(3) The research on behalf of and technical advice and assistance on architectural matters (including mechanical and electrical engineering services) to other departments and instrumentalities.

OPERATIONS

During the year the resources of the Branch were taxed to carry out a large volume of work associated with the design and construction of buildings required for governmental services throughout the State. The construction of the new State Office Block continued to be the main project with which the Branch was engaged involving a large staff of architects, engineers and technical officers.

DESIGN

Sketches

Sketch plans were prepared in respect of 380 projects comprising 45 proposals for new hospitals and extensions to existing hospitals, 247 for school buildings, technical colleges and additions to the universities, 38 for court houses and police buildings, and 50 for miscellaneous works.

The more important of these sketches were:

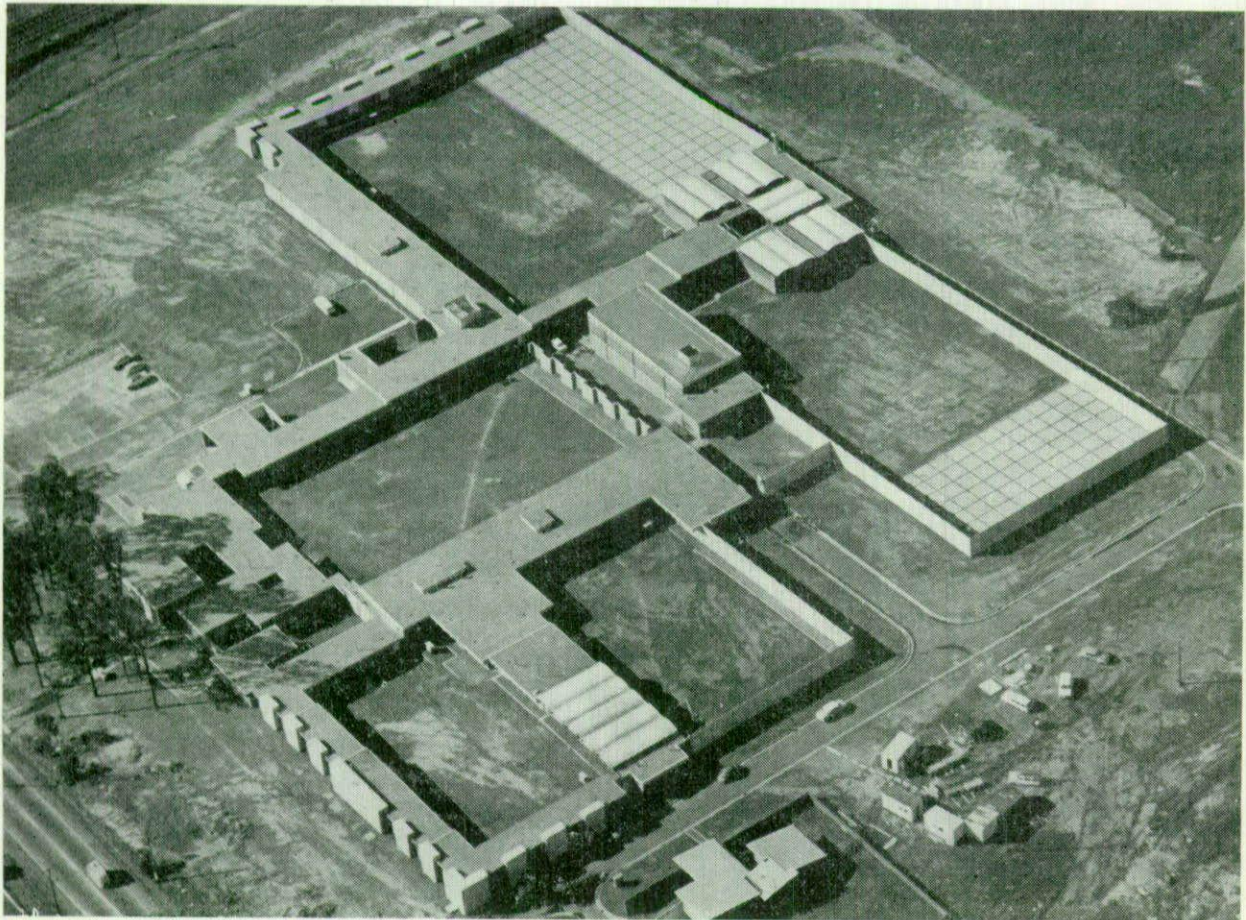
	Estimated cost \$
New South Wales Institute of Technology —Stage I	11,610,000
Parramatta Hospital—development scheme	8,000,000
Liverpool Hospital—development scheme .	7,000,000
Cessnock Gaol—new building	4,000,000
State Treasury—development scheme	3,500,000
Smithfield Furniture Centre—new building	3,500,000
Parramatta Centre for Retarded Children— new building	3,082,000
Lidcombe State Hospital—new building ..	2,740,000
Kingswood Repository for Public Records	2,052,000
Crown Street Hospital — development scheme	2,000,000

In addition, there were another 109 projects, each estimated to cost more than \$200,000.

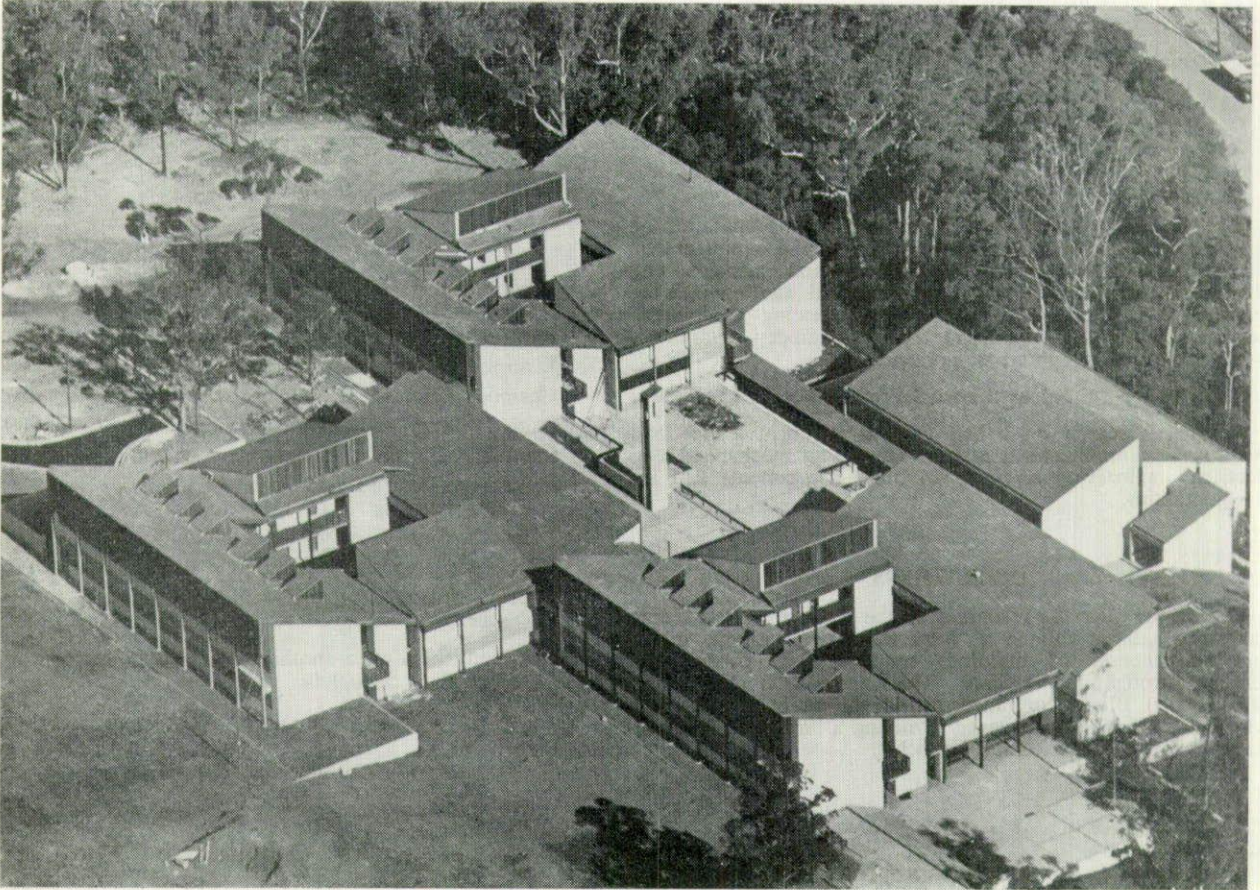
Working Drawings

Working drawings were prepared in respect of 301 projects, the more important being:

	Estimated Cost \$
New South Wales Institute of Technology	12,000,000
Hunter Street Government Office Block— new building	5,900,000



"Minda" Child Welfare Remand Home, Lidcombe—aerial view



Ryde High School (Malvina Street)—from the air

	Estimated Cost \$
Prince of Wales Hospital—admission and polyclinic block	3,354,000
Parramatta Centre for Retarded Children	3,082,000
Rydalmere Psychiatric Centre—six geriatric villa wards, etc.	1,760,000
Coffs Harbour District Hospital—new building	1,560,000
Randwick Technical College—Stage 2 ..	1,500,000
Wollongong Court House—additions and alterations	1,500,000
Orange Base Hospital—main ward block	1,400,000

In addition there were another 95 projects, each estimated to cost more than \$200,000.

CONSTRUCTION

The Branch expenditure for the year was to the order of \$82,000,000 being approximately 55 per cent of the Departmental expenditure of \$148,000,000 at the rate of, say, \$330,000 per day.

The total number of projects under construction was 444, of which 279 were completed at a cost of \$40,715,000 and 165, estimated to cost \$63,585,900, were in progress at the close of the year.

During the year the construction of the following large projects was commenced:

	\$
Rydalmere Psychiatric Centre — new geriatric units, activity buildings and boiler house	1,830,400
North Wollongong Technical College—Stage 3B	1,263,800
Parramatta Psychiatric Centre—new medical unit	1,103,000

	\$
Allandale Hospital Cessnock—alterations and additions	937,500
Beresfield High School—Stage 1	882,600
Grafton Base Hospital—nurses' home training school and maternity unit	877,300
Belmont Technical College—new building	830,200

In addition there were another 33 projects estimated to cost more than \$200,000.

The following were some of the major projects completed during the year:

	\$
Randwick Girls' High School—Stages 1 and 2	1,233,900
Lidcombe Remand Home and Court House—new building	1,138,800
Cobar High School—Stage 1	995,300
Kirrawee High School—Stages 1 and 2	912,400
Granville South High School—Stages 1 and 2	898,400
Canley Vale High School—Stages 1 and 2	848,000
Sydney Technical College, Thomas Street—extensions stage 3	831,000
Ryde High School, Malvina Street—Stages 1 and 2	808,600
Meadowbank Technical College—additional accommodation	783,300
Sydney Technical College—School of Graphic Arts—Stage 2	769,200
Wollongong Teachers' College—Stage 1 part B	725,800
Warilla High School—Stages 1 and 2	714,700
Ku-ring-gai High School—Stages 1 and 2	628,000

In addition, there were another 37 projects each of which cost more than \$200,000.



Canley Vale High School

GENERAL

The policy of recruitment of technical staff from overseas continued during the year. As a result of advertising, a total of eleven Architects and four Mechanical Engineers have commenced duties in the Department, and vacancies continue to be filled as suitable applicants are available.

Hospitals

Close attention was given to the planning of proposed hospitals and alterations and extensions to existing establishments in liaison with the Hospitals Commission.

Investigations and planning were carried out and sketch plans prepared for an extensive development of the Liverpool District Hospital. It is intended to increase this hospital to 400/450-bed accommodation to serve the needs of Liverpool and surrounding areas. An estimate of \$8,000,000 is at present anticipated.

Working drawings and specifications have been completed for a security ward for treatment of prison inmates at the Prince Henry Hospital with a provision for later additions estimated to cost \$83,000.

Tenders were invited for extensions to Catherine Hayes Outpatients' Department for additional patients and administrative accommodation. Tender documents were prepared for conversion of Ward 11 to accommodate patients with spinal injuries, of an estimated cost \$67,000. Preliminary drawings have been prepared for alterations to the Pathology wing to accommodate the Division of Urology.

Due to the revised requirements of the Hospitals Commission, investigations and planning continue on the proposed development of the Parramatta District Hospital. A multi-storey structure is proposed with capacity 500-bed accommodation. Construction will extend over a period of years at an estimated cost of \$10,000,000.

At the Prince of Wales Hospital, construction of a new boiler house and laundry, estimated cost \$639,000 will commence shortly.

Working drawings have commenced for the construction of a multi-storey building estimated to cost \$1,560,000 for the Coff's Harbour District Hospital.

Preliminary sketches are in course of preparation for the following works:

Balmain District Hospital: outpatients, casualty departments and pilot geriatric unit.

Forbes District Hospital: operating suite, replacement wards, kitchen facilities, maternity wards.

Bateman's Bay Hospital: new hospital (32 beds), including maternity section.

Mater Misericordiae Hospital, Waratah: scheme of development 48-bed children's ward x-ray, new lifts and kitchen improvements.

Tamworth Base Hospital: new boiler house and laundry estimated cost \$649,360.

Crown Street Women's Hospital: Albion Street extension multi-storey concrete frame building; estimate \$2,000,000.

Wingham Medical Centre: \$120,000.

Tenders also have been invited for a 22-bed hospital including a nurses' home at an estimated cost of \$628,000 at Mullumbimby.

Schools

The normal close liaison was maintained with the Departments of Education and Technical Education, concerning planning and building programmes, individual projects and administration procedures.

A very large planning and building programme, commenced in the previous financial year, unfortunately, had to be curtailed because of circumstances associated with the build-up of forward commitments. The build-up was accentuated in the past year because current projects were able to be completed in a very expeditious manner due to the long spell of fine weather and ready availability of labour.

Although additional funds were allocated, tenders for many urgent projects were unable to be called in time to allow for the normal construction period required and it was again necessary to resort to special tendering methods for certain projects urgently required for opening of first term in 1967. Ten projects were subject to these conditions. The normal public tendering system was used for all other projects involved in the reduced building programme.

Planning and preparation of contract documents for new school accommodation has proceeded throughout the year on a scale never before attempted.

The reduction in the building programme during the first half of the year gave an opportunity for curtailing the amount of work put out to private consultants and made available the services of the architectural staff, for preparation of contract documents, for the first time in many years. Work placed in hand in this manner included 5 new high school assembly halls, 4 primary school assembly halls, 3 large primary school projects, and 4 large high school additions. It was also possible to produce a rationalized design for primary school buildings associated with standard detail drawings and specifications for new classroom accommodation, which can be adapted to a variety of circumstances, utilizing a minimum amount of labour. Contract documents for more than 20 projects were prepared on this basis.

Planning for new Technical College accommodation proceeded at about the same scale as in the previous year and all requirements were met.

Sketch plans for the new Institute of Technology were completed. The demolition of the buildings on the Broadway frontage was carried out in readiness for excavation work, which it is anticipated will be commenced early in 1967. Preparation of contract documents for the first stage, the building to house the disciplines of Electrical Engineering, Land and Survey Drafting and associated facilities, are well advanced and are expected to be completed not later than 30th June, 1967.

During the latter part of the year the new Schools Research and Development group was established in accommodation at Mena House. Steady progress has been made towards production of cost control data, a new building code and functional facilities essential to high school development. Outline development plans were also prepared for new prototype high schools, taking account of new functional requirements and varied site shapes and contours.

A new school specially designed for extremely hot and dry climatic conditions was completed at Cobar and 2 others of a similar character were commenced at Condobolin and Coonamble.

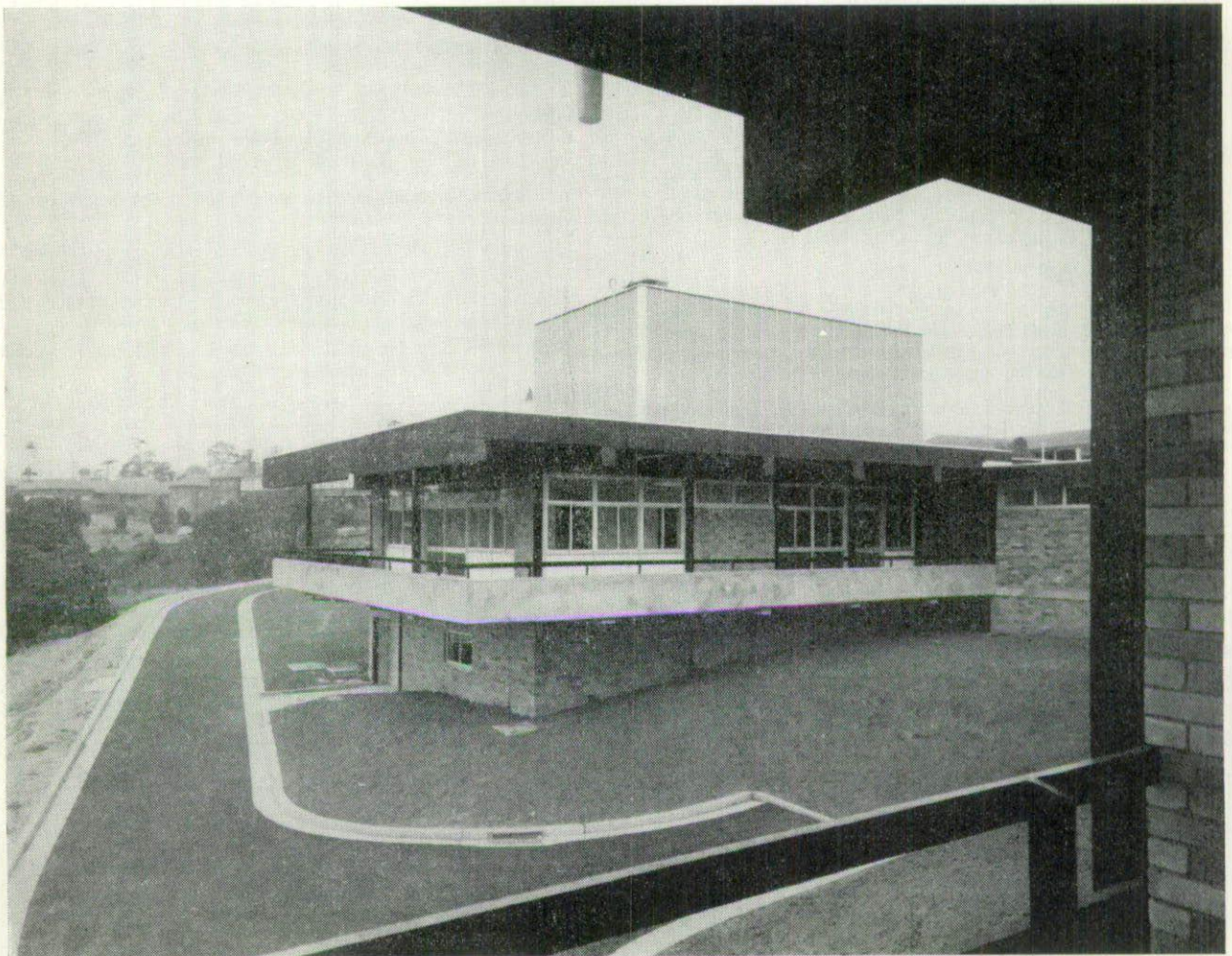
An award is made annually for a completed building of outstanding merit in New South Wales situated outside the metropolitan area. This award for 1964, named the Blacket Award, was made to the Government Architect for the design of the Taree Technical College. The building was constructed of off-form concrete and concrete blocks, the amount of the building contract was \$340,000.

State and Psychiatric Hospitals

Further progress has been made during the year on the modernizing of State and psychiatric hospitals. Work was started on projects estimated to cost over \$6,000,000.

At Rydalmere Hospital a contract was let for 6 new wards for geriatric patients on the new site recently prepared on the opposite side of Victoria Road from the main buildings. The contract included the provision of 2 activity centres and a new boiler house. The work is scheduled for completion by July, 1968.

In last year's report reference was made to additional geriatric wards planned for Allandale Hospital, Cessnock. During the year a contract was let for 4 of these wards and completion is anticipated by August, 1967.



Gladesville Hospital—Medical Unit



State Government Offices—from the air

Additional wards are also being provided at North Ryde Psychiatric Centre. During the year construction started on 2 new 40-bed wards for adult patients and an observation ward for acutely ill patients.

At Gladesville Hospital contracts have been let for a new high temperature hot water boiler and boiler house. This is Stage 1 of a long-term scheme for the reticulation of high temperature hot water throughout the hospital.

At Callan Park Hospital work was recently completed on a new chapel and work is in hand on renovating the Recreation hall and Gymnasium. Planning commenced for modernizing 2 further wards at the hospital.

Working drawings were completed for a training centre for retarded children at Parramatta Psychiatric Centre and tenders invited. Working drawings are nearing completion for Stage 1 of replacement of the Female Division, which is the construction of 2 ward blocks, and it is anticipated that tenders will be invited for this work in early August.

Two new wards are being erected at Stockton Hospital, and planning is almost complete for renovations to another ward and for a new boiler house.

At Lidcombe State Hospital the conversion of dormitories into wards is proceeding with day labour staff and improvements are being made to the laundry facilities of the hospital. Planning is well advanced on a new hospital block.

Renovation of several wards is in hand at Morisset Hospital and planning is proceeding of further wards to be renovated. During the year construction commenced on a new laundry at the hospital.

At Kenmore Hospital, Kenmore and Bloomfield Hospital, Orange, modernization is proceeding as funds become available.

Sketch plans are being prepared for a new Coroners Court, Division of Forensic Medicine and Morgue in Parramatta Road, Camperdown. This building is intended to replace the existing City Morgue and Coroners Court.

State Government Offices

Construction of the State Government Office Block is now largely complete except for the "special finish" area, i.e., Premier's floors 8 and 9 and State Reception Area, 31st floor to the tower.

Preparation of final construction and design details, including finishes and lettering, as well as design and layout of a large proportion of the loose furniture and fittings, has continued to occupy the full time of a small group of architects throughout the year. However, the date of occupancy was set back several months due to a fire in a service duct requiring substantial restoration work by approximately twenty-seven subcontractors.

Several items, including installation of door signs, directory signs, plaques, State crest, helio furniture and carpeting will be carried out after the handing over of the building to the Government by the contractor, and prior to the occupation by staff.

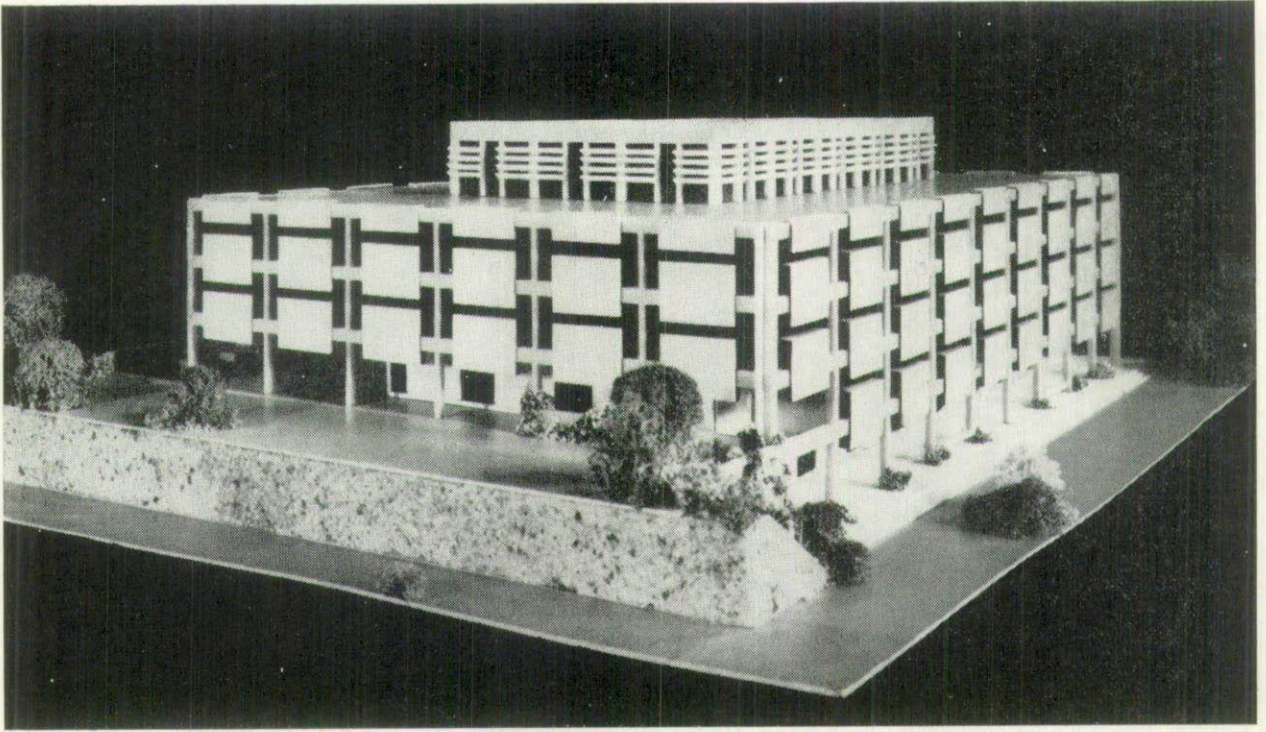
The allocation of space at the present time is as follows:

Department	Block	Floors
Premier's	Premier's Wing	7-9.
Treasury	Premier's Wing	1, 4 to 6.
Local Government ..	All blocks	3.
Agriculture	Tower and north wing	2, 4 to 7, 11.
Mines	Tower	8, 9, 11 to 13.
Public Works	Tower	2, 14 to 30.
	Premier's Wing	1, 2.

Universities

An extensive programme in hand involving major buildings at Sydney University, University of N.S.W., University of New England and Macquarie University.

At the Sydney University the construction of the stack block of the Fisher Library is nearing completion.

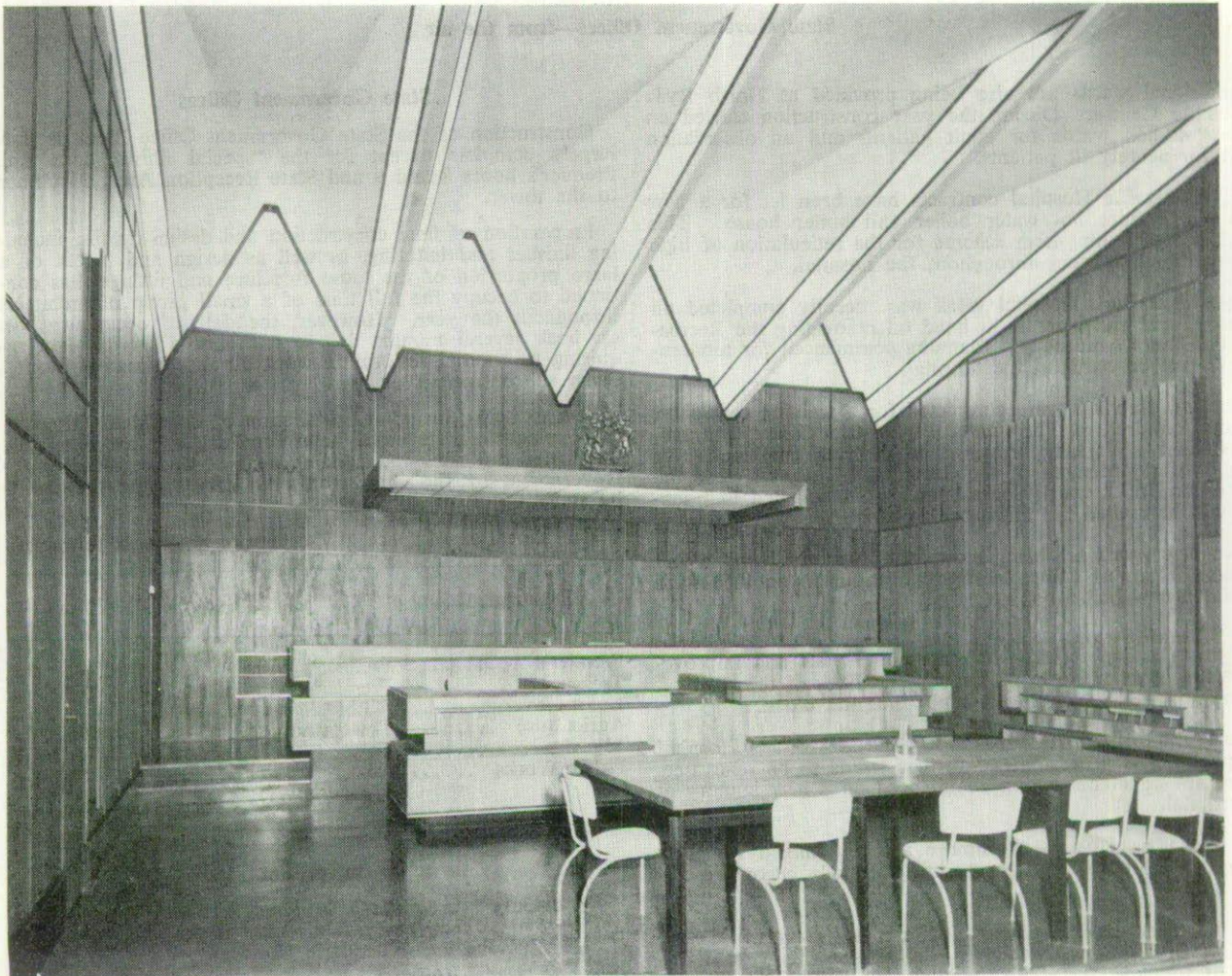


Macquarie University Library—Model

Contract documents were completed for 8 major buildings at the University of New England totalling an estimated \$1,400,000. The value of projects for which the actual preparation of sketches and working drawings was dealt with during the year was \$3,010,000. In addition, preliminary

plans were prepared for a further 10 buildings which, it is anticipated, will be constructed during the 1967-69 triennium.

The construction of Phillip Baxter College, Stage III, University of N.S.W., was completed and new sketch plans prepared for International House estimated to cost \$507,000.



Blacktown Court House—Courtroom Interior

The Sir John Sulman medal for 1964, an annual award for a completed building of outstanding merit in the State of New South Wales was awarded jointly to the Government Architect for the design of the Goldstein Hall at the University of New South Wales and a private firm for the design of St John's Village, Glebe.

Goldstein Hall is a dining hall to accommodate up to 800 students at several sittings and is constructed of clinker brick, off-form concrete and natural oiled timber.

Preliminary sketch plans were prepared for the Halls of Residence, Macquarie University estimated to cost \$1,160,000 and sketch plans and contract documents completed for Stage I of Macquarie University Library. A contract has been let for the library at \$676,200. Stage 1 of the library will accommodate approximately 200,000 books and 500 readers. The completed library will accommodate 700,000 to 800,000 books, 1,500 readers and will have a staff of approximately 150.

Court Houses and Police Stations

A considerable programme of work has continued throughout the year on behalf of the Department of the Attorney-General and of Justice and the Police Department.

The principal projects for the Justice Department are:

Newcastle Court House: alterations and additions, \$504,000—nearing completion.

Fairfield Court House: new court house, \$209,000—under construction.

Pork Kembla Court House: new court house, \$190,000—under construction.

Campbelltown Court House: alterations and additions, \$179,000—nearing completion.

Wollongong Court House: major alterations and additions, \$1,500,000—contract documents being prepared.

A detailed site investigation and development report is being prepared on the future proposed development of the Liverpool Street site for the Sydney Courts of Petty Sessions.

Sketch plans have been prepared for the alterations and additions to Murwillumbah and Hornsby Court Houses.

Restoration work on the Berrima Court House continued throughout the year and work commenced on the restoration of Carcoar Court House. Both of these are classified as historical buildings.

Sketch plans have been prepared for a composite Court House, Police Station, and Government Offices at Liverpool, estimated to cost \$1,500,000, and plans are being prepared for a similar project at Parramatta. Contract documents for a new Police Station and Court House at Waverley estimated to cost \$486,000 are being prepared.

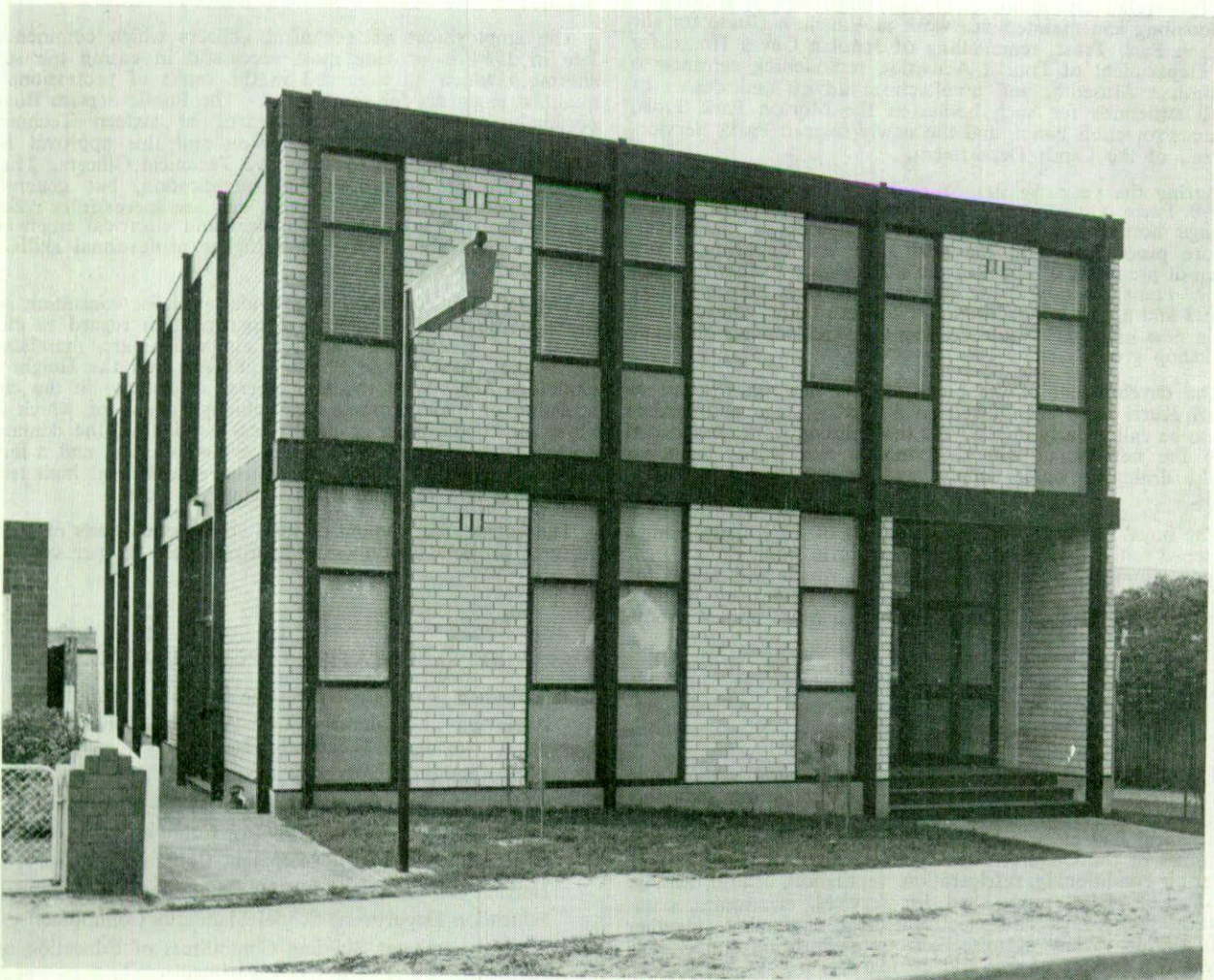
Recently constructed police stations are Nelsons Bay, \$40,000, Eastwood, \$153,000, and Blacktown Police Station and Court House \$433,000. Walgett and Carinda Police Stations are under construction. A contract has been let for the alterations and additions to Coonabarabran Police Station and Court House. Sketch plans have been completed for police stations at Blayney, Woodstock, Moulamein, and Warilla.

Teachers' Colleges

The programme for teachers' colleges was restricted due to the limited allocation of funds. However, at Bathurst Teachers' College the construction of dormitory blocks is nearing completion and the first stage of the conversion of the old army store building for students' union accommodation has been completed.

Miscellaneous

In accordance with the Public Service Boards' policy of centralizing State Government Departments in country towns within one office building, work has continued with the preparation of sketch plans and working drawings for a number of such buildings.



Kingsgrove Police Station

Cootamundra Government Office building has been completed, while Albury, Narrabri, and Inverell Government Office buildings are under construction.

Tenders have been called for the Goulburn Government Office, estimated to cost \$964,000, and contract documents completed for extension to Wagga Government Offices, estimated to cost \$627,000.

Contract documents are being prepared for Grafton and Moree Government Office buildings.

Planning is well in hand for a large Government Office Block in Hunter Street, Sydney, at an estimated cost of \$5,900,000, providing approximately 140,000 sq ft of floor space.

Contract documents are in course of preparation for the \$3 million Parramatta Training Centre for Retarded Children to accommodate 300 children and youths.

Newcastle Child Health Centre is under construction at a cost of \$109,100. Sketch plans have been prepared for a patients' activity centre at Grosvenor Hospital; for stage 1 of a boiler house at Parramatta, serving both the Psychiatric Centre and the Retarded Children's Centre; and for a diagnostic centre for pre-school and school children resident outside the metropolitan area of Sydney, estimated to cost \$235,000. The diagnostic centre will be constructed in the grounds of Grosvenor Hospital at Summer Hill.

Sketch plans have been completed and contract documents are being prepared for Royal Prince Alfred Hospital college for students in clinical years, which is estimated to cost \$200,000.

Other major projects for which sketch plans have been prepared are the Repository for Public Records at Kingswood; stage 1, new National Herbarium in the Botanical Gardens; laboratories at Rydalmere for the Department of Agriculture; and stage 2 of additions to the Conservatorium of Music, estimated to cost \$2,052,000, \$672,000, \$624,000, and \$280,000, respectively.

A contract was let for a new administration block for the Metropolitan Meat Industry Board (\$367,522).

Other relatively minor but important work has included remodelling and maintenance work at Vaucluse House for the Neilsen Park Trust, remodelling of Jenolan Caves House for the Department of Tourist Activities, remodelling entrance to Australian Museum, and architectural advice and design of small structures for such bodies as the Morton Park Trust, Fauna Protection Panel, and the newly formed Parks Services Bureau of the Lands Department.

During the year the first stage in the development of the Brush Farm Girls' Home was opened consisting of 2 new cottage homes and a new school containing 7 classrooms. Before proceeding with the next stage the opportunity was taken of preparing a model of the site showing further development. Plans are now being prepared for a further 2 cottage homes and a new infants' home. Plans are under consideration for a new manager's residence, laundry, and possible sheltered workshop group.

The development of the plans for the new boys' home at Kurri Kurri have been taken to a further stage and tenders are to be called early in 1967 for the building work. Associated with the new home will be extensive site works including roads, drainage, water supply, and construction of playing fields.

The boys' home at Mittagong consists of 10 country homes stretched out over a mile along the historic Bong Bong Road. A programme is now being drawn up which will allow for the successive replacement of the older homes by modern structures in a central location to form a more unified group.

ENGINEERING DIVISION

The staff and technical resources of the Engineering Division were stressed to the utmost in the investigation, planning, designing, and field oversight of the diversified range of mechanical and electrical works involved in the building programmes of the Government Architect's Branch. These works cover air conditioning, refrigeration, ventilation, central heating, sterilization, light, power and lift services, electronics, communications, x-rays and electro-medical equipment, together with a wide variety of miscellaneous engineering applications of varying degrees of size and complexity.

As in previous years a very substantial amount of engineering work was carried out in the Division in fields not directly

associated with the building programmes. These comprised new installations and services in existing buildings, augmentation and replacement of established installations, machinery, and equipment, and the provision of engineering facilities generally, to meet the growing demands of the many Government authorities and instrumentalities. The major activities in this regard were in lighting, air conditioning, heating, communications, x-ray equipment, lifts, and laundry machinery.

In view of the sharp decline in the price of furnace oil the overall economics of using this form of fuel, which is of overseas origin, as against the indigenous coal or its derivatives, has been investigated in relation to boiler installations in hospitals, institutions, and other public buildings. The investigation involves the consideration of price stability of oil, continuity of supplies, and other factors, and is continuing. At the same time, the prospect of the availability of natural gas from subterranean sources is also being considered, although at this stage immediate production is not foreshadowed.

Among the major projects in which engineering services are to play a predominate part is the Institute of Technology, Broadway, involving complex problems in lighting and power, air conditioning, lifts, escalators, communications, and numerous other services. Designs for the Hunter Street Offices, involving large and comprehensive engineering services, have reached a point when tenders will soon be called. Other large projects involving air conditioning, lighting, and general mechanical and electrical services are in various stages of design.

As previously, electrical inspections were carried out on behalf of the Housing Commission of New South Wales in all the Commission's buildings, and in projects covering flats, community development schemes, and multi-cottage groups.

Mechanical inspections of boilers and unfired pressure vessels which for many years had been undertaken by the Branch on behalf of the Government Insurance Office of New South Wales were of necessity discontinued during the year on account of the shortage of inspectors duly licensed in this field. This shortage is State-wide, and all avenues are being explored, as far as the Department is concerned, to alleviate the situation. These include a scheme for "in-service" training and instruction of lower graded inspectors to enable them to sit for the examination for boiler inspector's licences.

The employment of Technical Officers which commenced late in 1964 is proving most successful in easing the staff shortages which have existed in the ranks of professionally qualified engineers for some years. The Public Service Board originally approved the employment of sixteen Technical Officers in the Engineering Division and this approval has recently been extended to thirty-five Technical Officers. These officers are of sub-professional qualification, but generally with a good practical background, and are successfully relieving the load on qualified mechanical and electrical engineers, who are thus able to use their higher professional skills to better and more useful effect.

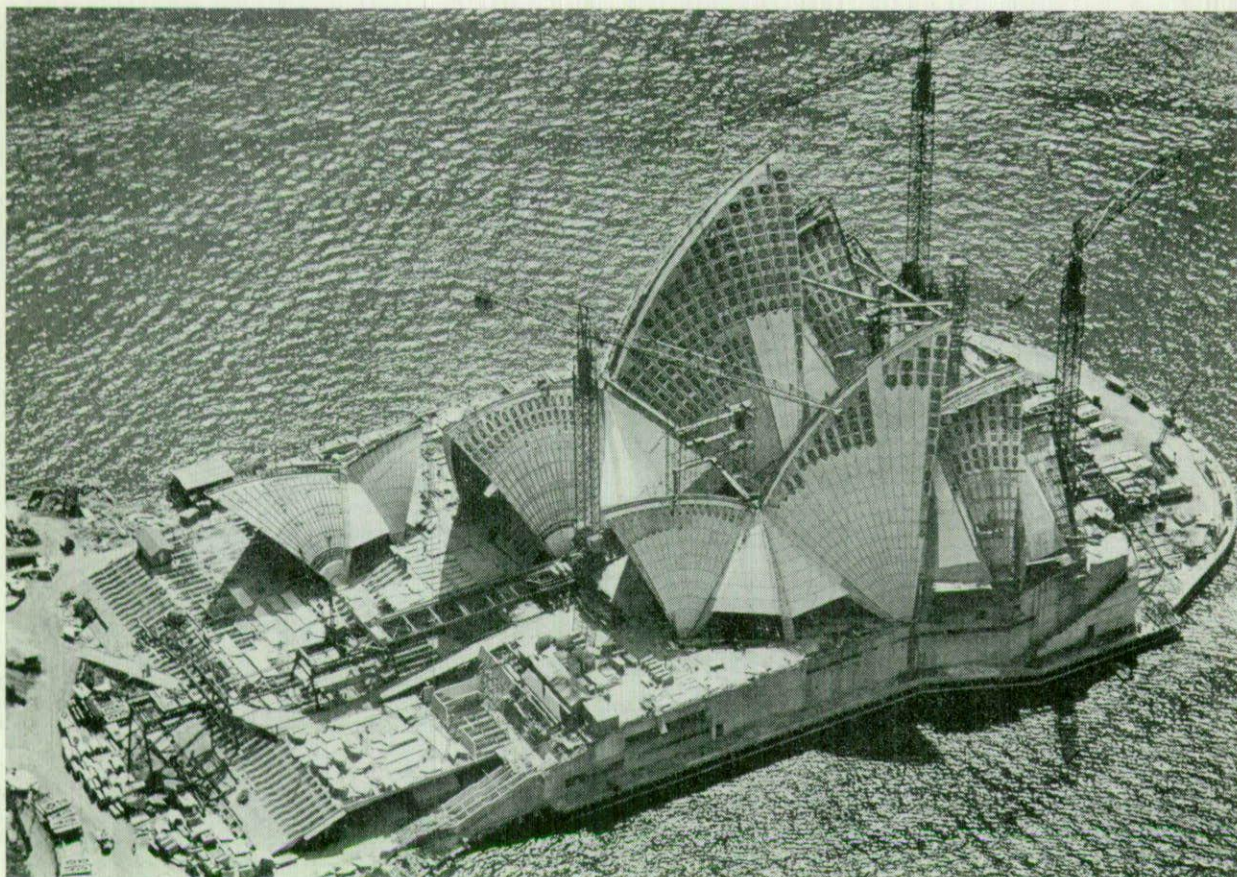
The Division continued to provide specialist consulting services to the Chief Secretary's Department in regard to electrical and mechanical requirements which are mandatory under the Theatres and Public Halls Act and the Height of Buildings Act. With the high degree of activity in the construction of major commercial buildings, many of which involve air conditioning or mechanical ventilation, the demands on the Division's engineering staff are substantial, and a large number of major buildings have been examined at high technical level and reported upon during the year.

The engineering content of total construction costs of architectural projects continues at approximately 25 per cent.

REPRESENTATIONS ON COMMITTEES

The Branch is represented on the following committees:

- Architectural Diploma Course Advisory Committee—Department of Technical Education.
- Public Buildings Advisory Committee.
- Australian Red Cross Building Advisory Committee.
- Prince Henry Hospital Building Committee.
- Observatory Hill Re-development Committee.
- Heights of Buildings Advisory Committee.
- Education Department School Standards Committee.
- Interdepartmental Building Committees of Education and Technical Education Departments.
- Anaesthetic Safety Committee—Hospitals Commission.
- Sterilization Committee—Hospitals Commission.



Sydney Opera House—under construction

Building Committee—Hospitals Commission.
 Working Drawings Reviewing Committee.
 University of New England—Building and Grounds Committee.
 Heath Department—Psychiatric and State Hospitals and Homes Planning and Reviewing Committee.
 Standards Association of Australia—various committees.
 Department of Technical Education Building Advisory Committee.
 National Trust of Australia: Investigating, Classification, and Recording of Historic Buildings.
 Sterilization Research and Advisory Council of Australia.
 Furniture Standards Committee—Public Service Board.
 Opera House Technical Advisory Panel.
 Public Service Board Committee of Air-conditioning of Country Offices.
 Public Service Board Committees (5), on communications generally.
 State Flood Warning Committee.
 Furniture Centre Planning Committee.
 Macquarie University Council.
 Macquarie University Building and Grounds Committee.
 Macquarie University Executive Committee.
 State X-ray Committee.
 Electrical Safety Publicity Committee (Electrical Authority of N.S.W.).

In addition, the Branch is also represented on various committees of the Standards Association of Australia.

SYDNEY OPERA HOUSE

During February, 1966, following Mr Utzon's resignation, it was necessary for the Government Architect's Branch to set up an organization in association with private firms to carry out the completion of the Sydney Opera House. Three firms were selected and in addition, certain senior members of the Branch's staff were seconded to the organization set

up on the site now known as Hall, Todd & Littlemore. It now appears that these officers will be away from the Branch for approximately four years and this has thrown an additional strain on the Branch, the resources of which are already taxed to the maximum.

SUMMARY

Design

SKETCHES

	Projects	Estimated Cost \$
Hospitals	45	35,352,100
Schools, Universities and Technical Colleges	247	55,223,500
Court Houses, Police Buildings and Gaols	38	13,605,000
Miscellaneous	50	19,612,000
Totals	380	123,792,600

WORKING DRAWINGS

	Projects	Estimated Cost \$
Hospitals	43	20,489,800
Schools, Universities, and Technical Colleges	225	60,261,400
Court Houses, Police Buildings, and Gaols	15	3,030,500
Miscellaneous	18	8,606,700
Totals	301	92,382,400

Construction**WORK COMMENCED PRIOR TO 1ST JULY, 1965, AND COMPLETED DURING THE YEAR 1965-66**

	Projects	Estimated Cost \$
Hospitals	26	2,417,200
Schools, Universities, and Technical Colleges	179	31,661,300
Court Houses, Police Buildings, and Gaols	9	2,163,700
Miscellaneous	18	2,500,500
Totals	232	38,742,700

WORK COMMENCED PRIOR TO 1ST JULY, 1965, AND STILL IN PROGRESS

	Projects	Estimated Cost \$
Hospitals	18	10,901,300
Schools, Universities, and Technical Colleges	33	12,331,100
Court Houses, Police Buildings and Gaols	1	524,600
Miscellaneous	6	15,195,000
Totals	58	38,952,000

WORK COMMENCED AND COMPLETED DURING THE YEAR 1965-66

	Projects	Estimated Cost \$
Hospitals	3	107,500
Schools, Universities, and Technical Colleges	42	1,838,200
Court Houses, Police Buildings and Gaols	—	—
Miscellaneous	2	27,100
Totals	47	1,972,800

WORK COMMENCED DURING THE YEAR 1965-66 AND STILL IN PROGRESS

	Projects	Estimated Cost \$
Hospitals	13	7,629,600
Schools, Universities and Technical Colleges	81	15,576,400
Court Houses, Police Buildings and Gaols	5	790,200
Miscellaneous	8	637,700
Totals	107	\$24,633,900

DESIGN**SKETCHES**

Hospitals—	\$
Parramatta—development scheme	8,000,000
Liverpool—development scheme	7,000,000
Parramatta Training Centre for Retarded Children	3,082,000
Lidcombe State—new building	2,740,000
Crown Street—development scheme	2,000,000
Coff's Harbour—new building	1,600,000
Bloomfield Orange—new boiler house and laundry	1,150,000
Blood Bank—headquarters scheme	1,000,000
Dental—development scheme	1,000,000

Hospitals—continued

	\$
Balmain—development scheme	1,000,000
Parramatta Psychiatric Centre—female division, stage 1	686,000
Rydalmere—laboratories	624,000
Bellingen River—development scheme	500,000
Wellington—development scheme	500,000
Forbes—development scheme	400,000
Batemans Bay—new building	400,000
Callan Park—project wards F4 and F5	380,000
Tamworth—new operating theatre	350,000
Morisset—project ward F4	320,000
Kenmore—project ward F6	240,000
Diagnostic Centre for pre-school and school-children outside metropolitan area of Sydney	235,000
Gladesville—project ward 18	200,000
Royal Prince Alfred—college for students in clinical years	200,000
Gladesville—project ward 29	199,000
Royal Prince Alfred—pathology	144,700
Parramatta Psychiatric Centre—renovations to recreation hall	142,000
Rydalmere—project ward 5	130,000
Lidcombe—conversion of dormitory 37	130,000
Bloomfield, Orange—project ward F2	130,000
Wingham—medical centre	120,000
Peat and Milson Island—patients activity centre and sheltered workshop	100,000
Stockton—new boiler house	89,000
Callan Park—conversion of residence	82,000
Tweed District—boiler house	70,000
Mater Misericordiae, Waratah—alterations	60,000
Grafton—staff quarters	55,000
Parramatta Psychiatric Centre—boiler house, stage 1	52,000
Mona Vale—convalescent ward	51,000
Quirindi—development	50,000
Parramatta—T.B. centre	36,000
Grosvenor—patients activity centre	31,500
Royal North Shore—water treatment plant, etc.	28,000
Eastern Suburbs—reposition sisters station, etc.	15,000
Allandale—new sports pavilion	15,000
Narrabri—new laundry	14,900
Total	\$35,352,100

Schools, Universities and Technical Colleges—

	\$
New South Wales Institute of Technology—stage 1	11,610,000
Bondi Boys High—new building	1,600,000
North Sydney Technical College—science block	1,600,000
Macquarie University—halls of residence ..	1,160,000
Cowra High—new building	1,080,000
Moree High—new building	903,300
Lindfield East High—stage 1	705,900
Caringbah High—stage 2	700,000
Engadine High—stage 1	685,300
Regents Park High—stage 1	684,200
Kotara High—stage 1	679,600
Macquarie University—library stage 1	676,600
Springwood High—stage 1	664,000
University of New England Earle Page College—stage 3	660,000
Berowra High—stage 1	635,000
Bomaderry High—stage 1	614,000
Merrylands West High—stage 1	614,000
North Sydney Girls High—additional accommodation	606,000
Granville Technical College—stage 3b	541,000
Penrith High—additional accommodation ..	520,000
University of New South Wales—International House	507,400
Bowral High—additional accommodation ..	501,300
Albury Technical College, Poole St—workshop block	500,000
Dapto Technical College—new building ..	500,000
University of New England—geology building	500,000
Bankstown Technical College—boilermaking shop	490,000
St George Girls High—additional accommodation	466,000
Fort Street Boys High—stage 1	450,000

Schools, Universities and Technical Colleges—continued

\$

Tenterfield High—additional accommodation	434,000
Young High—additional accommodation	434,000
Murwillumbah Technical College	430,000
Wollongong Teachers College—scheme B	425,000
Singleton High—additional accommodation	403,900
Matland Boys High—additional accommodation	403,100
Meadowbank High—additional accommodation	400,000
Wollongong Teachers' College—stage 2, block scheme A	390,000
Ashfield Boys Junior High—additional accommodation	388,000
Macksville High—additional accommodation	384,000
Port Hacking High—additional accommodation	380,000
North Sydney Boys High—stage 2	378,000
Narrabri High—additional accommodation	369,500
Bonnyrigg High—additional accommodation	360,000
Narwee Boys High—additional accommodation	346,000
Leeton High—additional accommodation	340,000
Epping Boys High—additional accommodation	338,000
Mullumbimby High—additional accommodation	336,000
Armidale High—additional accommodation	334,000
Tweed River High—additional accommodation	330,000
Guyra High—additional accommodation	322,400
Randwick North High—additional accommodation	320,000
Raymond Terrace High—additional accommodation	313,300
Cartwright Public—stage 2	305,800
East Hills Boys High—additional accommodation	300,000
Narromine District Rural—additional accommodation	293,600
Seven Hills High—additional accommodation	282,000
Conservatorium of Music—additions, stage 2	280,000
Malvina St High, Ryde North—stage 3	280,000
Warren Central—additional accommodation	280,000
Narrabeen Boys High—additional accommodation	280,000
Greystanes High—additional accommodation	268,000
Liverpool Girls High—additional accommodation	268,000
Chester Hill High—additional accommodation	258,000
Riverstone High—additional accommodation	256,000
Kiama High—additional accommodation	256,000
Cremorne Girls High—additional accommodation	255,000
Liverpool Boys High—additional accommodation	254,000
University of New England, Mary White College—new dining hall and block V	246,000
Whalan Public—stage 1	240,000
Grafton Public—additional accommodation	236,600
Quirindi High—additional accommodation	226,800
Pendle Hill High—stage 3	224,000
Crookwell District Rural—additional accommodation	214,000
Cowra Technical College—new building	200,000
Coffs Harbour West Public—new building	190,200
Wairoa Reserve Special—new building	188,400
Mona Vale Public—additional accommodation	188,000
North Sydney Boys High—stage 1	180,000
Caringbah High—stage 1	180,000
Balgowlah High—additional accommodation	172,400
Gundagai Central—additional accommodation	171,000
Henry Lawson High—primary accommodation	161,000
Cartwright Public—stage 1	156,000
Killarney Heights Public—new building	150,000
Emu Plains Public—additional accommodation	146,300
Kingswood Park Public—new building	144,800
Corrimal High—additional accommodation	136,000
Coleambally North Public—additional accommodation	135,400
Lansvale East Public—new building	130,000
Molong Central—additional accommodation	127,000
Jasper Road, Public—new building	125,600

Schools, Universities and Technical Colleges—continued

\$

Wollongong Teachers College—assembly hall	125,000
Nyngan High—additional accommodation	122,000
Moree High—additional accommodation	122,000
Baulkham Hills North—new building	120,800
Gymea South Public—additional accommodation	120,000
Mount Pritchard Public—additional accommodation	120,000
Blacktown Road Public—additional accommodation	119,800
Warringah Special—additional accommodation	118,500
Chatham High—stage 3	118,000
Floraville Primary—new building	118,000
Gateshead West Public—new building	115,300
Camden East Public—new building	112,000
Tamworth South Public—additional accommodation	106,000
Newport Public—additional accommodation	100,000
Matraville High—stage 2	100,000
Dubbo West Public—additional accommodation	99,900
Coraki Central—additional accommodation	99,900
Peat Island Hospital School—additional accommodation	97,600
Bermagui Central—additional accommodation	93,600
Blaxcell St Public—additional accommodation	93,500
Turrumurra Public—additional accommodation	91,900
Hawkesbury Agricultural College—alterations to science block	90,000
Ben Venue Public—additional accommodation	89,200
Fort St Boys High—additional accommodation	85,000
Keiraville Public—additional accommodation	84,000
Warilla North Public—additional accommodation	82,400
Ourimbah Public—additional accommodation	80,000
Tamworth Technical College—sheep and wool building	80,000
Grafton South Public—additional accommodation	80,000
Inverell Public—additional accommodation	80,000
Bonalbo Public—additional accommodation	76,000
Wollongong Teachers College—cafeteria and common room	75,400
Lane Cove Public—additional accommodation	74,700
Fairfield West Public—additional accommodation	70,000
Adamstown Public—dental clinic	70,000
Elanora Heights Public—additional accommodation	69,000
Bankstown Public—dental clinic	66,300
Alexandria Public—dental clinic	66,300
Moree East Public—additional accommodation	65,900
Riverstone Public—additional accommodation	65,000
Walgett Public—additional accommodation	62,000
Chester Hill North Public—additional accommodation	60,000
Albury North Public—additional accommodation	59,600
Walters Road Public—additional accommodation	57,700
Windsor South Public—additional accommodation	57,200
Bethunga Public—additional accommodation	56,900
Eden High—additional accommodation	56,800
Albury Technical College, Dean and Olive St—renovations	56,000
Campbelltown North Public—additional accommodation	55,300
Narellan Public—additional accommodation	55,000
Richmond Public—additional accommodation	54,000
Werris Creek Central—additional accommodation	52,900
Panania North Public—stage 1	52,600
Earwood Public—additional accommodation	52,000
Rooty Hill Public—additional accommodation	52,000
Blacktown West Public—additional accommodation	50,000
Mackie College—extensions	50,000
Macquarie Field Public—additional accommodation	49,300
Annangrove Public—additional accommodation	49,000
Griffith Public—additional accommodation	48,600

Schools, Universities and Technical Colleges—continued

	\$
Tweed Heads South Public—additional accommodation	47,000
Dunedoo Public—additional accommodation	47,000
Turrumurra North Public—additional accommodation	46,300
Dubbo South Public—additional accommodation	46,200
Girraween Public—additional accommodation	46,000
Camden South Public—additional accommodation	45,000
Turrumurra Public—additional accommodation	45,000
Turvey Park Demonstration—additional accommodation	44,500
Kingswood Public—additional accommodation	44,000
Avalon Public—additional accommodation	42,900
Oxley Park Public—additional accommodation	42,900
Lakelands Public—additional accommodation	42,500
Bennett Road Public—additional accommodation	40,500
Normanhurst West Public—additional accommodation	40,300
Austral Public—additional accommodation	40,000
Bulli Public—additional accommodation	40,000
Hilltop Road Public—additional accommodation	39,900
Panania North Public—additional accommodation	39,300
Collarenebri Public—additional accommodation	38,000
Blacktown North Public—additional accommodation	37,000
Koorawatha Public—additional accommodation	35,100
Smithfield West Public—additional accommodation	35,000
Albert Park Public—additional accommodation	35,000
Port Macquarie Public—additional accommodation	35,000
Marayong South Public—additional accommodation	33,900
Griffith North Public—additional accommodation	33,500
Sadlier Public—new school	33,300
Leeton Public—additional accommodation	32,400
Campbelltown High—additional accommodation	32,300
Glenbrook Public—additional accommodation	32,000
Narrabri West Public—additional accommodation	31,700
Oatley West Public—additional accommodation	31,700
Walcha Central Primary—additional accommodation	31,000
Gundagai South Public—additional accommodation	29,600
Cattai Public—additional accommodation	29,300
Beacon Hill Public—additional accommodation	29,000
Blacktown West Public—additional accommodation	28,000
Eastwood Heights Public—additional accommodation	27,700
Lawson Public—additional accommodation	27,300
Tenterfield Public—additional accommodation	27,000
St Mary's South Public—additional accommodation	26,600
Erina Heights Public—additional accommodation	26,300
Lennox Head Public—additional accommodation	26,000
Kingswood South Public—additional accommodation	25,900
Allambie Heights Public—additional accommodation	25,700
Hornsby South Public—additional accommodation	25,500
Epping Heights Public—additional accommodation	25,000
Hammondville Public—additional accommodation	25,000
O'Connell Public—additional accommodation	25,000
Bulahdelah Public—additional accommodation	24,900
Blacktown West Public—additional accommodation	24,000
South Goulburn Public—new dental clinic	22,500

Schools, Universities and Technical Colleges—continued

	\$
Harrington St, Cabramatta, Public—additional accommodation	22,000
Merrylands East Infants—additional accommodation	22,000
Miranda North Public—additional accommodation	22,000
Northmead Public—additional accommodation	22,000
Penrith South Public—stage 2	22,000
Smithfield Public—additional accommodation	22,000
Mudgee Technical College—additional accommodation	22,000
Quirindi Public—additional accommodation	22,000
Oakville Public—additional accommodation	21,800
Dundas Public—additional accommodation	21,300
Faulconbridge Public—additional accommodation	21,200
Orange Public—additional accommodation	21,100
Baulkham Hills North Public—additional accommodation	21,000
Yetman Public—additional accommodation	20,300
Yowie Bay Infants Public—additional accommodation	20,200
East Sydney Technical College—food school	20,000
Bonville Public—additional accommodation	20,000
Padstow North Public—additional accommodation	20,000
Gordon East Public—additional accommodation	20,000
Picnic Point Public—additional accommodation	20,000
Sutherland North Public—additional accommodation	20,000
Terry-hie-hie Public—additional accommodation	18,200
Laguna South Public—additional accommodation	18,000
Penrith South Public—stage 1	18,000
St Ives Public—additional accommodation	17,400
Woollahra Demonstration—additional accommodation	17,300
Mullaley Public—additional accommodation	16,900
Tower St, Panania, Public—additional accommodation	16,700
Kookaburra Public—additional accommodation	16,700
Jennings Public—additional accommodation	16,200
Dural Public—additional accommodation	15,200
Glossodia Public—additional accommodation	15,000
Berrioye Public—additional accommodation	14,800
Mangrove Mountain Public—additional accommodation	14,700
Kent Road Public—additional accommodation	13,800
Yowie Bay Primary—additional accommodation	13,100
Lavington East Public—additional accommodation	12,500
Tottenham Central—additional accommodation	12,000
Padstow Heights Public—additional accommodation	12,000
Minto Public—additional accommodation	12,000
Loftus Public—additional accommodation	12,000
Heathcote East Public—additional accommodation	11,000
Burraneer Bay Public—additional accommodation	10,000
Schofields Public—additional accommodation	10,000
Toronto High—additional accommodation	10,000
Total	\$55,223,500

Court Houses, Police Buildings, and Gaols—

	\$
Cessnock Gaol—new building	4,000,000
Coroner's Court, Morgue, and Division of Forensic Medicine—new building	1,800,000
Wollongong Court House—additions and alterations	1,500,000
Liverpool Court House, Police Station, and Government Offices—new building	1,500,000
Gosford Court House and Police Station—new building	600,000
State Penitentiary, Long Bay—new three-storey block	548,000
State Penitentiary, Long Bay—development plan	500,000

Court Houses, Police Buildings, and Gaols—*continued*

	\$
Waverley Court House and Police Station—additions and alterations	486,000
State Penitentiary, Long Bay—hospital block	450,000
State Penitentiary, Long Bay—additional floor cell range 1, 2, 5, and 6	320,000
Warilla Court House and Police Station—new building	320,000
State Penitentiary, Long Bay—H.T.H.W. reticulation	250,000
Blayney Police Station and Premises—new building	154,000
Woodstock Police Station and Court House	100,000
State Penitentiary, Long Bay—new office block	100,000
State Penitentiary, Long Bay—new boiler house	100,000
State Penitentiary, Long Bay—floor cleaning compound block	100,000
Hornsby Court House—additions	94,000
Carinda Court House and Police Station—new building	85,000
State Penitentiary, Long Bay—new sugar and bulk store	60,000
Redfern Police Training Centre—additions ..	56,000
Grafton Court House—Alterations and additions	51,000
Goulburn Gaol—additional accommodation ..	50,000
Lismore Police Station—additions	42,000
State Penitentiary, Long Bay—laundry extensions	40,000
State Penitentiary, Long Bay—new clinic ..	40,000
Kiama Court House—alterations and additions	36,000
Penrith Court House and Police Station—air-conditioning	30,000
Taree Court House—alterations and additions	30,000
State Penitentiary, Long Bay—mat making shop alterations	30,000
Griffith Police Station—additions	28,000
Petersham Police Station—renovations	21,000
State Penitentiary, Long Bay—security towers	20,000
State Penitentiary, Long Bay—kitchen alterations	20,000
Menindee Police Station—toilet facilities ..	19,000
Ryde Court House—staff toilets	15,000
Carcoar Court House—restoration	10,000
Lockhart Court House—additions	10,000
Total	<u>\$13,605,000</u>

Miscellaneous—*continued*

	\$
Mines Department, Londonderry—core library	74,500
Aborigines Welfare Board, Gulargambone—twelve cottages	72,000
Museum of Applied Arts and Sciences—planetarium	60,000
Tumut Water Supply—filtration plant building	44,000
Australian Museum—alterations	40,000
Child Welfare Department, Brush Farm—new laundry facilities	30,000
Aborigines Welfare Board, Condobolin—four cottages	30,000
Department of Education—two passenger lifts	30,000
Child Welfare Department, Brush Farm—matron and nurses' residences	28,300
Mining Museum—fire escape stairs	20,000
Government Tourist Bureau—additional office space	20,000
Jenolan Caves House—remodelling	20,000
Child Welfare Department, Mittagong, "Turner Cottage"—modification and additions	20,000
Dulwich Hill Immigration Centre—additional accommodation	14,000
Chief Secretary's Department, Charlestown—fisheries residence	12,000
Department of Agriculture—toilet accommodation	12,000
Australian Museum—remodelling of entrance hall	10,200
Kingswood Aborigines Welfare Board—one cottage	10,000
Child Welfare Department, Myee Hostel—renovations	10,000
Child Welfare Department, Raith and Lark Hill—roadways	10,000
Child Welfare Department, Head Office—research and information centre	10,000
Aborigines Welfare Board, Bourke—communal laundry and showers	10,000
Museum of Applied Arts and Sciences—ground floor alterations	10,000
Orange Land Board—renovations	10,000
Manly Hydraulics Laboratory—extensions ..	10,000
Manly Hydraulics Laboratory—office accommodation	10,000
Aborigines Welfare Board, Bellbrook—new hall	10,000
Total	<u>\$19,612,000</u>

Miscellaneous—

	\$
State Treasury—development scheme	3,500,000
Smithfield Furniture Centre—new building ..	3,500,000
Kingswood—repository for public records ..	2,502,000
Child Welfare Department, Kurri Kurri—new boys' home	1,700,000
Public Works Building—alterations	1,300,000
Grafton Government Offices—new building ..	1,010,000
Goulburn Government Offices—new building	964,000
Child Welfare Department, Head Office, Sydney—new office block	700,000
Child Welfare Department, Brush Farm—new infants home schemes A and B	700,000
Royal Botanical Gardens—new national herbarium	672,000
Wagga Government Offices—stage 2	627,000
Government Printing Office—alterations ..	600,000
State Treasury Building—alterations	255,000
Child Welfare Home, Brush Farm—development scheme	250,000
Child Welfare Home, Brush Farm—additional cottage blocks	192,000
Moree Government Offices—new building ..	158,000
Child Welfare Home, Eastwood—scheme A, B, C	150,000
Child Welfare Mittagong Children's Home—24-bed standard cottage scheme A	120,000
Child Welfare Mittagong Children's Home—24-bed standard cottage scheme B	120,000
Museum of Applied Arts and Sciences—transport museum	120,000
Rawson and Barlow Chambers, Station House—fire precaution, etc.	100,000
Aborigines Welfare Board, Greenhills—fourteen cottages	100,000
Aborigines Welfare Board, Dareton—twelve cottages	85,000

WORKING DRAWINGS

Hospitals—	\$
Prince of Wales—admission and polyclinic block	3,354,000
Parramatta—training centre for retarded children	3,082,000
Rydalmere Psychiatric—six geriatric villa wards, etc.	1,760,000
Coff's Harbour District—new building	1,560,000
Orange Base—main ward block	1,400,000
Parramatta Psychiatric Centre—female division, stage 1	780,000
Shoalhaven District—extensions	758,000
Newcastle Mater—children's ward	750,000
Stockton—new wards 16 and 17	660,000
Tamworth Base—new boiler house	652,000
Grafton Base—extension to nurses' home ..	643,500
Prince of Wales—new boiler house	634,000
North Ryde Psychiatric Centre—acute observation ward	577,000
Randwick Chest—villa wards	570,000
Mullumbimby and District War Memorial—new building	557,100
Stockton—renovations to ward Hill 1	316,000
Morisset—new laundry	275,000
Orange Base—new boiler house	232,000
Gladesville—new boiler house	219,000
Royal Prince Alfred—college for students in clinical years	200,000
Gladesville—project ward 29	199,000
St Joseph's, Auburn—nurses' quarters	170,000
Prince Henry—institute of tropical medicine	154,700
Parramatta Psychiatric Centre—renovations to recreation hall	142,000

Hospitals—continued

	\$
Morisset—remodelling pantries, etc., male ward 8	116,000
Grafton Base—new boiler house	113,300
Prince Henry—security ward	83,000
Callan Park—conversion of residence into ward	82,000
Prince Henry—conversion of ward 11	67,000
West Wyaloag—alterations and additions ..	60,000
Rydalmere—conversion of residence into ward ..	51,000
Inverell District—new boiler house	48,000
Bloomfield, Orange—renovations to recreation hall	34,000
Western Suburbs—bed passenger lift	32,000
Barham Koondrook—roof repairs	28,900
Prince of Wales—electricity supply sub-station	28,000
Prince of Wales—extensions to outpatients' block	22,700
Parramatta—roof repairs	17,300
Tullamore District—alterations and additions ..	15,300
Kiama District—new morgue	14,000
Goulburn Base—new dispensary	11,500
Goulburn Base—stage 2	10,500
Wee Waa District—septic tank installation ..	10,000
Total	\$20,489,800

Schools, Universities, and Technical Colleges—

	\$
New South Wales Institute of Technology ..	12,000,000
Randwick Technical College—stage 2	1,500,000
Granville Technical College—stage 3A	1,208,000
Woolooware High—stage 1	1,118,500
Cowra High—new building	1,080,800
Orange East High—stages 1 and 2	1,051,000
Parkes High—additional accommodation ..	1,034,400
Manly Vale High—stage 1 and 2	1,028,000
Colyton High—stage 1	914,500
Coonamble Intermediate High—additional accommodation	910,000
Oxley High—stage 1	901,300
Killarney Heights High—stage 1	871,300
Corowa High—new building	822,100
Springwood High—stage 1	794,700
Bomaderry High—stage 1	794,700
Avalon High—stage 1	786,400
Merrylands West High—stage 1	750,600
Carlingford North High—stage 1	747,400
Turrumurra South High—stage 1	746,600
Quakers Hill High—stage 1	699,400
Engadine High—stage 1	693,400
Sydney Technical College—stage 1	687,000
Kotara High—stage 1	679,600
Macquarie University—library stage 1	676,200
Berowra High—stage 1	667,000
North Sydney Girls' High—additional accommodation	660,600
Hornsby Technical College—stage 1	646,000
Tumbarumba Central—new building	622,000
Arthur Phillip High—additional accommodation	614,000
Bowral High—additional accommodation ..	558,000
University of New South Wales, International House	507,400
Albury Technical College, Pool Street—workshop building	500,000
Bankstown Technical College—boilermaking workshop	490,000
St George Girls' High—additional accommodation	466,000
Kandos High—additional accommodation ..	463,800
Monaro High—additional accommodation ..	441,500
Canowindra High—additional accommodation ..	416,400
Singleton High—additional accommodation ..	403,900
Ashfield Boys' Junior High—additional accommodation	388,000
Berkeley High—additional accommodation ..	383,300
North Sydney Boys' High—stage 2	378,000
Coff's Harbour High—additional accommodation	373,600
University of New England—faculty of arts building	366,000
Mount Austin High—stage 3	359,400
Armidale High—additional accommodation ..	356,500

Schools, Universities, and Technical Colleges—continued

	\$
Kingsgrove North—additional accommodation	355,400
Birrong Boys' High—additional accommodation	352,000
Epping Boys' High—additional accommodation	338,000
Blacktown Boys' High—additional accommodation	329,000
Randwick North High—additional accommodation	320,000
Maitland Girls' High—additional accommodation	314,000
The Forest High—additional accommodation ..	310,000
Cartwright Public—stage 2	305,800
South Sydney Boys' Public—additional accommodation	300,000
Balgowlah High—additional accommodation ..	290,000
Macarthur Girls' High—additional accommodation	289,300
University of New England, Duval College—dining hall	281,400
Malvina St High—additional accommodation ..	280,000
Greystanes High—additional accommodation ..	273,200
Port Kembla High—additional accommodation	268,700
Rooty Hill High—additional accommodation ..	262,000
Chester Hill High—additional accommodation ..	258,000
Kiama High—additional accommodation ..	256,800
Cremorne Girls' High—additional accommodation	255,000
Quirindi High—additional accommodation ..	253,200
University of New England, Mary White Collegene dining hall block V	246,000
University of New England—botany building ..	244,800
Sefton High—additional accommodation	244,400
Farrer Agricultural High—additional accommodation	240,700
Whalan Public—stage 1	240,000
Kingsgrove High—additional accommodation ..	232,800
Crookwell District Rural—additional accommodation	228,300
Orange Public—new building	228,000
Pendle Hill High—stage 3	224,000
Inverell High—additional accommodation ..	218,200
University of New England, Earle Page College—stage 2	217,400
University of New England, administrative building	210,000
Bomaderry Public—new building	208,100
Wiaroa Reserve Special—new building	188,400
North Sydney Boys' High—stage 1	180,000
Goulburn Public—additional accommodation ..	176,500
Balgowlah Heights Public—new building	172,400
Gundagai High—additional accommodation ..	171,000
Cartwright Public—stage 1	163,200
Yass High—additional accommodation	152,500
Emu Plains Public—new building	146,300
Khancoban Public—new building	141,300
Bowral Public—additional accommodation ..	140,100
Goonellabah Public—new school	140,000
Corrimal High—additional accommodation ..	131,600
Molong Central—additional accommodation ..	127,100
Newport Public—additional accommodation ..	123,100
Baulkham Hills North Public—new building ..	120,800
Warramong Public—additional accommodation	120,300
Woolgoolga Central—additional accommodation	120,000
Chatham High—stage 3	118,000
Nyngan High—additional accommodation ..	117,400
Gateshead West Public—new building	115,300
Tamworth South Public—additional accommodation	106,000
Nowra High—additional accommodation ..	105,500
Queanbeyan East Public—new building	101,800
Northmead High—assembly hall	100,000
Gymea High—assembly hall	100,000
Cabramatta High—assembly hall	100,000
Bass Hill High—assembly hall	100,000
Dubbo West Public—additional accommodation	99,900
University of New England—agricultural economics building stage 3	98,400
Kempsey West Public—additional accommodation	98,000
Blaxcell Street Public—additional accommodation	93,500
Nowra East Public—additional accommodation	91,900

Schools, Universities, and Technical Colleges—continued

Schools, Universities, and Technical Colleges—continued

	\$		\$
Turrumurra Public—additional accommodation	91,900	Barraba Central—additional accommodation	37,500
Ben Venue Public—additional accommodation	89,200	Blacktown North Public—additional accommodation	37,000
Tarrawanna Public—additional accommodation	89,100	Smithfield West Public—additional accommodation	36,800
Farmborough Public—additional accommodation	88,300	Mulwala Central—additional accommodation	36,000
Randwick Boys' High—additional accommodation	87,000	Dee Why Public—assembly hall	35,000
GyMEA Bay Public—additional accommodation	85,000	Glenbrook Public—additional accommodation	34,300
University of New England—psychology education building stage 2	84,600	Marayong South Public—additional accommodation	33,900
Corrimal Public—additional accommodation	81,900	Lakelands Public—additional accommodation	33,000
Grafton South Public—additional accommodation	80,000	Finley Public—additional accommodation	33,000
University of New England—boiler station Bellvue area	79,000	Leeton Public—additional accommodation	32,400
Oak Flats Public—additional accommodation	76,100	Yowie Bay Primary—additional accommodation	32,000
Talbingo Public—new building	74,500	North Rocks Public—additional accommodation	31,700
Goulburn North Public—additional accommodation	74,200	Oatley West Public—additional accommodation	31,700
Coolah Central—additional accommodation	73,500	Holbrook Central—additional accommodation	31,000
Dapto Public—additional accommodation	72,000	Menindee Public—additional accommodation	31,000
Forbes North Public—additional accommodation	69,100	Gundagai South Public—additional accommodation	30,000
Elanora Heights Public—additional accommodation	69,000	Loftus Public—additional accommodation	29,700
Moree East Public—additional accommodation	65,900	Ross Hill Public—additional accommodation	29,600
Riverstone Public—additional accommodation	65,000	Wentworth Public—additional accommodation	29,000
Jerilderie Public—additional accommodation	63,000	Eastwood Heights Public—additional accommodation	27,700
Wollongong West Public—additional accommodation	62,200	Lawson Public—additional accommodation	27,300
Walters Road Public—additional accommodation	57,700	Tenterfield Public—additional accommodation	27,000
Windsor South Public—additional accommodation	57,200	Erina Heights Public—additional accommodation	26,300
Trundle Central—additional accommodation	56,400	Moama Public—additional accommodation	26,000
Campbelltown North Public—additional accommodation	55,300	Kingswood South Public—additional accommodation	25,900
Avalon Public—additional accommodation	54,000	Allambie Heights Public—additional accommodation	25,700
Albury North Public—additional accommodation	53,000	Marulan Public—additional accommodation	25,600
Taree West Public—additional accommodation	53,000	Kelso Public—additional accommodation	25,400
Werris Creek Central—additional accommodation	52,900	Woy Woy Public—septic tank	25,100
Panania North Public—additional accommodation	52,600	Quirindi Primary—additional accommodation	25,000
Woonoona East Public—additional accommodation	52,300	Guildford West Public—septic tank	24,700
Earlwood Public—additional accommodation	52,200	Goulburn East Public—additional accommodation	23,700
Campbelltown North Public—additional accommodation	52,000	Cattai Public—septic tank	23,600
Tibooburra Public—additional accommodation	50,300	University of New England—boiler station services area, Stage 2	23,000
Turrumurra Public—assembly hall	50,000	Bulahdelah Primary—additional accommodation	23,000
Mackie College—additions and alterations	50,000	Girraween Public—additional accommodation	23,000
Kendall District Rural—additional accommodation	50,000	St Marys South Public—additional accommodation	21,800
Woollahra Public—additional accommodation	49,600	Dundas Public—additional accommodation	21,300
Annangrove Public—additional accommodation	49,000	Faulconbridge Public—additional accommodation	21,200
Griffith Public—additional accommodation	49,000	Heathcote Public—septic tank	20,500
Coledale Public—additional accommodation	47,000	Yetman Public—additional accommodation	20,300
Buronga Public—additional accommodation	46,700	Bonville Public—additional accommodation	20,000
Turrumurra North Public—additional accommodation	46,300	Berridale Public—additional accommodation	20,000
Dubbo South Public—additional accommodation	46,200	Brunswick Heads Public—additional accommodation	19,600
Turvey Park Demonstration—additional accommodation	44,500	Penrith South Public—additional accommodation	18,000
Bathurst Teachers College—Stage 3	44,000	Belrose South Public—septic tank	17,600
Oxley Park Public—additional accommodation	42,900	Woollahra Demonstration—additional accommodation	17,300
Taralga Central—additional accommodation	42,400	Mullaley Public—additional accommodation	16,900
Lindsay Park Public—additional accommodation	42,300	Tower Street, Panania Public—additional accommodation	16,700
Normanhurst West Public—additional accommodation	40,300	Jennings Public—additional accommodation	16,200
Bull Primary—assembly hall	40,000	Elmwood Public—additional accommodation	15,600
Lindfield Public—assembly hall	40,000	Hernani Public—new building	15,000
St Ives Public—assembly hall	40,000	Mangrove Mountain Public—new building	14,700
Austral Public—additional accommodation	40,000	O'Connell Public—additional accommodation	14,400
Griffith North Public—additional accommodation	40,000	Kent Road Public—additional accommodation	13,800
Hilltop Road Public—new building	39,900	Lavington East Public—additional accommodation	12,500
Queanbeyan West Public—additional accommodation	39,400	Narara Public—septic tank	12,400
		Tottenham Central—additional accommodation	12,000
		Total	<u>\$60,261,400</u>

Court Houses, Police Buildings, and Gaols—

	\$
Wollongong Court House—additions and alterations	1,500,000
Waverley Court House and Police Station ..	486,000
Fairfield Court House—new building	209,000
Port Kembla Court House—new building ..	190,000
Coonabarabran Court House—alterations to court house and erection of new police station	136,000
Carinda Police Station and Court House—new building	85,000
State Penitentiary, Long Bay—security ward	83,000
Emu Plains Training Centre—new dairy building scheme A	60,000
State Penitentiary, Long Bay—floor cleaning compound block	60,000
Emu Plains Training Centre—new dairy building scheme B	54,200
State Penitentiary, Long Bay—new clinic ..	50,000
State Penitentiary, Long Bay—new sugar and bulk store	44,000
State Penitentiary, Long Bay—H.T.H.W. reticulation	30,000
State Penitentiary, Long Bay—new recreation area	30,000
Picton Police Station—alterations	13,300
Total	<u>\$3,030,500</u>

Hospitals—*continued*

	\$
Randwick Chest—new surgical block	90,400
Orange Base—nurses' training block	72,800
Tumut District—maternity unit	72,000
Cootamundra District—laundry blocks	71,800
Bloomfield Orange—female ward 3 remodeling and additions	69,300
Gladsville—three medical officers residences	47,800
St Josephs, Auburn—additional toilet accommodation	41,200
Boggabri District—new ward for children ..	37,800
Rydalmere—four residences and garages ...	34,400
Sutherland District—extensions to central sterilizing department	23,500
Stockton—medical officer's residence and garage	18,500
Parramatta District—re-roofing of prefabricated building	17,700
Sutherland District—new extensions to central sterilizing department	17,500
Ryde North Psychiatric Centre—medical officer's residence	17,300
Royal Alexandra for Children—consulting room for handicapped children	16,600
Boorowa District—installation of sewerage system	15,400
Junee District—additions and alterations to main building	15,100
Scott Memorial, Scone—new boiler house ..	12,400
Total	<u>\$2,417,200</u>

Miscellaneous—

	\$
Hunter Street Government Office Block—new building	5,900,000
Goulburn Government Offices—new building	964,000
Wagga Government Offices—Stage 2	627,000
State Treasury Building—alterations	255,000
Walgett Aborigines Welfare Board—fifty-three temporary housing shelters	200,000
Moree Government Offices—new building ..	158,000
Hawkesbury Agricultural College—new dairy research building	116,500
Child Health Centre, Newcastle	109,100
Mines Department, Londonderry — Core library	72,000
Tumut Water Supply—filtration plant building	44,000
Tingha Aborigines Welfare Board—erection of four cottages	29,400
Remand Home, Lidcombe—three new gateways	27,000
Balranald Aborigines Welfare Board—erection of three cottages	24,200
Public Library—new picture restoration studio	20,000
Jenolan Caves House—remodelling	20,000
Coonabarabran Aborigines Welfare Board—erection of two cottages	14,300
Australian Museum—remodelling of entrance hall	10,200
Manly Hydraulics Laboratory—extensions ..	10,000
Total	<u>\$8,600,700</u>

WORK COMMENCED PRIOR TO 1ST JULY, 1965, AND COMPLETED DURING THE YEAR 1965-66

Hospitals—

	\$
Allandale, Cessnock—construction of two additional geriatric units	423,100
Lidcombe State—new nurses' home	217,100
Royal North Shore, Sydney—psychiatric clinic	216,700
Tomaree Holiday Lodge—new toilet block, etc.	213,700
St George District—new psychiatric block ..	212,200
Callan Park—amenities block	167,000
Ryde North Psychiatric Centre, G. R. Cameron Wing—extension	142,400
Inverell District—new operating block, new nurses' dining and lecture rooms	133,500

Schools, Universities, and Technical Colleges—

	\$
Randwick Girls High—stages 1 and 2	1,233,900
Cobar High—stage 1	995,300
Kirrawee High—stages 1 and 2	912,400
Granville South High—stages 1 and 2	898,400
Canley Vale High—stages 1 and 2	848,000
Sydney Technical College, Thomas St—extensions stage 3	831,000
Ryde High, Malvina St—stages 1 and 2	808,600
Meadowbank Technical College—additional accommodation	783,300
Sydney Technical College—school of graphic arts stage 2	769,200
Wollongong Teachers' College—stage 1 part B	725,800
Warilla High—stages 1 and 2	714,700
Ku-ring-gai High—stages 1 and 2	628,000
Forbes High—new building	584,000
Miller High, Green Valley—stages 1 and 2	563,100
Lurnea High—stages 1 and 2	561,600
University of New England, Duval College—stage 1	501,900
Bourke Intermediate High—new building ...	448,600
Broken Hill Primary, Mica St—new building	425,900
Chatham High—new building	422,000
Erina High—stage 3	403,300
Crookwell District Rural—new secondary department	396,400
Camden High—additional accommodation ..	382,800
Petersham Girls High—additional accommodation	382,300
Fairy Meadow Demonstration—new school .	376,100
Wingham District Rural—new school	354,400
Manilla Intermediate High—new school	346,800
University of New South Wales—halls of residence stage 3	338,600
Heathcote High—additional accommodation .	331,300
University of New England, Armidale, Earl Page College—block 1 of stage 1	306,600
Morisset Central—new secondary accommodation	294,000
Maroubra Junction Girls Junior High—additional accommodation	291,100
Bathurst High—new classroom block	273,100
Katoomba High—additional accommodation	256,600
Hunter Girls High—alterations and extensions	244,800
Newcastle Technical High—alterations and additions	238,400
Deniliquin High—additional accommodation	227,300
Hurstville Boys High—additional accommodation	222,600

Schools, Universities, and Technical Colleges—continued

Schools, Universities, and Technical Colleges—continued

	\$
Oberon Central—new classroom block	220,900
Queanbeyan High—new classroom block	220,300
Riverside Girls High—new classroom block and alterations to existing building	216,500
Belmont High—additional accommodation	205,000
Gateshead High—additional accommodation	201,600
Swansea High—stage 2	201,300
Woonoona High—stage 3	196,800
Wingham District Rural—stage 2	196,600
Whitebridge High—stage 3	194,500
Mudgee High—additional accommodation	192,400
Cowra High—additional accommodation	190,800
Peakhurst High—stage 3	189,200
Doonside High—stage 3 block E	187,800
Corrimal High—new two storied block	186,200
Blacktown South High—stage 3	185,700
Kyogle High—new building	184,100
Ballina High—new building	183,700
Ingleburn High—additional accommodation	183,400
St Ives High—block E	182,800
Sir Joseph Banks High—additional accommodation	176,600
Wallsend High—additional accommodation	171,500
Ashcroft High, Green Valley—block E	169,700
Beresfield Public—primary department, stage 1	167,900
James Ruse Agricultural High—extensions and additions	165,700
Temora High—additional accommodation	163,500
Warilla North Public—stage 2	160,100
Broadmeadow Junior High—additional accommodation	160,000
Narooma Central—additional accommodation	154,400
Castle Hill High—stage 3	152,100
The Entrance Public—primary department stage 1	149,800
Smiths Hill Girls High—new block	147,600
Gyeme High—stage 3 block E	146,800
New Jindabyne Primary—new school	146,000
University of New England, Armidale—physics and teaching block	145,600
Newcastle Girls High—stage 2	142,900
Port Macquarie High—additional accommodation	141,100
Inverell High—additional accommodation	138,600
Kiama Public—additional accommodation	135,600
Kurri Kurri High—additional accommodation	134,400
Gulgong Central—additional accommodation	133,700
June High—additional classrooms and staff-rooms	128,300
Asquith Boys High—additional classroom building	119,800
Kotara South Public—additional accommodation	118,200
Gloucester High—stage 3	117,100
Narromine District Rural—new primary and additions	116,100
Berkley South Infants—stage 2 new classroom and toilet blocks	115,000
Tumut High—alterations and additions	114,400
Warrawong Public—additional accommodation	113,200
Dubbo South High—stage 3	108,200
Peak Hill Central—additional accommodation	103,600
Dorrigo District Rural—additional accommodation	103,000
Gosford East Public—new primary department	101,500
University of New England, Armidale—workshop and store buildings	96,600
Engadine Public—stage 2	94,800
Bowraville Central—new building	93,600
Trangie Central—new classroom block	91,400
Oaklands Central—additional accommodation	90,500
Parramatta High—additional accommodation	87,100
Arthur Phillip High, Parramatta—new gymnasium building	85,300
Merewether Public—additional accommodation, stage 1	82,800
Batlow Central—additional accommodation	81,100
Kahibah Public—additional accommodation	79,500
Cooks Hill Junior High—additional accommodation	79,200
Woodenbong Central—alterations and additions	76,800
Bermagui Central—new classroom block	76,400
Berkley West Public—additional accommodation	74,900

	\$
Gilgandra Intermediate High—new building	74,700
Bellambi Public—alterations and additions	73,800
Warners Bay Public—additional accommodation and toilet block	73,400
Cooma Public—stage 1	70,300
Goulburn South Public—additional accommodation	69,100
Coolah Central—additional accommodation	68,300
Alma, Broken Hill Public—stage 1	68,300
Carinda Public—new building	63,200
Barellan Central—additional accommodation	63,200
Nimbin Central—new classroom block	60,700
Balgownie Public—additional accommodation	60,500
Pennant Hills West—additional accommodation	58,700
Cabramatta High—new amenities block	58,600
Ross Hill Public—kindergarten accommodation	57,600
Portland Intermediate High—new toilet connection to sewer and additional accommodation	56,200
Avalon Public—additional accommodation	56,200
Urana Central—additional laboratory classroom office, etc	54,100
Eugowra Central—steel-framed and brick veneer classroom block	54,000
Beecroft Public—stage 2 primary department	49,500
Coolamon Central—additional accommodation	49,100
Dunedoo Central—additional accommodation	48,000
Moulamein Central—new classroom block	48,000
Gunning Central—alterations and additions	47,800
Gulargambone Central—additional accommodation	46,700
Forster Central—additional toilet block	46,500
Tottenham Central—new classroom block	45,800
Boggabilla Aborigines—additional accommodation	43,900
Woodburn Central—new building	43,700
Narrabri Primary—new building	42,800
Griffith North Public—two infants classrooms	42,200
Finley Public—additional accommodation	41,600
Hillsborough Public—additional accommodation	38,900
Forbes North Public—new brick veneer classroom	38,600
Dapto Public—new toilet block and septic tank	38,500
The Rock Central—additional accommodation	38,200
Braidwood Central—alterations and additions	37,900
Adelong Central—new classroom block	37,000
Morgan Street Public—additional accommodation	37,000
Gwandalan Public—new classroom and toilet block	35,400
Raymond Terrace Public—additional accommodation	34,500
Walcha Central—additional accommodation	34,300
Cessnock West Public—new toilets and shelter	34,300
Manildra Central—additional accommodation	33,900
Cudal Central—new kindergarten and art science building	33,600
Milton Central—new classroom block	32,700
Culcairn Central—new laboratory and staff-room block	31,700
Hamilton South Public—new classroom block for partially sighted children	30,800
Enngonia Public—new classroom	29,200
South West Rock Public—additional accommodation	28,100
Allambie Heights Public—additional accommodation	26,700
Garden Suburbs Public—new classroom block	26,600
Speers Point Public—new classroom block and toilet block	26,200
Batemans Bay Public—new kindergarten block	25,400
Lindsay Park Public—additional accommodation	23,900
Raymond Terrace High—new manual arts classroom block	22,300
Kelso Public—additional accommodation	22,000
Condobolin Intermediate High—additional accommodation	21,800

Schools, Universities, and Technical Colleges—*continued*

	\$
Argenton Public—new classroom and toilet block	20,300
Gongolgan Public—new school	19,900
Tingha Central—additional classroom	19,800
Rappville Public—new primary building ..	19,800
Gulgong Public—new toilet block and septic system	19,600
Marrangaroo Public—new brick classroom and toilet block	19,600
Goodooga Public—new toilets and septic system	19,500
North Star Public—additional classroom block	18,100
Merimbula Public—new classroom block ..	17,100
East Kempsey Public—new kindergarten room	16,700
Lavington Public—new classroom	16,600
Wagga Wagga Teachers' College—new boiler house	15,700
Howlong Public—new kindergarten classroom	14,800
Nambucca Public—new septic tank and toilet block	13,700
Prospect Public—septic tank and new toilets	13,600
Beechwood Public—additional accommodation	12,000
Appin Public—septic system	11,900
Boomi Public—septic system	11,600
St Marys High—connection to sewer	10,600
Total	\$31,661,300

Court Houses, Police Buildings and Gaols—

	\$
Lidcombe Remand Home and Court House—new building	1,138,800
Blacktown Court House—new building ..	43,120
Eastwood Police Station—new building ..	164,300
Kirkconnell Prison Farm, Bathurst—new bulk store building	121,600
Orange Court House—alterations and additions	70,300
Jindabyne Police Station—new police station, residence and barracks	66,300
Kingsgrove Police Station—new police station	65,200
St Ives Police Driving School—new building	53,700
Nelsons Bay Police Station—new station and residence	52,300
Total	\$2,163,700

Miscellaneous—

	\$
Cootamundra State Office Building—stages 1 and 2	492,100
Government Motor Garage, Glebe—additional accommodation	457,300
Brush Farm Home, Eastwood—new girls' home	342,200
State Planning Authority of N.S.W.	309,100
Yanco Agricultural Research Station—students residential units	200,000
Werrington Park Child Welfare Home—new dormitory	134,400
Wagga Agricultural Research Institute—extensions	121,800
Port Kembla Inner Harbour—signal station and administration block	79,400
Walgett Aborigines Reserve—erection of twelve cottages	76,300
Cowra Soil Conservation Service—new office building	68,800
Condobolin Aborigines Reserve—erection of eight timber-framed cottages	47,600
Department of Soil Conservation and Forestry Commission—new building—Condobolin	46,800
Aborigines Welfare Board, Kempsey—erection of eight timber framed-cottages ..	39,900

Miscellaneous—*continued*

	\$
Aborigines Welfare Board, Boggabilla—additions to 24 cottages	23,600
Condobolin Aborigines Reserve—erection of four timber-framed cottages	21,400
The Australian Museum, College St—refitting of southern gallery	14,400
Narrandera Inland Fisheries Research Station—annexe to laboratory building ..	12,700
Aborigines Welfare Board, Brungle Reserve—additions to homes	12,700
Total	\$2,500,500

WORK COMMENCED PRIOR TO 1ST JULY, 1965, AND STILL IN PROGRESS

Hospitals—	\$
Belmont District—new hospital	2,360,000
Lismore Base—stage 1	2,001,000
Goulburn Base—hospital wards, theatres, etc. Prince of Wales, Randwick—radiotherapy institute	821,800
St Margaret's, Darlinghurst—new nurses' home	802,800
Gladesville—new medical unit	491,000
Bathurst District—alterations and additions ..	476,800
Milton-Ulladulla—new hospital	420,400
Callan Park—new bulk store and dispensary ..	390,200
Royal Prince Alfred—renovations and additions to casualty and radiotherapy	361,200
Canterbury District—new boiler house, laundry, and workshop	340,000
Wollongong District—T.B. unit	297,000
Newcastle Psychiatric—new unit	290,000
Orange Base—nurses' home, extensions	285,000
Macleay District—additional accommodation ..	169,700
Lidcombe State—alterations to nurses' dining room and kitchen	86,900
Broughton Hall Psychiatric Clinic—home unit for medical officers	72,900
Parramatta Psychiatric Centre—three medical officers' residences	53,600
Total	\$10,901,300

Schools, Universities, and Technical Colleges—

	\$
St George Technical College—stage 3	1,465,600
Fisher Library Bookstack, University of Sydney—stage 2	1,182,200
Eastern Suburbs Technical College—stage 1 ..	1,019,200
Sydney Technical College—extensions to building 42	947,300
Seven Hills High—stages 1 and 2	917,400
Bankstown Boys' High—stages 1 and 2	831,600
Wollongong North Technical College—stage 3A	752,400
Newcastle Technical College—automotive trades building	499,400
Cooma Technical College—new school	435,400
University of New England—new school of physical chemistry	383,800
Kogarah High—stages 1 and 2	376,500
Macksville High—new school	368,800
Richmond River—blocks A, B, and C	354,200
Dungog High—additional accommodation ..	353,400
Dulwich Hill High—additional accommodation	327,200
Nelsons Bay Central—additional accommodation	326,000
Goulburn High—additional accommodation ..	252,900
Cessnock High—extensions to main building ..	207,800
Wellington High—additional accommodation ..	180,600
Wauchope Technical College—new buildings ..	178,800
Glen Innes High—extensions	178,400
Baradine Central—additional accommodation ..	156,000
Blakehurst High—new classroom and science block	119,200
Holbrook Central—extensions	89,400
Wentworth Central—shelter and toilet accommodation	73,600

Schools, Universities, and Technical Colleges—*continued*

	\$
Balranald Central—new classroom block . . .	73,200
Binnaway Central—new classroom block . .	64,400
Uralla Central—additional accommodation . .	59,400
Menindee Public—additional accommodation .	56,400
Hillston Central—additional accommodation .	45,600
Mittagong Training—residence and garage for superintendent	21,800
Broken Bay National Fitness Camp—new staff quarters alterations to kitchen	17,800
Hernani Public—new school	15,400
Total	<u>\$12,331,100</u>

Court Houses, Police Buildings, and Gaols—

	\$
Newcastle Court House—additional accommodation	524,600
Total	<u>\$524,600</u>

Miscellaneous—

	\$
State Government Offices—new building . . .	11,983,400
Lidcombe, Department of Public Health—scientific laboratories	1,690,600
Narrabri Government Offices—new office building	496,100
Albury Government Offices—new office building	431,900
Inverell Government Offices—new office building	399,800
Brewarrina Aborigines Reserve—erection of 30 cottages	193,200
Total	<u>\$15,195,000</u>

WORK COMMENCED AND COMPLETED DURING THE YEAR 1965-66

Hospitals—

	\$
Parramatta Psychiatric—3 medical officers' residences	55,400
Rydalmere—2 medical officers' residences and garages	34,400
Parramatta District—reroofing of prefabricated building	17,700
Total	<u>\$107,500</u>

Schools, Universities, and Technical Colleges—

	\$
Broadmeadow Junior High—stage 2	253,800
Cartwright Public—infants department additional accommodation	169,700
Berkeley Public—additional accommodation .	124,800
University of New England, Armidale—agricultural economics building, stage 2	102,400
Lake Cargelligo Central—additional accommodation	80,900
Ballina Public—additional accommodation . .	75,100
Windsor South Public—additional accommodation	59,500
Earlwood Public—additional accommodation .	55,800
Woollahra Demonstration—additional accommodation	51,600
Nowra Public School—additional accommodation	49,600
Girraween Public—brick veneer classroom block	47,800
Gunnedah South Public—additional accommodation	44,300
Dartford Public, Normanhurst West—additional accommodation	41,900
Quirindi Primary—new brick veneer building .	38,500
Marayong Public—additional accommodation .	35,300

Schools, Universities, and Technical Colleges—*continued*

	\$
Yowie Bay Public—additional accommodation .	33,300
Bathurst Teachers' College—alterations and additions to students' union	32,900
North Rocks Public—additional accommodation	32,900
Redhead Public—new classroom and toilet block	31,800
Mungindi Central—additional accommodation .	31,400
Loftus Public—additional accommodation . .	30,900
Valentine Public—additional accommodation .	29,300
Lawson Public—additional accommodation . .	28,400
Shellharbour Public—additional accommodation	25,800
Shortland Public—new classroom and toilet block	25,000
Goulburn East Public—additional accommodation	24,800
Bonnells Bay Public—additional accommodation	23,000
Monia Gap Public—new building	22,700
Dundas Public—additional accommodation . .	22,200
Hornsby Girls High—ground improvements .	21,800
Mulwala Public—new brick toilet and septic tank installation	19,600
Dubbo South Public—additional accommodation	19,100
Penrith South Public—additional accommodation	18,600
Ootha Public—additional accommodation . . .	18,300
Taree Public—new toilets	17,100
Numeralla Public—new toilet block and septic tank	16,800
Spring Ridge Public—septic tank system	15,900
Kent Road Public—additional accommodation .	14,400
Wauchope Public—sewerage connection	14,400
Nowra High—provision of covered way	13,300
Yanco Agricultural High—new coolroom plant and vegetable store	12,500
Gravesend Public—new toilets and septic system	11,000
Total	<u>\$1,838,200</u>

Miscellaneous—

	\$
The Australian Museum, College Street—refitting of southern gallery	14,400
Narrandera Inland Fisheries Research Station—annexe to laboratory building	12,700
Total	<u>\$27,100</u>

WORK COMMENCED DURING THE YEAR 1965-66 AND STILL IN PROGRESS

Hospitals—

	\$
Rydalmere—new geriatric units, activity buildings and boiler house	1,830,400
Parramatta Psychiatric Centre—new medical unit	1,103,000
Allandale, Cessnock—alterations and additions	937,500
Grafton Base—nurses' home training school and maternity unit	877,300
Ryde North Psychiatric Centre—two 40-bed wards for adult patients	819,200
Stockton—new wards 16 and 17	696,100
Ryde North Psychiatric Centre—acute observation ward	600,500
Morisset—new laundry	285,600
Gladesville—new boiler house	227,600
Prince Henry—institute of tropical medicine .	160,900
Newcastle Psychiatric Centre—physiotherapy building	59,100
Portland District—connection to town sewerage	16,500
Tullamore District—sewerage installation and alterations	15,900
Total	<u>\$7,629,600</u>

Schools, Universities, and Technical Colleges—

	\$
North Wollongong Technical College—stage 3B	1,263,800
Beresfield High—stage 1	882,600
Belmont Technical College—new building	830,200
Coonamble Intermediate High—additional accommodation	733,400
Macquarie University—library, stage 1	703,200
Hornsby Technical College—stage 1	672,000
Pennant Hills High—stages 1 and 2	511,100
Muswellbrook High—additional accommodation	454,500
Condobolin High—stage 1	424,100
Bathurst Teachers College—women's dormitory block	405,000
Griffith High—additional accommodation	394,900
University of New England, Armidale—faculty of arts building	382,600
Mount Austin High—stage 3	373,800
Gunnedah High—additional accommodation	358,200
Gunnedah Technical College—new buildings and alterations	342,200
Nowra Technical College—new building	315,600
Barham Central—additional accommodation	302,700
University of New England, Duval College—new dining hall	292,700
Booragul High—new classroom block	286,800
Wee Waa Central—additions	279,000
Albury North High—extensions blocks A, B, and C	265,800
Jesmond High—A and B classrooms and partially sighted unit	258,500
Finley High—additional accommodation	244,800
Gunnedah Public—additional accommodation	244,100
Orange Infants—new building	237,100
Kempsey High—additional accommodation	236,700
University of New England, Earl Page College—stage 2	226,100
South Grafton High—classroom and manual arts block	215,600
Tooleybuc Central—additional accommodation	203,800
Armidale West Public—additional accommodation and alterations	188,900
Newcastle Boys' High—alterations and additions	186,600
Mullimbimby High—additions and alterations	163,000
Balgowlah Heights Public—additional accommodation	162,800
Boorowa Central—blocks A, B, C, D and F	147,800
Khancoban Public—additional accommodation	147,000
Murrumburrah High—new classroom block and alterations	143,800
Goonellabah Public—new primary stages 1 and 2	135,200
Gloucester Public—new classrooms, toilets and administration offices	126,700
Bomaderry Public—additional accommodation	108,200
Queanbeyan East Public—additional accommodation	105,900
Nyngan Intermediate High—new classroom block, extensions to kindergarten and alterations	105,900
Mulyan, Cowra Central—additional accommodation	101,800
Griffith East Public—new infants' department	81,900
Mudgee Public—additional accommodation and alterations	78,000
Talbingo Public—new school	77,400
Bundarra Central—additional accommodation	76,100
Moruya Public—additional accommodation	71,200
Wollongong West Public—alterations and additions	64,900
Heaton Public—five new brick-veneer classrooms	60,600
Lakelands Public—additional accommodation	58,700
Ashford Central—additional accommodation	54,500
Kendall District Rural—additional accommodation	52,000
Wilcannia Public—timber-framed classroom	47,200
Granville Technical College—roadways and parking	42,700
Queanbeyan West Public—additional accommodation	41,000
Lake Cargelligo Central—additional accommodation	40,400

Schools, Universities, and Technical Colleges—*continued*

	\$
Barraba Central—additional accommodation	39,000
Bathurst Teachers' College Students' Union Stage 3—new music practice room	37,000
Glenbrook Public—additional accommodation	35,600
Leeton Public—new infants' and primary classrooms	33,700
Trundle Central—toilet and helter block	32,200
Menindee Central—additional accommodation	32,200
Gundagai South Public—additional accommodation	31,300
Marulan Public—additional accommodation	27,200
Lavington East Public—alterations and additions	26,100
Spring Terrace Public—additional accommodation	23,500
University of New England—boiler house stage 2 services areas	23,300
Faulconbridge Public—additional accommodation	21,200
Berridale Public—new kindergarten classroom	20,800
Cudal Central—new toilets and septic sewerage	18,600
Wirrinya Public—additional accommodation	18,300
Robertson Public—new brick toilets	17,700
Yanco Public—additional accommodation	17,000
Elmwood Public—additional accommodation	16,200
Lake Munmorah Public—additional accommodation	15,900
O'Connell Public—additional accommodation	15,000
Kelso Public—additional accommodation	14,800
Hawkesbury Public Agricultural College—extensions to boiler house	14,000
Point Clare Public—septic sewerage installation	12,500
Attunga Public—new toilets and septic sewerage installation	11,400
Sherwood Grange Public—installation of septic tank	10,800
Total	<u>\$15,576,400</u>

Court Houses, Police Buildings, and Gaols—

	\$
Fairfield Court House—new buildings	217,600
Port Kembla Court House—alterations and additions	197,800
Campbelltown Court House—alterations and additions	186,500
Walgett—new police station and residence	99,900
Carinda Police Station and Court House—new buildings	88,400
Total	<u>\$790,200</u>

Miscellaneous—

	\$
Goulburn Building Construction and Maintenance Branch—new building	244,800
Newcastle Child Welfare Centre—new building	113,500
Port Kembla Depot—new bulk store	102,700
Londonderry Department of Mines—erection and completion of code library unit No. 1	75,100
Balranda Aboriginals' Reserve—erection of 6 timber-framed cottages	38,700
Tingha Aboriginals' Reserve—erection of 4 timber-framed cottages	29,100
Balranda Aboriginals' Reserve—erection of 3 timber-framed cottages	19,200
Coonabarabran Aboriginals' Reserve—erection of 2 timber-framed cottages	14,600
Total	<u>\$637,700</u>

APPENDIX V

BUILDING CONSTRUCTION AND MAINTENANCE

FUNCTIONS

(1) The maintenance and renovation of public buildings, including State and Psychiatric hospitals.

(2) Construction, remodelling and additions to public buildings, including State and psychiatric hospitals, by day labour.

(3) Construction, alterations and maintenance of buildings by day labour for other Departments and Instrumentalities including the Hospitals Commission of New South Wales, Public Health Department, Government Real Estate Office, Department of Technical Education, Child Welfare Department, etc.

(4) Maintenance of schools from funds provided by the Education Department.

(5) Prefabrication and erection of timber and brick veneer classrooms from funds provided by the Department of Education.

(6) Inspection and treatment of termite, borer, and other pest infestation in public buildings and institutions.

(7) Inspection and preparation of reports, and estimates for general maintenance and miscellaneous works to be carried out by day labour within the metropolitan area.

(8) Preparation of specifications and supervision of works to be carried out by contract.

(9) Arranging continuous supply of materials and plant for works carried out by the branch.

(10) The maintenance of emergency services after normal working hours in respect of plumbing, building and electrical services in public buildings.

OPERATIONS

Finance

The upward trend in branch activities has continued and is reflected in the following expenditure figures for the current year compared with the previous two years.

	1963-64	1964-65	1965-66
	\$	\$	\$
Revenue Vote Public Buildings	1,527,982	1,530,674	1,680,500
Revenue Vote N.E.I.	69,842	104,344	125,768
Hospitals Commission Suspense		105,586	23,562
Loan Votes	1,883,706	2,509,822	2,051,541
Other Departments	7,392,198	7,014,984	8,128,431
	\$ 10,873,728	11,265,410	12,009,802

The activities of the various sections of the branch are summarized as follows:

Maintenance

Expenditure on maintenance and alterations to public buildings in the metropolitan area totalled \$4,430,019, distributed as follows:

	\$
Revenue Vote	1,680,500
Revenue Vote (not elsewhere included)	125,768
Loan Vote Public Buildings, Police Buildings, etc.	245,832
Loan Vote State Hospitals	161,281
Loan Vote Psychiatric Hospitals	1,532,136
Loan Vote Child Welfare Department	112,292
Technical Education	256,319
Hospitals Commission Suspense	23,562
Services Other Departments	292,329
	<u>\$4,430,019</u>

The main works carried out under these approvals were:

Revenue Vote (public buildings)—	
Court Houses Generally	155,000
Randwick Auxiliary Hospital	24,000
Gladesville Hospital	48,000
Lidcombe State Hospital	30,000
Garrawarra Hospital	35,000
Parramatta Hospital	122,000
Callan Park Hospital	129,000
Rydalmere Hospital	87,000
Peat and Milson Island Hospital	61,000
Registrar-General's Department	203,000
Parliament House	78,000
Police Buildings	274,000
Loan Vote (public buildings)—	
Parliament House	14,000
P.W.D.—Burrows Road Depot	23,000
Registrar-General's Department	100,000
Loan Vote (Psychiatric Hospitals)—	
Broughton Hall	65,000
Callan Park	219,000
Gladesville	460,000
Parramatta	397,000
Peat and Milson Island	19,000
Rydalmere	342,000
Loan Vote (State Hospitals)—	
Lidcombe	152,000
Strickland	28,000
Loan Vote (Courts and Prisons)—	
State Penitentiary	100,000
Loan Vote—Child Welfare Department—	
Raith—Campbelltown	97,000

The work carried out with funds from the Revenue Vote Public Buildings was mainly maintenance work. In the case of the State and Psychiatric Hospitals it involved the implementing of a large maintenance programme authorized by the Department of Public Health.

Considerable maintenance work was carried out on Court Houses. Work continued at the Registrar-General's Department and comprised further extensive renovations to the old building.

LOAN VOTE PUBLIC BUILDINGS

Loan Vote Public Buildings covered alterations to the east wing roof area, the provision of new accommodation, fire escape and book lift at the Registrar-General's Department.

At Burrows Road Depot, the provision of new amenities block was placed in hand and new workshops were completed for the painters and electricians.

LOAN VOTE (COURTS AND PRISONS)

Further extensions to plumbing, electrical and mechanical services continued at Long Bay Penitentiary.



Callan Park Chapel

LOAN VOTE CHILD WELFARE DEPARTMENT

The complete renovation of two old buildings, construction of a new laundry and installation of equipment was carried out on behalf of the Child Welfare Department at Raith—Campbelltown.

LOAN VOTE STATE HOSPITALS

Loan Vote State Hospitals included extensive alterations at Lidcombe and Strickland State Hospitals.

LOAN VOTE PSYCHIATRIC HOSPITALS

A large programme of renovations and alterations is in progress at all Psychiatric Hospitals. Planning was undertaken in collaboration with the Department of Public Health.

Major works in progress during the year were as follows:

	Expenditure 1965-66 \$
Parramatta Psychiatric Hospital—Remodelling of Male Wards A, B, C, and D	380,000
Rydalmere Psychiatric Hospital—Wards 1 and 2, Remodelling—Additions and Renovating	310,000
Gladesville Psychiatric Hospital—Wards 3 and 4, Complete remodelling and Renovations	280,000
Callan Park Psychiatric Hospital—Recreation Hall and Chapel—Complete Remodelling and Renovations	164,000

School Maintenance Section

Maintenance works on schools and school properties in the Metropolitan Area were carried out to a value of \$2,638,568. Funds were provided by the Department of Education and the works carried out to a programme mutually agreed upon by Officers of the Departments of Education and Public Works.

The Department of Education made funds available under the following allocations:

	\$
(1) Central, Southern, and Northern Area Special Deposits and Maintenance Works	1,918,000
(2) Western Area Maintenance Works	508,000
(3) Western Area—Minor and Urgent Minor Works	100,000
(4) Central, Southern, and Northern Areas Minor and Urgent Minor Works	400,000

Approximately \$218,000 of the abovementioned allocations were transferred to the Metropolitan Engineer's Branch for the implementation of an approved programme of works.

Included in the expenditure of \$2,638,568 were funds provided by the Education Department for the maintenance of Teachers' Colleges, works financed from a local tender allocation and the Treasury Fire Risk Account. The approximate value of these works was \$108,000.

In addition to this section's expenditure the Education Department provided loan funds to carry out sewerage works and additional accommodation for schools involving an expenditure of approximately \$371,000. (This expenditure has been included in the figure given under the construction section, i.e., \$4,941,213.)

Major maintenance works were carried out or are in progress at the following schools:

METROPOLITAN AREA

	Estimated Cost
	\$
Arncliffe West Public School	12,396
Blakehurst Public School	34,138
Camdenville Public School	18,536
Chester Hill Public School	18,628
Chester Hill North Public School	9,746
Croydon Park Public School	32,500
Eastlakes Public School	8,360
Enmore Boys' High School	78,030
Erskineville Public School	64,700
Five Dock Public School	26,988
Gordon West Public School	30,332
James Cook and Moorefield Girls' High School	19,720
Jannali Girls' High School	8,526
Kingsgrove Infants' School	23,000
Lindfield East Public School	10,360
Loftus Special School	25,808
Narrabeen Boys' High School	34,068
Newtown Boys' Junior High School	9,468
Peakhurst West Public School	7,986
Pennant Hills West Public School	5,630
Redfern Central School	6,997
Revesby South Public School	54,090
Riverwood Public School	6,180
Ryde High School	4,316
Strathfield South High School	7,066
Strathfield North Public School	47,728
Sutherland Public School	6,637
Sydney Boys' High School	94,621
Sydney Teachers' College	16,650
Woollahra Public School	34,938
Yowie Bay Public School	3,896

WESTERN AREA

	Estimated Cost
	\$
Ashcroft Public School	20,000
Blacktown Public School	14,000
Burnside Public School	11,586
Busby Public School	8,000
Cabramatta West Public School	26,190
Campbelltown Public School	25,348
Canley Heights Public School	31,272
Fairfield Public School	25,052
Fairfield West Public School	8,434
Heckenberg Public School	4,850
Hurlstone Agricultural High School	22,422
Lurnea Public School	21,702
Merrylands Public School	67,644
Merrylands East Public School	4,990
Parramatta West Public School	5,192
Penrith High School	16,310
Sadlier Public School	26,000
Toongabbie Public School	16,830
Villawood East Public School	21,282

COUNTRY DISTRICTS

During the year an amount of approximately \$1,850,000 was expended on the maintenance and repair of school buildings in country areas either by contract or by the day labour staff at the various building maintenance depots on behalf of the Education Department.

In addition to this amount \$877,805 was expended on the repairs and maintenance of public buildings from the Revenue Vote allocation.

Loan and revenue funds were also made available for day labour works at Bloomfield, Kenmore, Morisset, Newcastle, Stockton, Tomaree, and Cessnock Hospitals.

A considerable amount of work was also carried out for client departments, namely Chief Secretary's Department, Hospitals Commission of New South Wales, Department of Tourist Activities, etc.

The day labour staff attached to the building maintenance depots at 30th June, 1966, was 757.

P 89607—5

The construction of 27 new cottages and one clinic at Moree Aborigines Reserve was commenced by the day labour staff, Tamworth.

This work is estimated to cost \$173,800, funds being provided by the Chief Secretary's Department, and was approximately 70 per cent complete at the end of the financial year.

Construction Section

This section is concerned mainly with the construction of new buildings on behalf of the Education Department.

A total of 234 classrooms at 79 schools in the Metropolitan Area were completed by the day labour staff. Other works carried out for the Education Department such as septic tanks, sewerage, alterations and renovations, additions of staffrooms, offices, clinics, storerooms, administration blocks, etc., were also completed. Total expenditure for the twelve months period was approximately \$4,941,213. It is pointed out, however, that this expenditure figure includes contract work supervised by the Branch, details of such work being shown under estimating and contract section which will be covered further in this report.

Major school projects completed during the year by day labour were:

School—	\$
Collaroy Plateau West	54,382
Cromer	57,034
Chifley	65,730
Londonderry	38,904
Telopea	69,072
Preston	34,794
Hornsby South	96,400
Wahroonga	74,874
Normanhurst	130,908
Smithfield	71,870
Berowra	40,160
Cranbrook	29,920
Toongabbie East	107,340
Condell Park	101,794
Busby	70,600
Ringrose Avenue	49,704
Hornsby North	34,440
Lilli Pilli	34,800
Vaucluse	44,060
Pendle Hill	107,120
Richmond North	37,640
Merrylands East	57,220
Mt Druiitt	138,360
Warrawee	40,606
Miller	82,328
Blacktown South	77,160
St Ives North	97,490
Lurnea	56,540
Glenfield	80,200
St Johns Park	104,100
Helensburgh	47,400
Connells Point	107,932
Mona Vale	146,480
Mt Pritchard East	92,000
Picnic Point	61,200
Blacktown West	58,040
Marayong	122,660
Belrose South	120,380
Forestville	134,860
Ryde East	46,220
Epping North	86,200
Mount Ku-ring-gai	54,600
Roselea	98,600
Lugarno	40,000
Sadlier	66,600
Leppington	50,820
Holsworthy	67,980
Macquarie Fields	45,500
Panania North	52,562
Miranda North	34,670
Hill Top Road	39,940

Estimating and Contract Section

Twenty-nine estimators are engaged on the preparation of reports, specifications and estimates for the general maintenance and construction of buildings for work to be carried out by either the day labour staff or by contract in the Metropolitan Area.

Funds for these works are provided from the Department's votes or by Client Departments.

Contracts arranged by the Department are also supervised from this section and some of the major works carried out on behalf of the Education Department during the year were as follows:

	\$
Allambie Heights School	25,738
Balgowlah Public School	162,754
Bilpin Public School	11,574
Cartwright Public School	163,210
Dundas Public School	21,336
Earlwood Public School	53,670
Girraween Public School	46,084
Loftus Public School	29,744
Lawson Public School	27,318
Normanhurst West School	40,288
North Rocks School	31,772
Penrith South School	17,988
The Oaks School	14,660
Woollahra School	49,622
Windsor South School	57,160
Yowie Bay School	31,986

Expenditure in respect of the abovementioned contracts has been included in the figures supplied in the construction section of this report (i.e., \$4,941,213).

Pest Control Section

This section treated 473 infestations of various insects in public buildings in the Metropolitan Area whilst officers stationed at Newcastle, Wagga and Tamworth treated 589 cases.

Eight country visits were completed by officers from the Metropolitan Area at 96 buildings in the Goulburn, Orange and Port Kembla districts.

Pretreatment of foundations of new school buildings continued and 165 new projects were given attention.

REPRESENTATION ON COMMITTEES

The Branch was represented on the following Committees:

- Standards Association Committee on Terra Cotta roofing tiles.
- Scaffolding and Riggers Committee (Department of Technical Education).
- University of New South Wales Building Advisory Committee.
- Carpentry and Joinery Advisory Committee (Department of Technical Education).
- Building Foreman and Clerk of Works Certificate Course Advisory Committee (Department of Technical Education).
- N.S.W. Inter Departmental Apprenticeship Group.

GENERAL

Day Labour Staff

The day labour staff in the Metropolitan Area employed on 30th June, 1966, totalled 1,876 as compared with 2,065 on 30th June, 1965.

Improvements in methods of work

Extensive use was again made of mechanical equipment such as brick elevators, trenchers for the excavation of foundations, sewer and power lines, etc. The use of the radio-equipped vehicles assisted in the performance of urgent minor works.

The review of the organization of the branch was continued by officers of W. D. Scott & Co. Pty Ltd (private consultants), Public Service Board and the Department and has progressed to a degree where recommendations for re-organization are under consideration.

APPENDIX VI

LOCAL GOVERNMENT ENGINEERING

FUNCTIONS

The functions of the Local Government Engineer's Branch are:

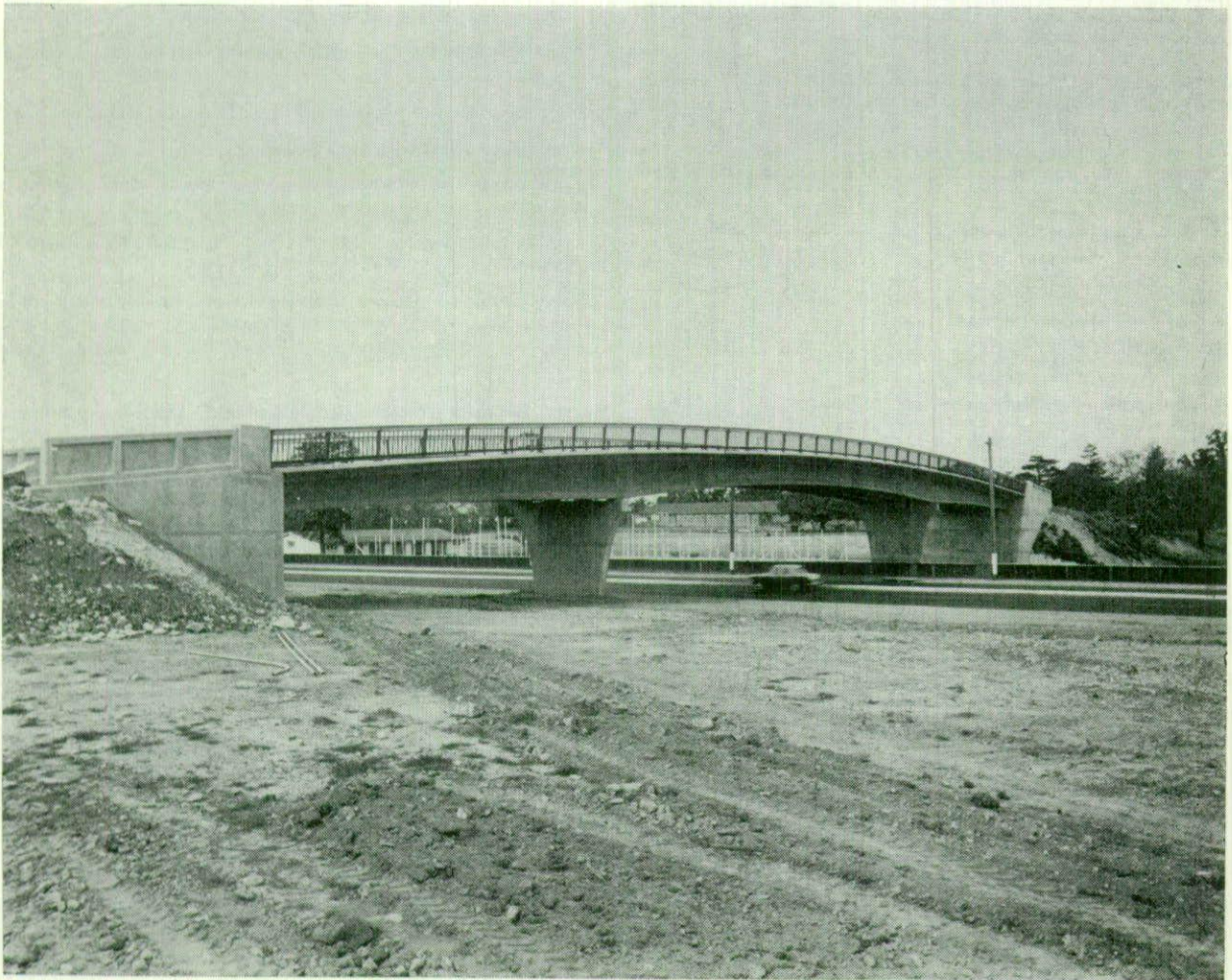
- (1) The examination of detailed applications, plans, specifications and estimates submitted by Shire, Municipal, and City Councils in respect of:
 - (a) Annual allocations for rural road construction, of funds provided under the Commonwealth Aid Road Act, 1964.
 - (b) Grants, in respect of approved proposals, for the construction of bridges to replace subsidized ferries on rural roads, under the C.A.R. Act, 1964.
 - (c) Grants towards the restoration of flood, storm, and bush fire damage to roads, bridges, and other Council properties.
 - (d) Grants towards the cost of construction, repair, and renewal of works.
 - (e) Grants towards the construction of swimming pools in country towns.
 - (f) Grants for the relief of unemployment.
- (2) The overriding supervision of the construction of works approved in the foregoing programmes.
- (3) The overriding supervision on behalf of the Local Government Department, of grant programmes for road construction, public buildings and improvements to public recreation reserves.
- (4) The examination in respect of Loan Applications of plans, specifications and estimates submitted by Councils to the Local Government Department for roads, bridges, drainage schemes, swimming pools, town improvements, etc.
- (5) The maintenance of landing grounds in the Western Division for the Flying Doctor Service.
- (6) The planning including survey, design, preparation of specifications and estimates and the supervision of construction and maintenance of roads, bridges, drainage, ground improvements, swimming pools, etc., for client Departments such as Health, Education, Technical Education, Child Welfare, etc.

OPERATIONS

Grants to Councils

Four hundred and fifty-eight grants totalling \$14,563,870.93 were allocated to Local Government authorities from the following sources:

	\$
Commonwealth Aid Roads Act, 1964	14,202,657.27
Revenue Vote to Assist	109,939.66
Loan Vote (swimming pools)	160,000.00
Revenue Vote (flood damage)	61,274.00
Revenue Vote (Lismore swamp reclamation)	30,000.00
	\$14,563,870.93



Rydalmere Hospital Bridge over Victoria Road

Subsidized Works Undertaken by Councils

One hundred and eight grants totalling \$109,940 from Revenue Vote were approved to assist Councils toward repair, renewal, and construction programmes.

Thirty thousand dollars was paid to Lismore City Council from Revenue Vote towards swamp reclamation at Brown's Creek.

Restoration of Flood and Storm Damage

Grants totalling \$267,473 from Commonwealth Aid Road Act funds were distributed to thirty-one Councils towards the restoration of flood and storm damage to roads, bridges, etc.

Sixty-one thousand two hundred and seventy-four dollars was paid to four Councils from Revenue Vote towards the restoration of flood and storm damage to works and construction of levee banks.

Swimming Pools—Country Towns

Twenty-six grants totalling \$160,000 were provided from Loan Funds in terms of the policy to subsidize the construction of swimming pools in country towns on the basis of 25 per cent of the actual cost to a maximum of \$20,000 in each instance. The distribution of this amount represents the final payment to eight Councils and instalments to the balance. The Department distributes these grants in instalments over a period not exceeding three years to enable the maximum number of projects to proceed.

Commonwealth Aid Road Act, 1964

Funds totalling \$1,400,000 were made available to the Department of Main Roads for expenditure on developmental roads and works and unclassified roads in the Western Division of the State, classified as rural roads under the Act, \$250,000 to Forestry Commission for road construction works in forest areas and \$20,000 to Soil Conservation Service for erosion control works on roads.

A total of 319 grants were made to Shire and Municipal Councils aggregating \$13,644,657.27 as follows:

	\$
Grants to country shires	10,722,971.80
Metropolitan shires	132,000.00
Special municipalities and cities	408,000.00
Classified municipalities	286,000.00
Unclassified municipalities	554,400.00
Flood and storm damage	267,472.71
Bridges to replace ferries	211,323.67
Road dedication surveys	3,097.00
Level crossing replacement	1,585.86
Special grants, Item 13	210,077.11
Bridge subsidy	827,729.12
	\$13,644,657.27

There was a reciprocal arrangement for exchange of funds amounting to \$558,000 between this Department and the Department of Main Roads; the funds to the D.M.R. being used for the construction and maintenance of roads, bridges, etc., and for this Department to construct works associated with water transport.

The construction of prestressed or post-tensioned concreted bridges to replace ferries on rural roads were advanced to the following stages:

Hastings Shire—Laurieton Bridge—Under construction.
 Maclean Shire—Goodwood Island—Under construction.
 Manning Shire—Dumaresq Island—Tenders accepted.
 Port Stephens Shire—Seaham—Designs being prepared.
 Colo Shire—Colo River—Designs being prepared.
 Gundurimba Shire—Wyrallah—Designs being prepared.

Three thousand and ninety-seven dollars was disbursed to Councils for road dedication surveys in their areas.

Two hundred and ten thousand and seventy-eight dollars was disbursed to twenty-eight Councils as a special grant for the construction of bank protection works, access roads to special facilities, etc.

An amount of \$1,586 was expended on level crossing improvements during the year.

An amount of \$827,729 was disbursed to forty-eight shire and municipal councils as a special subsidy towards the construction of bridges on rural roads in their areas.

Local Government Department

Numerous requests from the Local Government Department for technical advice were dealt with in connection with applications for loans for the construction of roads, bridges, swimming pools, drainage, kerbing and guttering, footpaths, etc.

Arrangements were also made for the supervision of grant programmes determined by the Local Government Department.

Roads and Other Works in Government Institutions

Reports, estimates, designs, and construction of works were arranged on behalf of the Lands Department, Hospitals Commission of New South Wales, Department of Education, Metropolitan Meat Industry Board, and Public Health Department.

The construction and maintenance of roads, bridges, and all works in Government Institutions were arranged as required and carried out under supervision in the metropolitan and country areas.

Representations on Committees

Circular Quay Supervisory Committee.

Committees of the Standards Association of Australia.

Interdepartmental Committee for the Improvement of Railway Level Crossings.

Interdepartmental Committee for Drought Relief.

Committee for Road Sign Standards.

Committee for School Swimming Pools—Department of Education.

Committee for School Playing Fields—Department of Education.

Supervision of Crown Lands Committee—Department of Lands.

Special Deposits Account—Commonwealth Aid Roads—Summary of Expenditure for year ended 30th June, 1966

	\$
Item 2 Department of Main Roads	558,000.00
Item 3 Country shires—	\$
Grants	10,722,930.00
Engineering design, etc.	41.80
	10,722,971.80
Item 4 Metropolitan shires	132,000.00
Item 5 Special municipalities and cities	408,000.00
Item 6 Classified municipalities	286,000.00
Item 7 Unclassified municipalities	554,400.00
Item 8 Bridges to replace ferries	211,323.67
Item 9 Flood damage (see Item 9 Summary)	267,472.71
Item 10 Road dedication surveys	3,097.00
Item 11 Replacement of level crossings	1,585.86
Item 13 Special purposes	210,077.11
Item 14 Bridge subsidy—	
Grants	818,075.00
Engineering design, etc.	9,654.12
	827,729.12
Item 15 Soil conservation service	20,000.00
	\$14,202,657.27

314—Special Deposits Account—Commonwealth Aid Roads—
Item 3—Country Shires—Details of Expenditure for year
ended 30th June, 1966

Shire Council	\$
Abercrombie	79,520
Ashford	79,240
Balranald	78,020
Barraba	77,340
Bellingen	95,480
Berrigan	78,920
Bibbenluke	79,600
Bingara	75,340
Bland	81,740
Blaxland	79,400
Bogan	78,860
Boolaroo	81,140
Boomi	85,220
Boorowa	78,640
Boree	80,860
Brewarrina	78,920
Burrangong	80,820
Byron	80,200
Canobolas	77,640
Carrathool	82,500
Central Darling	79,760
Cobar	79,100
Cockburn	88,720
Coff's Harbour	87,600
Colo	82,340
Conargo	77,320
Coolah	82,560
Coolamon	77,540
Coonabarabran	83,540
Coonamble	88,040
Companhurst	87,440
Corowa	80,120
Crookwell	78,740
Cudgegong	86,040
Culcairn	79,480
Darling	80,560
Demondrille	78,200
Dumaresq	84,380
Dungog	95,340
Eurobodalla	90,720
Gilgandra	81,520
Gloucester	86,780
Goobang	81,200
Goodradigbee	79,300
Gosford	82,440
Gundagai	83,150
Greater Cessnock City	92,240
Gundurimba	77,460
Gunning	74,760
Guyra	80,120
Hastings	91,600
Hay	76,980
Holbrook	77,380
Hume	80,940
Illabo	79,020
Imlay	81,880
Jemalong	89,900
Jerilderie	78,780
Jindalee	74,880
Kyemba	81,340
Kyogle	97,640
Lachlan	83,320
Lake Macquarie	82,880
Leeton	77,320
Liverpool Plains	81,440
Lockhart	79,040
Lyndhurst	83,520
McIntyre	77,040
Macleay	81,260
Macleay	93,160
Manilla	78,860
Manning	98,640
Merriwa	76,600
Mitchell	78,040
Mittagong	73,860
Molong	79,400
Monaro	82,360
Mulwree	85,600
Mumbula	88,140
Murray	87,660
Murrumbidgee	73,520
Murrurundi	78,420
Muswellbrook	80,380
Nambucca	95,620
Namoi	85,920
Narraburra	79,600
Narrandera	83,740
Nundle	75,960
Nymboida	94,060

Shire Council—

	\$
Oberon	77,360
Patrick Plains	89,940
Peel	84,580
Port Stephens	76,040
Rylstone	77,780
Scone	80,200
Severn	86,600
Shoalhaven	93,440
Snowy River	85,460
Stroud	82,160
Talbragar	79,200
Tallaganda	81,040
Tamarang	78,000
Tenterfield	93,740
Terania	93,660
Timbregongie	78,160
Tintenbar	79,320
Tomki	87,220
Tumbarumba	76,680
Tumut	81,040
Turon	82,040
Tweed	96,780
Ulmarra	82,240
Uralla	84,640
Urana	78,880
Wade	79,340
Wakool	96,420
Walcha	86,660
Walgett	87,600
Warren	87,940
Waugoola	83,980
Weddin	79,780
Wellington	81,680
Wentworth	80,560
Windooran	75,660
Wingecarribee	74,940
Wollondilly	80,620
Woodburn	79,360
Wyong	85,820
Yallaro	78,380
Yarrolumla	76,380
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	10,722,930

ENGINEERING DESIGN, ETC., CHARGES

	\$
Conargo Shire	2.40
Culcairn Shire	14.50
Dumaresq Shire	2.00
Snowy River Shire	7.70
Tenterfield Shire	15.20
	<hr/>
	41.80
	<hr/>
	\$10,722,971.80

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 4—Metropolitan Shires—Details of expenditure for
year ended 30th June, 1966

Shire Council—	\$
Baulkham Hills	33,000
Hornsby	33,000
Sutherland	33,000
Warringah	33,000
	<hr/>
	\$132,000

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 5—Special Municipalities and Cities—Details of
expenditure for year ended 30th June, 1966

Council—	\$
Blacktown Municipal	46,600
Blue Mountains City	40,000
Camden Municipal	38,200
Campbelltown Municipal	40,400
Kiama Municipal	37,200
Liverpool City	39,400
Maitland City	42,000
Newcastle City	37,000
Penrith City	40,000
Greater Wollongong City	47,200
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	\$408,000

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 6—Details of expenditure for year ended 30th June,
1966

Municipal Council—	\$
Condobolin	22,000
Deniliquin	22,000
Fairfield	22,000
Forbes	22,000
Glen Innes	22,000
Inverell	22,000
Parkes	22,000
Peak Hill	22,000
Port Macquarie	22,000
Shellharbour	22,000
Tenterfield	22,000
Windsor	22,000
Yass	22,000
	<hr/>
	\$286,000

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 7—Details of Expenditure for year ended 30th June, 1966

Municipal Council—	\$
Albury	13,200
Armidale	13,200
Ballina	13,200
Bathurst	13,200
Bega	13,200
Bombala	13,200
Bowral	13,200
Broken Hill	13,200
Casino	13,200
Cooma	13,200
Cootamundra	13,200
Cowra	13,200
Dubbo	13,200
Goulburn	13,200
Grafton	13,200
Grenfell	13,200
Gunnedah	13,200
Holroyd	13,200
Junee	13,200
Kempsey	13,200
Lismore	13,200
Lithgow	13,200
Lord Howe Island Board	13,200
Moree	13,200
Mudgee	13,200
Mullumbimby	13,200
Murrumburrah	13,200
Muswellbrook	13,200
Narrabri	13,200
Narromine	13,200
Nyngan	13,200
Orange	13,200
Parramatta	13,200
Queanbeyan	13,200
Quirindi	13,200
Singleton	13,200
Tamworth	13,200
Taree	13,200
Temora	13,200
Wagga Wagga	13,200
Wingham	13,200
Young	13,200
	<hr/>
	\$554,400

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 8—Expenditure for year ended 30th June, 1966

Council—	Bridge—	\$
Colo Shire	Colo River	1,054.33
Gundurimba Shire	Wyrallah	1,998.05
Hastings Shire	Laurieton	174,428.44
Maclean Shire	Goodwood Island	16,096.12
Port Stephens Shire	Seaham Island	283.05
Taree Municipal	Dumaresq Island	7,581.57
		<hr/>
		201,441.56
		<hr/>
		\$
General charges not applicable to any one of the above bridges—		
Edwards Buildings Services		7,755.84
Manly Hydraulic Laboratory—		
Soil investigation	1,840.69	
Bridge beam expenditure	232.33	
	<hr/>	
		2,073.02
Motor Vehicle Hire		53.25
		<hr/>
		9,882.11
		<hr/>
		\$211,323.67

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 9—Details of expenditure for year ended 30th June,
1966

Council—	\$
Barraba Shire	30,000.00
Bellingen Shire	600.00
Bibbenluke Shire	200.00
Cockburn Shire	16,286.38
Colo Shire	14,416.00
Cowra Municipal	1,400.00
Dungog Shire	2,444.00
Lake Macquarie Shire	2,100.00
Macleay Shire	40,000.00
Mitchell Shire	378.00
Mulwaree Shire	3,306.00
Muswellbrook Shire	135,000.00
Rylstone Shire	200.00
Scone Shire	260.00
Temora Municipal	924.00
Tenterfield Shire	1,780.00
Tomki Shire	300.00
Tweed Shire	2,360.00
Woodburn Shire	724.00
Yallaro Shire	820.00
	<hr/>
	\$253,498.38

ENGINEERING DESIGN, ETC., CHARGES

	\$
Blue Mountains City	1,559.34
Boorowa Shire	1.00
Gloucester Shire	4.20
Hastings Shire	2,434.60
Imlay Shire	335.98
Macleay Shire	220.53
Muswellbrook Shire	362.51
	<hr/>
	\$4,918.16

HUNTER VALLEY FLOOD MITIGATION \$9,671.30

REFUNDS CREDITED

	\$
Dumaresq Shire	292.84
Hastings Shire	112.43
Stroud Shire	97.66
Uralla Shire	112.20
	<hr/>
	\$615.13

SUMMARY

	£
Grants to Councils	253,498.38
Engineering design, etc., charges	4,918.16
Hunter Valley Flood Mitigation	9,671.30
	<hr/>
	268,087.84
Less refunds received	615.13
	<hr/>
	\$267,472.71

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 10—Road Dedication Surveys

Council—	\$
Balranald Shire	2,796.40
Brewarrina Shire	300.60
	<hr/>
	\$3,097.00

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 11—Replacement of Level Crossings

Council—	\$
Bogan Shire (Widening of level crossing) ..	148.67
Burrangong Shire (Widening of level crossing)	509.83
Demondrille Shire (Level crossing at Nubba)	170.00
Patrick Plains Shire (Glennis Creek level crossing)	466.21
Tenterfield Shire (Removal of unattended gates at Sunnyside)	291.15
	<hr/>
	\$1,585.86

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 13—Special Purposes—Details of expenditure for year
ended 30th June, 1966

Council—	\$
Balranald Shire	13,570.00
Bellingen Shire	6,000.00
Bogan Shire	8,000.00
Brewarrina Shire	11,000.00
Carrathool Shire	8,000.00
Central Darling Shire	8,000.00
Cobar Shire	13,000.00
Colo Shire	2,800.00
Coonabarabran Shire	6,000.00
Darling Shire	13,000.00
Dumaresq Shire	1,680.00
Eurobodalla Shire	4,000.00
Greater Cessnock City	371.11
Hay Shire	19,000.00
Kyogle Shire	1,100.00
Lachlan Shire	7,100.00
Lake Macquarie Shire	1,500.00
Leeton Shire	820.00
Namoi Shire	6,636.00
Oberon Shire	19,000.00
Patrick Plains Shire	6,000.00
Port Macquarie Municipal	5,000.00
Rylstone Shire	20,000.00
Tallaganda Shire	2,500.00
Tweed Shire	10,000.00
Walgett Shire	8,000.00
Wentworth Shire	8,000.00
	<hr/>
	\$210,077.11

ENGINEERING DESIGN, ETC., CHARGES

	\$	\$
Barraba Shire	5.70	
Burrongong Shire	176.40	
Central Darling Shire	23.18	
Cockburn Shire	19.69	
Colo Shire	836.01	
Condobolin Municipal	.30	
Cudgegong Shire	236.81	
Darling Shire	.40	
Dungong Shire	299.01	
Eurobodalla Shire	19.60	
Gloucester Shire	444.26	
Goodradigbee Shire	457.91	
Gunning Shire	10.90	
Illabo Shire	646.28	
Imlay Shire	291.56	
Kyogle Shire	12.60	
Manning and Port Stephens Shires	1,210.51	
Molong Shires	154.55	
Monaro Shire	3.10	
Moree Municipal	.90	
Murray Shire	345.58	
Muswellbrook Shire	13.80	
Nundle Shire	1.90	
Parramatta Municipal	575.11	
Peel Shire	363.29	
Severn Shire	7.40	
Shoalhaven Shire	232.88	
Snowy River Shire	8.30	
Terania Shire	352.11	
Tomki Shire	213.79	
Tumbarumba Shire	3.70	
Turon Shire	285.99	
Tweed Shire	1,977.82	
Uralla Shire	190.35	
Warren Shire	25.37	
Wollondilly Shire	68.42	
Young Shire	138.64	
	<hr/>	9,654.12
		<hr/>
		\$827,729.12

314. Special Deposit Account—Commonwealth Aid Roads Act—
Item 14—Bridge Subsidy—Details of Expenditure for year
ended 30th June, 1966

Council—	\$
Barraba Shire	10,000.00
Bibbenluke Shire	10,000.00
Boomi Shire	6,000.00
Burrangong Shire	20,000.00
Byron Shire	14,000.00
Canobolas Shire	10,000.00
Cockburn Shire	8,000.00
Colo Shire	33,000.00
Condobolin Municipal	10,000.00
Coonamble Shire	20,000.00
Copmanhurst Shire	30,000.00
Crookwell Shire	20,000.00
Cudgegong Shire	70,000.00
Darling Shire	12,000.00
Eurobodalla Shire	30,000.00
Goodradigbee Shire	28,000.00
Illabo Shire	30,000.00
Manning Shire	16,000.00
Molong Shire	35,000.00
Monaro Shire	30,000.00
Moree Municipal	8,000.00
Murray Shire	18,000.00
Nundle Shire	6,666.00
Peel Shire	22,642.00
Severn Shire	20,000.00
Shoalhaven Shire	12,000.00
Snowy River Shire	4,652.00
Sutherland Shire	20,000.00
Terania Shire	10,000.00
Tomki Shire	27,876.00
Tumbarumba Shire	20,000.00
Turon Shire	12,000.00
Tweed Shire	23,000.00
Uralla Shire	24,000.00
Wagga Wagga City	7,000.00
Warren Shire	16,000.00
Windsor Municipal	16,000.00
Wollondilly Shire	100,846.00
Young Municipal	7,393.00
	<hr/>
	818,075.00

157. Revenue Vote: Grants to Councils for Construction, Repair
and Renewal of Works—Details of Expenditure for year
ended 30th June, 1966

Council—	\$
Albury City	600.00
Barraba Shire	1,000.00
Bathurst City	1,000.00
Baulkham Hills Shire	1,000.00
Bega Municipal	2,000.00
Bellingen Shire	916.00
Blacktown Municipal	1,000.00
Bland Shire	920.00
Boree Shire	1,000.00
Bowral Shire	1,000.00
Broken Hill City	2,000.00
Burrangong Shire	200.00
Campbelltown Municipal	1,000.00
Canobolas Shire	1,000.00
Central Darling Shire	418.00
Cobar Shire	2,000.00
Coff's Harbour Shire	594.00
Concord Municipal	1,000.00
Condobolin Municipal	1,000.00
Coolah Shire	1,000.00
Coolamon Shire	1,000.00
Coonabarabran Shire	1,000.00
Coonamble Shire	1,000.00
Cootamundra Municipal	1,000.00
Cowra Municipal	1,000.00
Crookwell Shire	1,000.00
Cudgegong Shire	1,000.00
Culcairn Shire	1,000.00
Darling Shire	1,000.00
Demonrille Shire	1,000.00
Deniliquin Municipal	1,000.00
Dungog Shire	750.00
Eurobodalla Shire	1,000.00
Forbes Municipal	1,000.00
Glen Innes Municipal	2,000.00
Gloucester Shire	1,000.00
Goobang Shire	2,200.00
Gosford Shire	1,000.00
Goulburn City	2,000.00

Council—	\$	Council—	\$
Grenfell Municipal	150.00	Walgett Shire	1,000.00
Gunnedah Municipal	1,000.00	Warren Shire	1,000.00
Gunning Shire	1,000.00	Wollondilly Shire	1,000.00
Hay Shire	1,000.00	Wellington Shire	1,000.00
Holbrook Shire	933.00	Yarrowlumla Shire	1,000.00
Hume Shire	1,000.00	Young Municipal	939.66
Illabo Shire	735.00		<hr/>
Jemalong Shire	1,000.00		\$109,939.66
Jerilderie Shire	1,000.00		
Jindalee Shire	1,000.00		
Kempsey Municipal	1,000.00		
Kyogle Shire	400.00		
Lachlan Shire	1,000.00		
Leeton Shire	1,000.00		
Lockhardt Shire	1,000.00		
Lyndhurst Shire	1,000.00		
Maclean Shire	1,000.00		
Maitland City	1,000.00		
Manilla Shire	1,000.00		
Manning Shire	1,000.00		
Merriwa Shire	1,000.00		
Mittagong Shire	2,000.00		
Molong Shire	1,000.00		
Mudgee Municipal	1,000.00		
Mulwaree Shire	444.00		
Mumbulla Shire	400.00		
Murray Shire	1,000.00		
Murrumburrah Municipal	1,000.00		
Murrurundi Shire	1,000.00		
Muswellbrook Municipal	1,000.00		
Namoi Shire	1,000.00		
Narrandera Shire	1,000.00		
Narromine Municipal	1,000.00		
Newcastle City	1,000.00		
Nyngan Municipal	1,000.00		
Oberon Shire	1,000.00		
Orange City	1,000.00		
Peel Shire	1,000.00		
Port Macquarie Municipal	1,000.00		
Port Stephens Shire	1,000.00		
Quirindi Municipal	200.00		
Rylstone Shire	1,000.00		
Scone Shire	1,000.00		
Severn Shire	1,000.00		
Shellharbour Municipal	600.00		
Shoalhaven Shire	1,000.00		
Singleton Municipal	1,000.00		
Snowy River Shire	2,000.00		
Stroud Shire	950.00		
Tallaganda Shire	704.00		
Taree Municipal	1,100.00		
Tenterfield Shire	1,350.00		
Timbregongie Shire	1,000.00		
Tumbarumba Shire	1,000.00		
Tumut Shire	2,000.00		
Tweed Shire	956.00		
Ulmurra Shire	1,000.00		
Uralla Shire	480.00		
Urana Shire	1,000.00		
Wade Shire	1,000.00		
Wagga Wagga City	1,000.00		
Wakool Shire	1,000.00		
Walcha Shire	1,000.00		

159. Revenue Vote Grants to Councils in respect of Flood Damage	
Council—	\$
Lismore City	1,900.00
Lithgow City	57,120.00
Maclean Shire	1,054.00
Ulmurra Shire	1,200.00
	<hr/>
	\$61,274.00

G.L.260. Construction of Miscellaneous Works in Shires and Municipalities (Swimming Pools)—Expenditure for year ended 30th June, 1966	
Council—	\$
Albury City	8,000.00
Balranald Shire	10,000.00
Berrigan Shire	3,600.00
Bingara Shire	453.20
Broken Hill City	4,400.00
Coolah Shire	3,600.00
Coonamble Shire	16,391.30
Eurobodalla Shire	12,000.00
Goobang Shire	9,595.59
Goulburn City	12,014.20
Lyndhurst Shire	1,000.00
Manilla Shire	3,277.36
Molong Shire	1,700.00
Narrandera Shire	1,040.82
Newcastle City	20,000.00
Port Macquarie Municipal	6,000.00
Quirindi Municipal	3,375.00
Shoalhaven Shire	6,995.53
Tallaganda Shire	1,725.00
Tamworth City	8,000.00
Tenterfield Municipal	2,000.00
Uralla Shire	8,000.00
Walgett Shire	6,000.00
Wingecarribee Shire	3,000.00
Wyong Shire	7,000.00
Young Municipal	832.00
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	\$160,000.00

C.R. 171—Contribution towards swamp reclamation at Lismore	
Council—	\$
Lismore City Council	\$30,000.00
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APPENDIX VII

ENGINEERING DESIGN AND TESTING

FUNCTIONS

1. Preparation of preliminary designs, quantities and estimates for engineering works undertaken by the Department.
2. Preparation of final design, drawings and specifications for such works.
3. Work as for (1) and (2) on behalf of local government and other authorities.
4. Analysis of tenders and making of recommendations thereon.
5. Examination and reporting on contractors' plans.
6. Review of designs, estimates and specifications for works proposed by local government and other authorities.
7. The provision of facilities for testing and testing all types of building materials, for State, Commonwealth and Local Government authorities and for the public generally.
8. The physical and chemical testing of constructional materials and components to be used on Departmental works.
9. Similar tests made on behalf of non-departmental bodies and individuals.

OPERATIONS

The amount of work dealt with by the Branch has shown an increase over the previous year both in regard to the preparation of designs, specifications, etc., by the Branch and the review of designs prepared by Councils and other authorities. This increase in work load is attributed to the augmented programme of subsidized water supply and sewerage works and increased activity by Councils in the field particularly of bridge construction. The more important works dealt with by the Branch are as follows:

Bridges and major structures.—In connection with the River Murray Works preliminary designs were prepared for extensive maintenance and modifications for Weir and Lock No. 10 at Wentworth and Weir and Lock No. 15 at Euston. Further work was done on the stability of the earthen embankments and in the investigation of deflections of the main structure and the condition of the poststressed cables at Hume Reservoir.

Designs and tender documents were also completed for two bridges to replace ferries at Goodwood Island on the Clarence River and Dumaresq Island on the Manning River. A considerable number of reviews of designs submitted by Councils was also completed.

Water Supply.—Plans and contract documents were prepared for further stages of the Wyong District Water Supply Scheme involving over 100 miles of pipeline. Designs were also completed for an off-river storage dam, pumping stations, pipelines, service reservoirs, etc., for the Manning District Water Supply Scheme; also for structures and pipelines for Lennox Head, The Entrance, Woolgoolga, Tantawanglo, Urbenville and Woodenbong Water Supply Schemes.

Sewerage.—Designs were completed for sewerage treatment works at Macksville and Walgett. Plans for the disposal of stormwater at the Coffs Harbour sewerage system were also completed and sent to the Council.

Plans and specifications were also completed for the augmentation of the Armidale and Lithgow sewerage treatment works and forwarded to the Councils concerned.

Local Government and Stormwater Drainage.—Designs and specifications were completed and tenders reviewed for a water treatment plant at Tumut. Designs and specifications were also prepared for stormwater drainage works for the campus area of the University of New South Wales and the new saleyards for the Metropolitan Meat Industry Board.

A large number of designs for bridges and swimming pools prepared by Councils or other consultants were reviewed.

Harbours and Rivers.—Designs were completed for a diver's tender and pile driving pontoon for Port Kembla and preliminary designs for alternative proposals for a new ferry wharf at Newcastle.

In the flood mitigation field a number of designs were prepared for flood gate structures for the Hunter Valley Flood Mitigation Trust and a number of proposals submitted by local authorities were reviewed.

Mechanical and Electrical.—Plans and specifications were prepared for pumps and electrically controlled equipment for a number of water supply and sewerage pumping stations including the Manning District Water Supply, Tantawanglo Water Supply, Lennox Head Water Supply and Tumut filtration plant.

TESTING BRANCH

A total of 975 certificates were issued to cement manufacturers covering the sampling, testing and analysis of some 4,172,000 bags of cement. In addition clients other than cement manufacturers submitted 93 samples of cement for testing.

These figures are less than those of the previous year. Although offset to some extent by increased activity principally in the field of concrete testing, a substantial reduction in fees from steelwork inspection at Newcastle, Sydney and Port Kembla resulted in an overall reduction of some \$33,000 in the revenue of the undertaking.

The Laboratory was transferred during the year from the basement of the main building to commodious new quarters at Glebe.

REPRESENTATION ON COMMITTEES

Officers of the Engineering Design Branch and Testing Branch, represent the Department, either as principal or deputy on the National Association of Testing Authorities and on Committees of the Standards Association of Australia, dealing with:

Concrete in building; steel plate; loading on structures; concrete pipes; electrical cables; galvanised products; glazed earthenware pipes; cranes; cast iron pipes and fittings; cement; paint testing.

General

The approximate value of the work covered by the Branch was as follows:

	\$
Tender documents completed	7,703,000
Designs for day labour works completed ..	1,204,000
Designs of works reviewed on behalf of Councils or other bodies	9,155,000

Details of the work of the various Sections of the Branch are as follows:

SPECIAL INVESTIGATION SECTION

Contract and Day Labour Works—

- Macleay Shire—Goodwood Island Bridge.
- Taree Municipal Council—Dumaresq Island Bridge.
- Colo Shire—Bridge over Yellow Hole Creek at Tennis Road.
- Hastings Shire—Little Rawdon Island Bridge.
- Macleay River County Council—Belmore Floodway Bridge.

River Murray Waters—No. 10 Lock and Weir, Wentworth. Alterations. Preliminary design (three alternative designs).

River Murray Commission—Weir and Lock No. 15, Euston. Improvements. Preliminary design.

Newcastle Islands Reclamation—Walsh Island Bulk Handling Berth (Sulphide Wharf). Supply of prestressed concrete piles.

Hume Reservoir Construction—Settlement in bank. Cone end treatment.

Newcastle Harbour—Throsby Basin No. 1 Berth. Supply of prestressed concrete piles.

State Dockyard—No. 2 Building Berth. Widening and lengthening. Bracings at way ends.

Clarence Harbour Works—Provision of Wharfage, Goodwood Island.

Hume Reservoir Construction—Bethanga Bridge. Repair of stringers and floor beams.

Investigations—

Hume Reservoir—Boring investigation of No. 1 bank.

Hume Reservoir—Restoration of foundation drainage system.

State Dockyard—Alterations to No. 1 Building Berth.

The Asquith Boys' High School—Additional classroom building.

Hastings Shire—Laurieton Bridge. Pretensioned beams to replace post-tensioned beams.

Newcastle Harbour—Main Road No. 108. Proposed bridge. Investigation.

Illabo Shire—Eulomo, Maher's and Four Mile Creek Bridges.

Rydalmere Hospital—Bridge over Victoria Road. Displaced piles. Investigation.

Port Kembla Inner Harbour—Coal Wharf. Cathodic protection. Examination of operation.

Hume Reservoir—Temporary Plug No. 3. Investigation of plugging effect on dam.

Hastings Shire—Laurieton Bridge. Transfer procedure after steam curing.

Hume Reservoir Construction—Testing of cable strands. Programme and testing.

Hume Reservoir—Bethanga Bridge. Report and diagrams of panel tests.

Hume Reservoir—Post-tensioning. Model test of concrete dam.

Hume Reservoir Construction—Settlement in bank. Factor of safety for drawdown.

Hume Reservoir—Post-tensioning and future security measures. Report on stability.

Hume Reservoir Construction—Settlements and stability of No. 1 and 2 banks.

Hume Dam—Uplift readings.

Hume Dam—Deflections of main wall.

South West Tablelands Water Supply—New reservoir at Cowang. Application of gunite after filling the tank.

River Murray Commission—Inspection of four weirs and two locks.

Nundle Shire—Uniformity in bridge standards.

Reviews—

Armidale Water Supply—Dumaresq Dam, maintenance.

Burrangong Shire—Muringo Creek Bridge.

Burrangong Shire—Burrangong Creek Bridge.

Burrangong Shire—Balabla Creek Bridge.

Colo Shire—Slopes Road Bridge.

Cudgegong Shire—Bridge over Lawson Creek.

Clarence River County Council—P.S. Bridge over Middle Road.

Coonamble Shire—Deck units for Nedgera, Merri Merri and Terembone Creek Bridges.

Clarence River Flood Mitigation Works—Alumi Creek Diversion. Proposed P.C. Bridge.

Concord Municipal Council—Concrete weir at Exile Bay Canal.

Dungog Shire—Bridge over Tocal Creek on Paterson-Maitland Road.

Euston Lock—Valves for River Murray Locks.

Fish River Water Supply—Oberon Dam Maintenance. Footbridge repairs.

Gloucester Shire—Bundook Bridge.

Goodradigbee Shire—Bogolong Bridge (Tinker Crossing).

Guyra Water Supply—New storage dam.

Glen Innes Municipal Council—Four Bridge over Rocky Ponds Creek.

Hume Dam—Pore pressure gauges. Location of Maihak gauges.

Hume Reservoir Construction—Access through Cumberland Reserve.

Hume Reservoir—Permissive occupancy. N. Douglas Trout Farm.

Kyogle Shire—Bridge over Iron Pot Creek at Toonumbar.

Kyogle Shire—Bridge over Iron Pot Creek at Ghinni Ghi.

Lock 10, Wentworth and Lock 15, Euston—Condition of steel trestles.

Lennox Head-Ballina Water Supply—Emigrant Creek Dam.

Manning District Water Supply—Off-river storage embankment (earth dam).

Macleay Shire—Bridge over Macleay River at Temagog.

Murray Waters—Weirs 5 and 7. Inspection walkway.

Murray Waters Generally—Lock gates.

Muswellbrook Shire—Martindale Bridge.

Mumbulla Shire—Bridge over Brogo River at Greendale.

Peel Shire—Bridge over Spring Creek.

Peel Shire—Bridge over Boiling Down Creek.

Port Kembla Inner Harbour—Coal loading plant. DEMAG coal reclaimers.

Port Kembla Inner Harbour—Coal loading plant. Counterweights on gantry.

Peat and Milson Island Hospital—Bridge of access to mainland.

River Murray Waters—Weir 7, Maude. Sluice gates (flashboard to northern gate).

State Dockyard—Alterations to No. 1 Building Berth. Crane tracks.

State Dockyard—Steel Stockyard 10-ton Magnetic portal crane. Runway foundations.

State Dockyard—No. 2 Building Berth. Widening and lengthening. Alternative bracing system.

Shoalhaven River—Flood mitigation. Standard farm access bridges (20–80 ft spans).

Tweed Shire—Condong Bridge.

Tweed Shire—Bridge over Piggabeen Creek at Sullivan's Crossing.

Tweed Shire—Bridge over Dungay Creek at Dulguigan.

Tenterfield Water Supply—Storage dam.

Tenterfield Municipal Council—Bridge over Tenterfield Creek at High Street, Tenterfield.

Tenterfield Municipal Council—Bridge over Tenterfield Creek at Douglas Street.

Uralla Shire—Bridge over Kentucky Creek.

Uralla Shire—Bridge over Baker's Creek.

Woolgoolga Water Supply—Construction of earth dam.

Miscellaneous

Preparation of graphs and standard sections for bridge design.

Review of S.A.A. Codes and Minutes of Committees.

Alterations in prestressing systems and various services for bridges.

Hume Power Station—Proposed remote closure of intake gates, modifications for installation.

Bethanga Bridge—Procedure for raising the bridge, amendments for deck panels, panel moulds.

Determination of test loads for shire bridges.

Preparation of drawings for lighting standards for bridges.

WATER SUPPLY SECTION

Plans, specifications, and estimates were completed and tenders reviewed for the following works:

- Barooga Water Supply—Supply of pipes and fittings.
- Beechwood Water Supply—Supply of pipes and fittings.
- Bega Water Supply—Intake augmentation.
- Berrima Water Supply—Waterhammer surge relief valve and chain block.
- The Entrance Water Supply—Service reservoir, rising and gravitation mains, reticulation and booster station.
- Lennox Head Water Supply—Service reservoirs, rising and gravitation mains, reticulation, pipes and fittings.
- Lower Clarence Water Supply—Service reservoirs, submarine crossing, valves and meter.
- Lower Clarence—Mororo Bridge crossing.
- Manning District Water Supply—Service reservoirs, rising and gravitation mains, surge suppressor tank, pipes and fittings.
- Morisset Hospital—Service reservoir and fittings.
- New Jindabyne Water Supply—Intake structure, pump house, and access bridge.
- Parkes Water Supply—Crane beams and rails.
- Stockton Hospital Water Supply—Pipes and fittings.
- Tantawanglo Water Supply—Service reservoir, pumping stations, and gravitation main.
- Tweed Heads Water Supply—Surge suppressor.
- University of N.S.W.—Supply of hydrants.
- Urbenville-Woodenbong Water Supply—Pump well, chlorination house, rising and gravitation mains, reticulation, service reservoirs, and supply of pipes and fittings.
- Walcha Water Supply—Service reservoir, chlorination house.
- Woolgoolga Water Supply—Service reservoirs, mains, reticulation, supply of pipes and fittings.
- Wooli Water Supply—Supply of pipes and fittings.
- Wyong Water Supply—Reservoir, mains, reticulation, and supply of pipes and fittings.
- Yass Water Supply—Supply of pipes, valves, brackets, and chains.

Plans, specifications, and estimates were completed for the following day labour works:

- Manning District Water Supply—Earth dam and pumping stations.
- Woolgoolga Water Supply—Pipehead weir, earth dam, and pump house.

Plans and specifications were reviewed for the following works:

- Bathurst Water Supply—M.S. service reservoir.
- Beechwood Water Supply—Rising main and reticulation.
- Bungendore Water Supply—R.C. service reservoir, rising main, reticulation, and pump houses.
- Central Tablelands Water Supply—R.C. service reservoir.
- Coolah Water Supply—Rising main and reticulation.
- Coutts Crossing Water Supply—M.S. service reservoir and reticulation.
- Crescent Head Water Supply—Service reservoir, rising main, and reticulation.
- Glenreagh Water Supply—Intake platform and structure, rising main, and reticulation.
- Griffith Water Supply—M.S. service reservoir.
- Gunnedah Water Supply—Rising main and reticulation.
- Manning District Water Supply—Storage dam.
- Muswellbrook Water Supply—River intakes, pump house, gravitation main, and reticulation.
- National Fitness Camp Water Supply—Scheme generally.
- Port Macquarie Water Supply—R.C. service reservoir.

Work progressed on the preparation of plans and specifications for the following contract or day labour works:

- Berrima District Water Supply—Three service reservoirs and gravitation mains.
- Bonalbo Water Supply—Earth dam, pumping stations, mains, reticulation, and service reservoir.

- Kenmore Mental Hospital—Fire and domestic mains.
- Lennox Head Water Supply—Emigrant Creek dam and North Creek canal bridge crossing.
- Manning District Water Supply—Three service reservoirs, reticulation, and branch mains.
- Parkes Water Supply—Intake works, rising main, pumping stations, and reservoirs.
- Tantawanglo Water Supply—Gravitation and rising mains.

The following investigations were also carried out:

- The Entrance Water Supply—Mardi Dam, recording of uplift measurements.
- Berrima Water Supply—Waterhammer phenomena.
- Moss Vale Water Supply—Waterhammer phenomena.
- The Entrance Water Supply—Waterhammer phenomena.

SEWERAGE SECTION

Work was carried out in connection with the following:

Subsidized Council Works—

- Bellingen—Additional plans for pumping station and chlorination works prepared.
- Blayney—Additional plan for pumping station prepared.
- Coff's Harbour—Report on stormwater bypass and completion of plans, specification, and estimate therefor.
- Coolamon—Review of tenders for equipment and preparation of installation drawings.
- Deniliquin—Capacity of existing plant assessed.
- Gilgandra—Plans prepared for new pumping station.
- Jerilderie—Plans prepared for pumping station. Tenders called for equipment and installation drawings completed.
- Kyogle—Estimate made for amount of work not in subsidized programme.
- Lawson—Plans prepared for pumping station and rising main. Plans and specification for fencing.
- Macksville—Plans prepared for construction of treatment works.
- Mulwala—Plan of treatment works layout prepared.
- Walgett—Plans completed for construction of treatment works.
- Werris Creek—Review of tenders for pipes, sewers, and equipment, and plans for installation prepared.
- Yanco—Plan of layout of treatment works prepared.

Council Works not Subsidized—

- Armidale—Designs completed for civil works and proceeding for equipment.
- Bathurst—Plans nearing completion for construction of sludge treatment plant and proceeding for equipment.
- Lithgow—Plans and specification completed for reconstruction of filters.
- Taree—Plans completed for chlorination tank.

Hospitals and Institutions—

- Ballina District Hospital—Tenders reviewed for reconstruction of sewers and disposal of effluent.
- Farrer Memorial Agricultural High School—Work completed on effluent pond and pumping station.
- Hornsby South Public School—Plan prepared for bridge crossing.
- Morisset Hospital—Drawings prepared for installation of equipment.
- Peat Island Hospital—Tenders let for construction of pumping stations. Plans for rising mains completed.
- Prince Henry Hospital—Estimate of cost of discharging sewage to M.W.S. and D.B. main.
- Rydalmere Hospital—Plan and estimate for installing a "Gorator".
- Tomaree Holiday Lodge—Plans and specification completed for reconstruction of sewerage scheme.
- Wee Waa Hospital—Plans prepared for septic tank and effluent well.

Review of Consultants' Designs—

Port Macquarie—Structural review of design.

In addition, tenders for the supply of pipes and for the construction of sewers for nine schemes prepared by consultants were reviewed.

LOCAL GOVERNMENT AND FILTRATION PLANT SECTION

Plans, specifications, and estimates were completed (unless otherwise stated) for the following works:

Cowra Water Supply—Filtration plant extensions.

Tumut Water Supply—Filtration plant.

University of N.S.W.—Lower campus drainage: investigation and preliminary design.

Metropolitan Meat Industry Board—Homebush Saleyards: stormwater drainage, section A—amendments to general design prepared by consulting engineer.

Balranald Shire Council—Swimming pool at Balranald: re-design of three pools.

Plans and specifications were reviewed (unless otherwise stated) for the following works:

Swimming Pools—

Albury City Council—Swimming pool at North Albury, including review of tenders.

Ballina Municipal Council—Advice only.

Baulkham Hills Shire Council—Swimming pool at Roxborough Park.

Blacktown Municipal Council—Swimming pool at Blacktown.

Bland Shire Council—Swimming pool at Ungarie.

Brewarrina Shire Council—Swimming pool at Brewarrina, including review of tenders.

Broken Hill City Council—Replacement of city baths filtration plant.

Campbelltown Shire Council—Swimming pool at Campbelltown.

Coolamon Shire Council—Ardlethan swimming pool.

Coolah Shire Council—Mendooran swimming pool.

Department of Education—Glenfield Park swimming pool, including review of tenders.

Eurobodalla Shire Council—Swimming pool at Narooma.

Eurobodalla Shire Council—Swimming pool at Bateman's Bay.

Hay Municipal Council—Hay swimming pool, including review of tenders.

Lyndhurst Shire Council—Swimming pool at Blayney, including review of tenders.

Manilla Shire Council—Manilla Olympic Swimming Pool.

Penrith City Council—Swimming pool at St Mary's.

Port Macquarie Municipal Council—Swimming pool at Port Macquarie.

Snowy River Shire Council—Swimming pool at Berridale.

Snowy River Shire Council—Swimming pool at Adamaby.

Uralla Shire Council—Uralla swimming pool.

Walgett Shire Council—Swimming pool at Carinda, including review of tenders.

Yallaroi Shire Council—Swimming pool at Warialda.

Bridges—

Abercrombie Shire Council—Bridge over Grove Creek on S.R. 36.

Canobolas Shire Council—Bridge over Summer Hill Creek.

Clarence River County Council—Item 17 Waterview Scheme.

Central Darling Shire Council—Bridge at Kalyanka Creek North.

Central Darling Shire Council—Bridge at Kalyanka Creek South.

Cudgegong Shire Council—Bridge over Cudgegong River.

Cudgegong Shire Council—Bridge over Lawson's Creek.

Goodradigbee Shire Council—Bango Creek Bridge.

Macleay River Flood Mitigation—Standard timber bridge.

Manning Shire Council—Hoad's Bridge over Dingo Creek.

Mittagong Shire Council—Nattai River Bridges.

Mittagong Shire Council—Nepean River Bridge.

Molong Shire Council—Bridge at Wellington Street.

Murray Shire Council—Wakool River Bridge.

Murray Shire Council—Arthur's Bridge over Gulpa Creek.

Muswellbrook Shire Council—Martindale Bridge.

Scone Shire Council—Bridge No. 1 over Isis River.

Scone Shire Council—Bridge No. 2 over Isis River.

Shoalhaven Shire Council—Bridge over Sandy's Creek.

Shoalhaven Shire Council—Graham's Bridge over Barrengarry Creek.

Talbragar/Timbobongie Shire Council—Coalbaggie Creek Bridge.

Terania Shire Council—Sime's Bridge on Whian Whian Road.

Terania Shire Council—Somerville Bridge over Goolmangar Creek.

Tomki Shire Council—Seed's Bridge.

Turon Shire Council—Millah Murrah Creek Bridge.

Turon Shire Council—Spring Creek Bridge.

Wollondilly Shire Council—Bargo River Bridge.

Miscellaneous—

Wyong Shire Council—Foreshore improvement works.

HARBOURS AND RIVERS SECTION

Designs prepared—

Port Kembla Harbour—Diver's tender, pile driving punt and tie-up berth. Distribution box housing.

Newcastle District—Stockton Ferry wharf, preliminary design only.

Hunter Valley Flood Mitigation—Louth Park-Loch End (No. 2), flood gates, Berry Park flood gates, Brisbane field flood gates, Moloney's flood gates, Raworth flood gates, Louth Park No. 3 flood gates, Dunmore No. 1 flood gates and Dunmore No. 2 flood gates.

Reviews—

Two hundred-ton compression testing machine. Port Kembla navigation works.

Reviews of designs submitted by other authorities—

Clarence River County Council Flood Mitigation—Gillett's Ridge, drainage; Chatsworth Island, west flood mitigation works; Shark Creek, west flood mitigation works; Harwood Island-Reedy Creek area, west flood mitigation works; Sweeney's Creek improvements, West Ulmarra drainage; Alice Street, levee; Trenayr, swamp floodgates; Woodford Dale, drainage; Everlasting swamp, flood mitigation works; Almy Creek, diversion; Ashley, mainland scheme; Coldstream, right bank, flood mitigation; Bradley's Creek, flood mitigation; Edward's Creek, McIntyre's drain; Wombah drain, floodgates; Poverty Creek, floodgates; Camp Creek, pipe culvert; Nahro Creek, flood mitigation, Everlasting swamp project.

Macleay River County Council Flood Mitigation—Gladstone, area drainage; Lancaster, drain, flood mitigation; Barnett's Creek, improvements.

Richmond River County Council Flood Mitigation—Dugarrubba, canal and headworks; Tuombil, canal control, Part "A"; Kilgin N.-Woodburn, canal and headworks.

Shoalhaven Shire Council Flood Mitigation—Bolong area, floodgate No. 2; Terrara swamp, drainage; Numbaa, drainage project No. 5.

Tweed Shire Council Flood Mitigation—H. Brown's No. 2 outlet; W. Turner's drain outlet; Dawe's No. 2 outlet structure; A. G. Brown's No. 2 outlet structure; O. Brown's outlet structure; H. Brown's No. 1 outlet structure; Ducat's outlet structure; McCowan's drain outlet; Quan's No. 2 outlet structure; Quan's No. 3 outlet; Mayal Creek No. 3 outlet structure; Mayal Creek No. 4 outlet structure; Bryant's outlet structure; A. G. Brown's No. 1 outlet.

Municipality of Windsor Flood Mitigation—Hawkesbury Valley, flood mitigation works; Hawkesbury River, South Creek area, flood mitigation.

Contract specifications prepared:

Dredge Service—Forged manganese steel split bushes and forged or cast manganese steel pins.

Cook's River Bridge, Prince's Highway, Tempe—Excavation of the sill.

Hunter Valley Flood Mitigation—Berry Park, flood gates; Brisbane field, flood gates.

Evans River—Boat Harbour, excavation.

Lands Department—Cover boxes for standard permanent marks.

Quotations, specifications prepared—

Dredge Service—Rubber suction sleeves for bar dredges; rubber delivery sleeves for bar dredge.

Estimates prepared—

Dredge Service—Forged manganese steel bushes; forged manganese steel bushes for dredge *John Main*; forged manganese steel pins for *John Main*; forged manganese steel bushes for dredge *Juno*; rubber sleeves for suction pipes—bar dredges; rubber sleeves for delivery pipes—bar dredges.

Lands Department—Cover boxes, number plates, etc.

Cook's River—Removal of sill at Prince's Highway Bridge, Tempe.

Hunter Valley Flood Mitigation—Berry Park, flood gates.

Testing Branch—200-ton compression testing machine.

Hunter Valley Flood Mitigation—Brisbane fields flood gates.

Evans River—Boat Harbour excavation.

Requisitions—

Lands Department—Cover boxes, number plates, etc.

MECHANICAL AND ELECTRICAL SECTION

Pumping Plants—

Tendering plans and specifications were completed in connection with the following:

Bonalbo Water Supply—No. 1 and No. 2 Pumping Stations. Four pumps, pipework and electrical equipment.

Cobar Water Supply—Remote control equipment.

Coolamon Sewerage—Electrical installation.

Kenmore Hospital Water Supply—Irrigation pumping machinery. One pump, pipework and electrical equipment.

Lennox Head Water Supply—No. 1 and No. 2 Pumping Stations. Four pumps, pipework and electrical equipment.

Manning District Water Supply—No. 1 Pumping Station. Two pumps, pipework and electrical equipment.

Manning District Water Supply—No. 2 Pumping Station. Four pumps, pipework and electrical equipment.

Manning District Water Supply—No. 3 Pumping Station. Two pumps, pipework and electrical equipment.

New Jindabyne Water Supply—Two pumps, pipework and electrical equipment.

Peat and Milson Islands Hospital Water Supply—Two pumps, pipework and electrical equipment.

Peat and Milson Islands Hospital Sewerage—No. 1 Pumping Station and Treatment Works. Electrical installation.

Peat and Milson Islands Hospital Sewerage Extensions—No. 2 and No. 3 Pumping Stations. Electrical installation.

Parkes Water Supply—Lake Endeavour Booster. One pump, pipework and electrical equipment.

Tweed District Water Supply—Surge suppressor at No. 2 Pumping Station. Specification for air compressor and electrical equipment.

Tumut Water Supply—Five pumps, pipework and electrical equipment.

Tumut Water Supply—Filtration plant—electrical installation.

The Entrance Water Supply—No. 5 Pumping Station. Two pumps, pipework and electrical equipment.

Tantawanglo Water Supply—No. 1 and No. 2 Booster Stations. Four pumps, pipework and electrical equipment.

Urbenville-Woodenbong Water Supply—No. 1 and No. 2 Pumping Stations. Four pumps, pipework and electrical equipment.

Woolgoolga Water Supply—Two pumps, pipework and electrical equipment.

Werris Creek Sewerage—Electrical installation.

Drawings only completed for the following:

Barooga Water Supply—Pumping machinery.

Coolamon Sewerage—Pumping machinery.

Dredge Service—New propellers for towboats *Toragi* and *Wooli*.

Dredge Service—Motor towboat *Osprey*, new propeller.

Gilgandra Water Supply—Pumping machinery.

Garrawarra Hospital—Fire booster pump.

Hume Reservoir—Modifications to auxiliary and ancillary equipment.

Port Kembla Inner Harbour—Ship repair and tie-up berth electrical installation.

Peat and Milson Islands Hospital Sewerage Extensions—Pumping machinery.

Port Kembla Inner Harbour—Coal loader extensions.

Rydalmere Hospital—Fire and domestic booster pumps.

Urbenville-Woodenbong Water Supply—Half-ton rotary cathead.

Sewage Pumping Plants—Two-speed motors, single operation standard key and schematic diagrams.

Werris Creek Sewerage—Sludge pumps.

Plans and specifications are being prepared for the following:

Armidade Sewerage Treatment Works—Electrical installation.

Bathurst Sewerage—Treatment Works. Electrical installation.

Morriset Hospital—Submersible sewage pumping plant.

Walgett Sewerage—No. 4 Pumping Station. Pumping machinery.

Miscellaneous Works—

Plans and specifications were completed in connection with the following:

Dredge Service—Dredge *C.S.I.* 16-in sand pump.

River Murray Works—Lock 15 Euston. Electrification of overhead gantry crane.

Designs are being prepared for the following:

Port Kembla Harbour—New Cranes for No. 6 Jetty. New design for slewing shaft.

Port Kembla Inner Harbour Coal Loader Extensions—Lighting of stacking area.

Port Kembla Harbour—Inflammable Liquid Berth floodlighting.

Reviews of proposals submitted by contractors:

- Port Kembla Inner Harbour Tie-up Berth—Cathodic protection. Transformer-rectifiers. Review of contractor's drawings.
 Port Kembla Inner Harbour Coal Loading Plant—Review of plans and checking varies.

Contractor's drawings of pumping plants for the following schemes were reviewed:

- Braidwood Sewerage—Pumping machinery.
 Bellingen Sewerage—Pumping machinery.
 Bourke Water Supply—Pumping machinery.
 Blayney Sewerage—Pumping machinery.
 Camden Haven Water Supply—Pumping machinery.
 Cobar Water Supply—Remote control equipment.
 Denman Water Supply—Pumping machinery.
 Gilgandra Sewerage—Ejector machinery.
 Gilgandra Sewerage—Pumping machinery.
 Gilgandra Water Supply—Pumping machinery.
 Jerilderie Sewerage—Pumping machinery.
 Kempsey Sewerage Extensions—No. 5 Pumping Station pumping machinery.
 Leeton Water Supply Augmentation—Pumping machinery.
 Lawson Sewerage—Pumping Stations Nos 7, 8, and 9: pumping machinery.
 Lawson Sewerage—No. 6 Station: ejector machinery.
 Mount Penang Training School Water Supply—New pumping unit (1964).
 Mendooran Water Supply—Pumping machinery.
 Parkes Water Supply—Lake Endeavour booster.
 Peat and Milson Islands Hospital Sewerage Extensions—No. 1 Station and Treatment Works: electrical installations.

- State Penitentiary, Malabar, Water Services—Domestic and fire booster pumps.
 The Entrance Water Supply—Nos 3 and 4 Pumping Stations: pumping machinery.
 The Entrance Water Supply—No. 5 Pumping Station: pumping machinery.
 Tumut Water Supply—Pumping machinery.
 Tweed Heads Sewerage—Pumping machinery.
 Tweed Heads Sewerage—Small type pumping machinery.
 Walcha Water Supply—Pumping machinery.
 Woolli Water Supply—Pumping machinery.
 Woolgoolga Water Supply—Pumping machinery.
 Werris Creek Sewerage—Electrical installation.

Miscellaneous—

- Berrima Water Supply—Investigation re electricity supply.
 Hume Power Station—Modifications to penstocks and stoney gates: investigation of mechanical and electrical faults.

TESTING BRANCH

The following is a summary of the various tests carried out by the Branch:

Cement sampling, testing, and analysis	1,068
Compression tests on building materials, e.g., concrete, brick, tiles, pipes	18,358
Tensile, bend, and impact tests on wire, steel, rope, etc.	371
Chemical analysis and other tests on bricks, tiles, pipes, water, sand, gravel, dampcourse, etc.	983

APPENDIX VIII

SURVEY AND SURVEY DRAFTING

FUNCTIONS

1. Surveying and survey drafting for the Department and other Government Instrumentalities.
2. The custody of engineering plans and the printing and mounting of plans.
3. Recording all actions affecting land owned or being acquired by the Department, e.g., resumptions, easements, reservations, purchases, sales and leases of surplus land and any other circumstance affecting departmental land.
4. Checking, on behalf of the Department of Local Government, plans and descriptions submitted by the local government bodies in connection with the acquisition of land.
5. Preparation of descriptions of amendments to local government boundaries and the recording thereof; preparation of descriptions for the proclamation of residential areas, brick areas, urban areas, etc., and recording thereof.
6. The Principal Surveyor administers matters in connection with the acquisition, control, and disposal of departmental land, and is responsible for the implementation of the Survey Co-ordination Act, 1949, in so far as it affects the Department.

OPERATIONS

Survey

All classes of surveys have been carried out for the Department, other than Government Instrumentalities and local governing bodies.

Engineering and land surveys were made for country towns water supply and sewerage, harbours and rivers, drainage, flood mitigation, reclamation, local government, mines, child welfare, aborigines welfare, buildings (universities, schools, hospitals, court houses, gaols, police stations, fire stations, etc.), purchases, sales, and leases of departmental lands.

A considerable number of surveys was carried out for the Department of Education. These included engineering surveys and contour plans for sewerage, drainage, and ground improvements, many boundary surveys for the acquisition of new school sites, additions to existing sites, as well as marking out and reporting on many established sites. The volume of work carried out this year was about the same as that carried out last year. Many instructions were issued to surveyors in private practice.

The work performed by the Survey Section was as follows:

Water Supply.—Engineering surveys for Berrima (2), Bungendore, The Entrance, Forster-Tuncurry, Lennox Head, Parkes, Peak Hill, Warren.

Land matters surveys for Armidale, Bungendore, Lennox Head (2), Manning, Murray Waters Lock 10, Nimmitabel, Parkes, Peak Hill, The Entrance, Woolgoolga, Wyong.

Sewerage.—Engineering surveys for Barham, Bowraville, Canowindra, Dorrigo, Guyra (2), Lawson-Hazelbrook, Moama, Moree, Mulwala, Nambucca Heads, Peak Hill, Quirindi, Ungarie, Uralla (2), Walgett (2), Wallerawang, Werris Creek, Woodenbong.

Land matters surveys for Barham, Coonabarabran, Guyra, Lawson, Moama, Mulwala, Quirindi, Uralla.

Harbours and Rivers.—Engineering surveys at Forster, Hunter Valley (2), Lake Macquarie, Newcastle, Newcastle Islands (2), Port Kembla, Port Stephens, The Islands, Hunter River, Hunter Valley.

Land matters surveys at Forster-Tuncurry, Newcastle, Newcastle Islands (3), West Maitland.

Departmental Buildings.—Engineering survey at Lismore, Sydney (Conservatorium of Music), Kingswood.

Land matters surveys at Sydney (Art Gallery, Building Construction and Maintenance Branch), Blacktown (State Tileworks), Lismore, Wickham.

Sales, Leases, Purchases, etc.—Engineering surveys at Sydney (Hunter Street, Rawson Chambers).

Land matters surveys at Armidale, Bowral, Camperdown (New Morgue), Forster, Grafton, Port Kembla (7), Rathmines, Sheas Creek, Wentworth, Wyong.

Hospitals.—Engineering surveys at Batemans Bay, Crown Street Women's (2), Gladesville (3), Kenmore, Kiama, Morisset, Parramatta (2), Peat and Milson Islands, Prince Henry, Randwick, Royal Prince Alfred, Summer Hill.

Land matters surveys at Kiama, Mona Vale, Orange.

Education Department.—Engineering surveys (details, contours, drainage and sewerage) of sites for high schools at Armidale, Balgowlah, Ballina, Belmore, Blacktown, Bonnyrigg, Canterbury, Cowra, Cremorne (2), Cumberland, Engadine, Epping, Farrer Memorial, Fort Street Boys, Kyogle, Lindfield East, Manly, Manly Vale, Moruya, Murwillumbah, Narrabri, Normanhurst, North Sydney, Nowra (2), Penrith, Port Hacking, Randwick, Raymond Terrace, Richmond River (Lismore), Sans Souci, Singleton, Tamworth, Turramurra South, Tweed River, Warrawong, Wollooware.

Public schools at Albury North, Bomaderry, Bombala, Bradfield Park, Brookvale, Bulli, Canowindra, Carlingford North, Coonabarabran, Dubbo South, Dubbo West, Grafton South, Griffith, Griffith North, Gundagai, Guyra, Jennings, Lakelands, Lavington East, Leeton, Miller, Milton, Molong, Narromine, Nimbin, Normanhurst, Tenterfield, Whalan, Wirrinya, Woodburn, Woodenbong, Yetman, Albury (2).

Technical Colleges at Blacktown, Brookvale, Cowra (2), Glendale (2), Leeton, Mona Vale, Murwillumbah, North Sydney, Sydney.

Teachers Colleges at Alexander Mackie.

Furniture Workshops at Smithfield.

Land matters surveys of sites for high schools at Ashcroft, Asquith (2), Beacon Hill, Bonnyrigg, Canterbury (2), Crookwell, Croudace Bay, Engadine (2), Fort Street, Glendale, Hornsby, Kingsgrove North, Kogarah, Koorringal, Kotara, Lurnea, Maroubra Bay, Merrylands, Mount Druitt, Newtown, Picnic Point, Ryde, Sans Souci, Tamworth South, Tumut, Warrawong, Westfields, Wetherill Park (2).

Public schools at Adamstown Heights, Austinmer, Balgowlah, Balgowlah North, Belrose, Bletchington, Brookvale, Bundella, Camden South, Chester Hill North, Cronulla South, Culcairn, Dubbo South, East Hills, Eglinton, Fairfield West (2), Farrer, Ferncourt, Glenfield (2), Glenmore Road, Glenroi, Gosford North, Grays Point, Green Point, Green Point (Davistown Road), Heckenburg, Hernani, Hornsby South, Jerilderie, Kahibah, Kingsgrove, Lemon Tree Passage, Lucknow, Manly West, Merewether Heights, Mount Ku-ring-gai, Mulyan, Narrawa North, Nemingha, Nicholson Street, Nimbin (4), Oxley Park, Pymont, Springfield, St George's Basin, St Mary's South, Theresa Creek, Tooraweenah, Valentine, Wagga Wagga West, Walcha, Wallanbah, Wallerobie, Wirrinya, Wattawa Heights, Wedderburn, Windsor South, Cowra.

Technical Colleges at Cowra, Glendale, Granville, Hornsby, Leichhardt, Mona Vale, North Sydney (6), Strathfield, Sydney, Toronto.

Teachers College at Balmain.

Child Welfare.—Engineering surveys at Berrima, Daruk.

Land matters survey at Thornleigh.

Local Government.—Engineering surveys at Imlay (2), Tea Gardens.

Land matters survey at Hastings.

Mines.—Engineering survey at Londonderry.

Aborigines.—Land matters survey at Coonabarabran.

Police Premises and Court Houses.—Engineering surveys at Blacktown, Blayney, Moulamein, Warilla, Waverley, Woodstock.

Land matters surveys at Blacktown (2), Beresfield, Coonabarabran, Crookwell, Hillston, Parramatta, Warilla (2), Waverley.

Penitentiaries.—Engineering surveys at Long Bay (4).

Land matters survey at Lidcombe.

SUMMARY OF SURVEYS

	Engineering	Land
Water Supply	9	12
Sewerage	21	8
Harbours and Rivers	12	6
Departmental Buildings	3	5
Sales, Leases, Purchases, etc.	2	16
Hospitals	16	3
Education	85	110
Child Welfare	2	1
Local Government	3	1
Mines	1	—
Aborigines	—	1
Police Premises and Court Houses	6	10
Penitentiaries	4	1
	<hr/> 164	<hr/> 174

Survey Drafting

Survey drafting and recording were carried out in connection with various works of the Department, other government instrumentalities and local government bodies.

Details of these activities are as follows:

Water Supply.—Engineering survey matters for Ballina, Bonalbo, Bungendore, Berrima District, Farrer Memorial Agricultural High School, Lennox Head, Lower Macleay District, Manning District, Parkes, Peak Hill, The Entrance, Walcha, Woolgoolga and Wyong.

Land matters for Bendemeer, Bungendore, Bonalbo, Cobar, Fish River Scheme, Junee, Lower Clarence District, Lennox Head, Manning District, Nimmitabel, Parkes, Peak Hill, The Entrance, Woolgoolga and Wyong.

Sewerage.—Engineering survey matters for Bowraville, Blacktown High and Primary Schools, Coffs Harbour, Coolamon, Canowindra, Coraki, Dorrigo, Forster, Guyra, Kiama District Hospital, Macksville-Nambucca Heads, Moama, Moree, Mullumbimby, Mulwala, Peat and Milson Island Hospital, Peak Hill, Springwood-Faulconbridge, Turrumurra South High School, Uralla, Walgett, Wallerawang, Werris Creek and Woy Woy Public Schools.

Land matters for Barham, Coonabarabran, Guyra, Jerilderie, Lawson, Moama, Mulwala, Quirindi, Tweed Heads, Wallerawang and Uralla.

Harbours and Rivers.—Engineering survey matters for Bermagui, Berkeley Boat Harbour, Bellinger River, Evans River, Forster, Lake Macquarie Entrance, Port Kembla, Port Stephens and Wollongong.

Land matters for Forster, Hunter River (Maitland), Macleay River, Newcastle Island Development, Newcastle Harbour Wharfage, Port Kembla Outer and Inner Harbours, Tomki Wharf Approach, Wentworth Wharf and Wollongong Harbour.

Hospitals.—Engineering survey matters for Bateman's Bay, Crown Street Women's, Gladsville, Kiama, Lidcombe State, Morisset, Parramatta District, Peat and Milson Island, Royal Prince Alfred, Summer Hill Diagnostic Centre, Sacred Heart Hospice, and Tweed Heads.

Land matters for Mona Vale, Marrickville, Narooma, Queanbeyan, and Tingha.

Education.—Engineering survey matters for high schools at Albury North, Arthur Phillip, Armidale, Ashfield Boys', Bonnyrigg, Ballina, Bowral, Balgowlah Boys', Coffs Harbour, Cremorne Girls', Canterbury Boys', Caringbah, Cowra, Coonabarabran, Condobolin, Engadine, East Hills Boys', Epping

Boys', Jannali Boys', Kyogle, Richmond River, Lindfield East, Liverpool, Matraville, Moree Intermediate, Manly Boys', Macarthur Girls', Mount Druitt, Nowra (Bomaderry), Nowra, North Sydney Boys', North Sydney Girls', Parkes, Penrith, Port Hacking, Regents Park, Raymond Terrace, Sans Souci, Sefton, Tenterfield, Tamworth, Warrawong.

Public schools at Bomaderry, Brookvale Special, Coonabarabran, Dubbo South, Dubbo West, Farmborough Road, Goulburn, Guyra Central, Jennings, Kyogle Central, Lavington East, Leeton, Merrylands West, Molong Central, Milton, Miller, Nowra East, Nimbin Central, Orange Infants', Queanbeyan West, Randwick, South West Rocks, Tenterfield, Uralla Central, Woodbong Central, Woodburn Central, Walgett Central, Warrawong, Yetman.

Technical Colleges at Albury, Brookvale, Cowra, Campbelltown, Dapto, Glendale, Gosford, Leeton, Murwillumbah, Mona Vale, North Sydney, West Sydney.

District Rural schools at Canowindra and Narromine and Educational Centre at Wollongong North.

Land matters for high schools as Asquith Girls', Chester Hill, Canterbury Boys', Crookwell, Croudace Bay, Colyton, Caringbah, Engadine, Glendale, Glen Innes, Kingsgrove North, Koorling, Leichhardt Girls', Mount Druitt, Pennant Hills, Ryde, Sans Souci, Tumut, Warrawong, and Wetherill Park.

Public schools at Austinmer, Balgowlah, Balgowlah North, Blacktown, Bletchington, Branxton, Brookvale, Chester Hill North, Collaroy Plateau West, Croydon Central, Dubbo South, Dumaresq Island, Eglinton, Fairfield West, Farrar School for the Deaf, Glenfield, Glenroi Heights, Glossodia, Gosford North, Green Point, Jannali East, Jerilderie, Kahibah, Kurrajong, Lindfield, Melrose Park, Merewether Heights, Merrylands Secondary, Morpeth, Mount Pleasant, Mulyan, Narrawa North, Nemingha, Nimbin Central, Oxley Park, Pyrmont, Roselea, St Mary's South, Springfield, Stanwell Park, Theresa Creek, Tooraweenah, Tamworth South, Tweed Heads, Valentine, Walcha Central, Wallambah, Wallerobie, and Wattawa Heights.

Technical Colleges at Blacktown, Glendale, and Mona Vale.

River Murray Waters.—Land matters for Hume Reservoir and Chowilla Reservoir.

Stormwater Drainage.—Engineering survey matters for Blacktown Police Station and Court House.

Roads.—Engineering survey matters for Guyra sewerage.

Local Government.—Engineering survey matters for Imlay Shire Council (bridge sites).

Land matters for Armidale, Auburn, Bankstown, Bathurst, Baulkham Hills, Blacktown, Brisbane Waters, Brewarrina, Blue Mountains, Camden, Campbelltown, Canterbury, Central Darling, Colo, Fairfield, Gosford, Goulburn, Greater Wollongong, Hartley, Hastings, Hay, Hornsby, Hurstville, Kogarah, Ku-ring-gai, Lake Macquarie, Leichhardt, Lithgow, Liverpool, Mosman, Murrumbidgee, Namoi, Newcastle, Ophir, Orange, Parramatta, Peel-Cunningham, Penrith, Prospect, Randwick, Rockdale, Ryde, Shoalhaven, Shortland, Southern Riverina, Southern Tablelands, Sutherland, Strathfield, Sydney, Tamworth, Taree, Wade, Warren, Warringah, Wingecarribee, Woodburn, Woollahra, and Wyong Councils.

Police Stations and Court Houses.—Engineering survey matters for Blayney, Gosford, Moulamein, Parramatta, Tocumwal, Warilla, Waverley, and Woodstock.

Land matters for Baradine, Blacktown, Bonalbo, Bowning, Carcoar, Hillston, Lidcombe, Majors Creek, Newcastle, Pallamallawa, Port Kembla, Sydney, and Walgett.

Flood Mitigation.—Engineering survey matters for Hunter Valley and Manning River.

Land matters for Hunter Valley and Richmond River.

Staff Housing.—Land matters for Cootamundra, Forster, Coffs Harbour, Tamworth, and Warialda.

Miscellaneous Projects.—Engineering survey matters for Berrima Training Centre, Conservatorium of Music, Kingsford Public Records Repository, Lismore Government Offices, Londonderry Core Library, Long Bay State Penitentiary, Rawson Chambers (Sydney), and Daruk Training School (Windsor).

Land matters for Art Gallery Extensions, Campbelltown Public Buildings, Cootamundra Government Offices, Charles-town Fire Station, Central Railway Lands, Enfield Fire Station, Hunter District Water Board, Lismore Government Offices, Moree Government Offices, Marcellin College (Randwick), Nanima Aborigines Reserve, Ormond Girls' Training School

(Thornleigh), Snowy Mountains Hydro-Electric Authority, State Tileworks, State Forests (Bago, Bowman, and Billapaloola), Sydney Church of England Grammar School, Temora to Wyalong Railway Land, Wollongong Baby Health Centre, Young Government Offices, and Yarrowonga to Oaklands Railway Land.

Local Government Areas.—Eighteen descriptions were prepared for the alteration of internal and external boundaries in respect of three cities, two municipalities, and eight shires; 23 descriptions were prepared for the proclamation of urban and building areas and 120 descriptions were prepared of residential districts. Numerous plans and sketches were prepared in connection with this work.

Town Planning.—Investigations were made into the effect of town planning schemes on certain State-owned properties within the cities of Penrith and Wagga Wagga, and the municipalities of Bowral, Concord, Kempsey, and Manly.

Title Search and Investigation.—Title and survey information were obtained in connection with acquisitions of land for works of this and other departments and for resumptions by local government bodies. Similar information was also obtained in connection with the sale or lease of departmental properties and for use in engineering, surveying and drafting. Nine hundred and one cases requiring information of this nature were dealt with.

Miscellaneous.—One hundred and six Certificates of Identity and two Technical Descriptions for Release were prepared. Three hundred and ninety-six descriptions were prepared for resumptions, sales, or leases.

Inscriptions were made on 161 qualification certificates issued by the Local Government Examinations Committee.

Various diagrams, graphs, and sketches were also prepared.

SUMMARY OF SURVEY DRAFTING

	Engineering surveys plans	Land matters plans
Water Supply	115	41
Sewerage	352	45
Harbours and Rivers	9	24
Hospitals	19	7
Education	105	82
River Murray Waters	—	26
Stormwater Drainage	1	—
Roads	3	—
Local Government	8	235
Police Stations and Court Houses	9	16
Flood Mitigation	35	2
Staff Housing	—	5
Miscellaneous	11	37
	<u>667</u>	<u>520</u>

Local Government Boundaries (descriptions prepared)—

Alteration of boundaries	18
Urban and building areas	23
Residential districts	120

Title Search and Investigation and Miscellaneous—

Number of cases requiring title and survey information	901
Certificates of Identity prepared	106
Technical descriptions prepared	398

PHOTOGRAPHY AND PLAN PRINTING

In addition to this Department's requirements, photography, plan printing and mounting services were carried out for the Departments of Agriculture, Chief Secretary's, Education, Federal Taxation, Health, Interior, Labour and Industry, Lands, Local Government, Mines, Police, Registrar-General's, Conservation, Technical Education, Treasury, Valuer-General's, and for the Australian Museum, Conservatorium of Music, Electricity Authority, Electricity Commission, Forestry Commission, Housing Commission, The Parliament, Public Library, Public Service Board, Rent Control Office, State Brickworks, Superannuation Board, Sydney Opera House, Valuer-General, and for various municipal and shire councils.

SUMMARY

Ammonia prints (paper)	185,706
Ammonia foil positives	3,826
Cronaflex film positives	203
Mounts	6,468
Field camera negatives	5,210
Field camera prints	8,304
Barcro negatives	1,102
Barcro prints	4,995
35-mm microfilm negatives	58,088
35-mm microfilm prints	927
16-mm microfilm negatives	94,109
16-mm microfilm prints	32
Photocopy negatives	13,172
Photocopy prints	12,538
Photocopy film positives	634

PLAN ROOM

Plans registered	3,923
Field and level books registered	396
Plans and books issued and returned ...	27,800

REPRESENTATION ON COMMITTEES

The Department is represented by officers of the Survey Branch on the following Committees:

- Surveying Advisory Panel—University of N.S.W.
- Surveying Certificate Course Advisory Committee—Sydney Technical College.
- Land and Engineering Survey Draftsmen's Course—Sydney Technical College.
- Hunter Valley Assessment Board.
- State Mapping Advisory Committee.
- Standards Association of Australia—Sensitized Paper.
- Inter-departmental Committee on Drafting Work.

GENERAL

Administrative work was performed in connection with departmental acquisitions of land and the sales, leases, and various forms of tenancies of departmental properties. Advice was given to a number of councils concerning the procedure for acquiring the lands and easements necessary for water supply and sewerage works.

A number of town-planning schemes was examined with respect to their effect on crown properties and representations were made in some cases with a view to effecting rezoning of certain lands.

APPENDIX IX

STORES BRANCH

FUNCTIONS

1. Purchase of goods, materials, plant, and equipment required by the Department.
2. All incidental work associated with (1) such as arranging import licences, customs entries, customs duty, etc.
3. Administration of the Department's store and engineering workshop at Leichhardt.
4. Inspection of pipes (cast iron, Fibrolite, steel, earthenware, etc.), fittings, valves, fabricated steelwork, and other inspection associated with the metal trades.
5. Preparation and dispatch of samples of cement at the various cement works for testing and the release and dispatch of tested cement.
6. Issuing and recording postage and railway stamps for Departmental purposes.
7. Arranging insurances, except in respect of workers' compensation and motor vehicles.
8. Supervision of Head Office motor cars.
9. Hire of owner-driven lorries and utilities in the metropolitan area.
10. Custody, control, and issue of stationery.

OPERATIONS

Purchasing

There was a slight increase in the volume of work associated with the purchase of materials, etc., owing to State Psychiatric services purchasing and increased country towns water supply and sewerage constructions.

SUMMARY OF OPERATIONS

Head Office—

Number of requisitions received	15,522
Number of orders issued	16,470
Number of quotations received	1,400

Metropolitan area inspections continued on a variety of works, ranging from pipes, valves, to concrete and steel girders for bridges, and fabrication and erection of structural steel for the Sydney Opera House. To date, approximately 800 tons of steel have been inspected for the last-named work. During the year the contract for cast-iron specials was awarded to Tulloch Ltd, Rhodes, resulting in increased inspection work in this area. To 30th June, 1966, 20 tons of castings were inspected here.

Inspectors at James Hardie & Co. Pty Ltd, Camellia, continued to inspect the whole of the company's output of asbestos cement pipes, and during 1965-66 inspected 4,921,639 feet of pipe, which was an increase of 1,657,177 feet above the previous year.

Earthenware pipes and fittings inspected amounted to 555,339 feet of pipe and 52,069 fittings. This was an increase of 297,653 feet and 7,995 fittings over 1964-65. Concrete pipes and fittings were 26,148 feet and 120 units, respectively.

At Stanton Pipes, Yennora, 43,928 cast-iron pipes were inspected, being an increase over the previous year. Additionally, inspection took place at Bankstown Foundry and McElvey Engineering, where 7 tons of castings, and 1,059 feet of flanged cast-iron pipes were inspected. Miscellaneous castings were inspected at Gordon Marr & Co. Ltd, which included 2,428 surface boxes. Other inspections included crane towers, bridge beams, formwork, fabricated stainless steel, and water meters.

In the Newcastle area, 1,445 stop valves, 9,493 special castings, 114,347 feet of mild-steel pipes, and 512 mild-steel fittings were inspected, besides which inspections included supervision of welding on the coal-loading wharf at Carrington and on various fabrications being undertaken at various private works.

Inspections have been made on behalf of the Hunter District Water Board, interstate governmental bodies, besides the various branches of this Department. At Port Kembla, 1,000 tons of Larssen steel sheet piling was inspected for the South Australian Harbour Board.

Cement

Officers are located at the various cement works to take samples of cement for submission for testing and analysis prior to release to various customers when approved. Two inspectors are employed on two shifts at the works of Southern Portland Cement Co., at Berrima. One inspector covers both Kandos and Charbon, and one inspector is located at both Maldon and Portland.

Leichhardt Depot

The overhaul of the Department's No. 1 plant and the maintenance of equipment in Government institutions continued.

The workshops carried out many fabricated steelwork jobs which included roof trusses, stanchions, and steel balustrading for new school classrooms, and the manufacture of numerous mild-steel fabrications for additions and alterations to many public buildings.

The Store continued to supply departmental branches, works and projects, with a wide range of materials required in the course of departmental activities.

The financial operations of the Depot are shown in Appendix 1.

Car Services

The Branch operates a fleet of nine motor cars with eight drivers which are retained for the use of departmental officers in the metropolitan area. Additional cars are hired as required.

REPRESENTATION ON COMMITTEES

State Contracts Control Board.

Inter-departmental Lorry Hire Committee.

APPENDIX X

PLANT BRANCH

FUNCTIONS

1. The procurement, transfer, operation, service, maintenance, repair, and overhaul of the Department's construction plant, vehicles, instruments, mechanical installations and equipment.

2. Advice and assistance to Construction Branches and Departmental undertakings in mechanical engineering matters and the selection of plant and equipment for works in hand or to be undertaken.

3. Inspection of plant and installations to ensure effective service, maintenance and satisfactory operation.

4. The disposal of obsolete, uneconomical or unserviceable plant, mechanical equipment and instruments.

5. Supervision of the Mechanical Engineering aspects of departmental works as a service to Construction Branches.

6. The establishment and operation of the Department's system of plant, instrument and mechanical equipment records.

OPERATIONS

New Plant and Equipment

During the year new equipment purchases were made which in the aggregate was valued at approximately \$780,876, made up of the following classes:

	\$
Earthmoving and Construction Equipment ..	472,800
Motor Vehicles	286,521
Instruments and Minor Stores Sub-account	16,580
Miscellaneous	4,975

The policy of replacing old plant with new equipment of modern type has been continued steadily throughout the year. This has resulted in improved plant availability, decreased maintenance cost in relation to the value of plant in service and increased revenue.

The employment of additional capital obtained from Treasury last year has enabled the Branch to finance the new purchases referred to above and also to provide for working capital. The capital cost of equipment now held by the Branch is \$4,216,528 in "A" Classification.

There is a steady demand for construction equipment and it is anticipated that hire will continue at the present level.

There has also been a steady demand upon the services of the Branch for the procurement of mechanical and electrical equipment, machine tools, plant, instruments and specialized equipment purchased with the funds of other Branches, Services or Trading Undertakings and known generally as "C" class plant amounting to \$205,619.

The more important items of plant and equipment for which procurement action was undertaken during the year is divided as follows:

No. 1 Plant Control

1st July, 1965, to 30th June, 1966

	\$
2 only Mobile Cranes	89,794.00
11 only Compressors	67,330.00
2 only H.D. Dump Trucks	29,732.00
2 Sets Excavator conversion equipment and buckets	24,810.12
1 only Grader	17,138.00
1 only Front End Loader	9,994.00
1 only Rock Drill	9,038.00
4 only Welding Sets	8,150.00
3 only weighbatchers	5,920.00
23 only Vibrators concrete	4,726.00
1 only Ripper	4,328.00

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	\$
8 only Pumps	4,189.10
24 only Picks, rock	3,954.40
11 only Hoists and Winches	2,655.00
2 only Vehicles "Desert Rats"	2,607.00
1 only Rock rake	2,580.00
3 only Comb. Woodworking Machines	2,343.10
12 only Rammers	1,912.00
2 only Pile driving monkeys 2½-ton	1,820.49
9 only Grinding Machines	1,641.17
1 only Earth Borer	776.00
4 only Saws (chain and circular)	615.50
25 Items Miscellaneous	37,606.51
96 only Vehicles	220,042.00
No. 1 Plant Control Total	<u>\$553,702.39</u>

"C" Classification

1st July, 1965, to 30th June, 1966

	\$
Construction equipment	71,777.15
Workshop equipment	44,349.93
Miscellaneous equipment	23,013.76
36 motor vehicles	66,479.00
Total "C" Class	<u>\$205,619.84</u>

SERVICES TO OTHER BRANCHES

Generally

The Branch has maintained close liaison with all Construction Branches of the Department in order to obtain the most suitable plant for projects in hand and for future planned works. Demonstrations of new items have been arranged where required in the selection of such equipment. Plant performance in the field particularly as concerning its maintenance and suitability, has been studied by the Plant Engineer or his representatives. Efficiency of plant operation has been maintained and close attention paid to this aspect by Branch Inspectors on their regular visits to projects.

In addition, this Branch has continued to give a service in mechanical engineering matters to the operating Branches, and where required, to other Departments.

Water Supply and Sewerage Branch

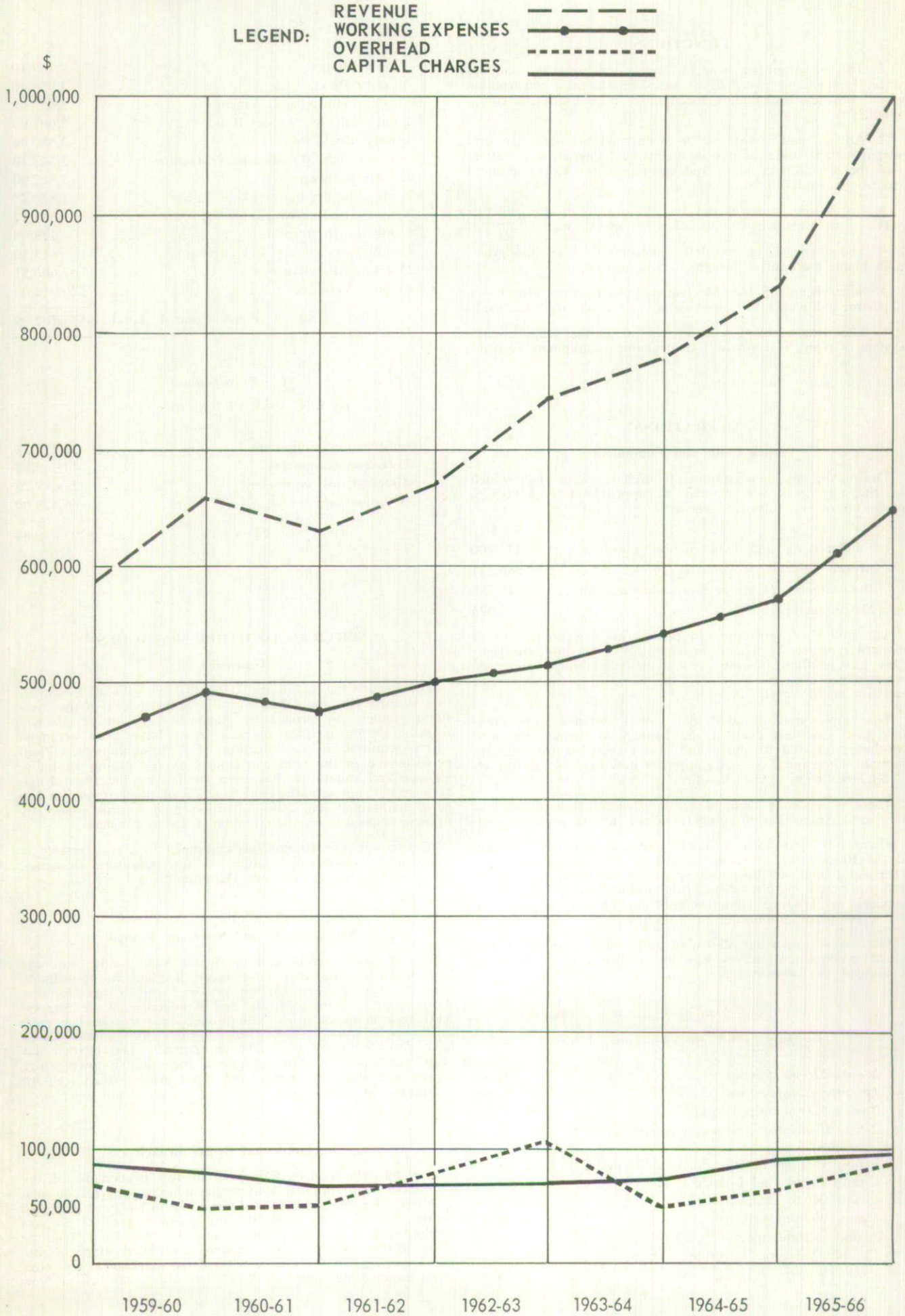
New projects commenced by Water Supply and Sewerage Branch during the year have received plant to co-ordinate with progress of construction on such works as Manning Water Supply, Lennox Heads, and Woolgoolga Water Supply. Also existing major projects in progress for this Branch such as Lower Clarence Water Supply where day labour works have absorbed items of major equipment. The Branch has been supplied also with equipment for country town water supply and sewerage works and other works which require equipment for supervision.

Harbours and Rivers Branch

New harbour works commenced by this Branch during the year have been supplied with major items of equipment such as Forster-Tuncurry Works and close liaison has been extended to this Branch concerning the equipment on other projects in hand such as Ballina, Evans Heads, etc. The Coal Handling Plant at Port Kembla has required continued support from this Branch particularly in respect of the mechanical and electrical engineering matters. Work has also continued at New

APPENDIX No. 1
 GRAPH SHOWING COMPARISON BETWEEN REVENUE,
 WORKING EXPENSES AND OTHER CHARGES.

PLANT BRANCH
 DEPT OF PUBLIC WORKS



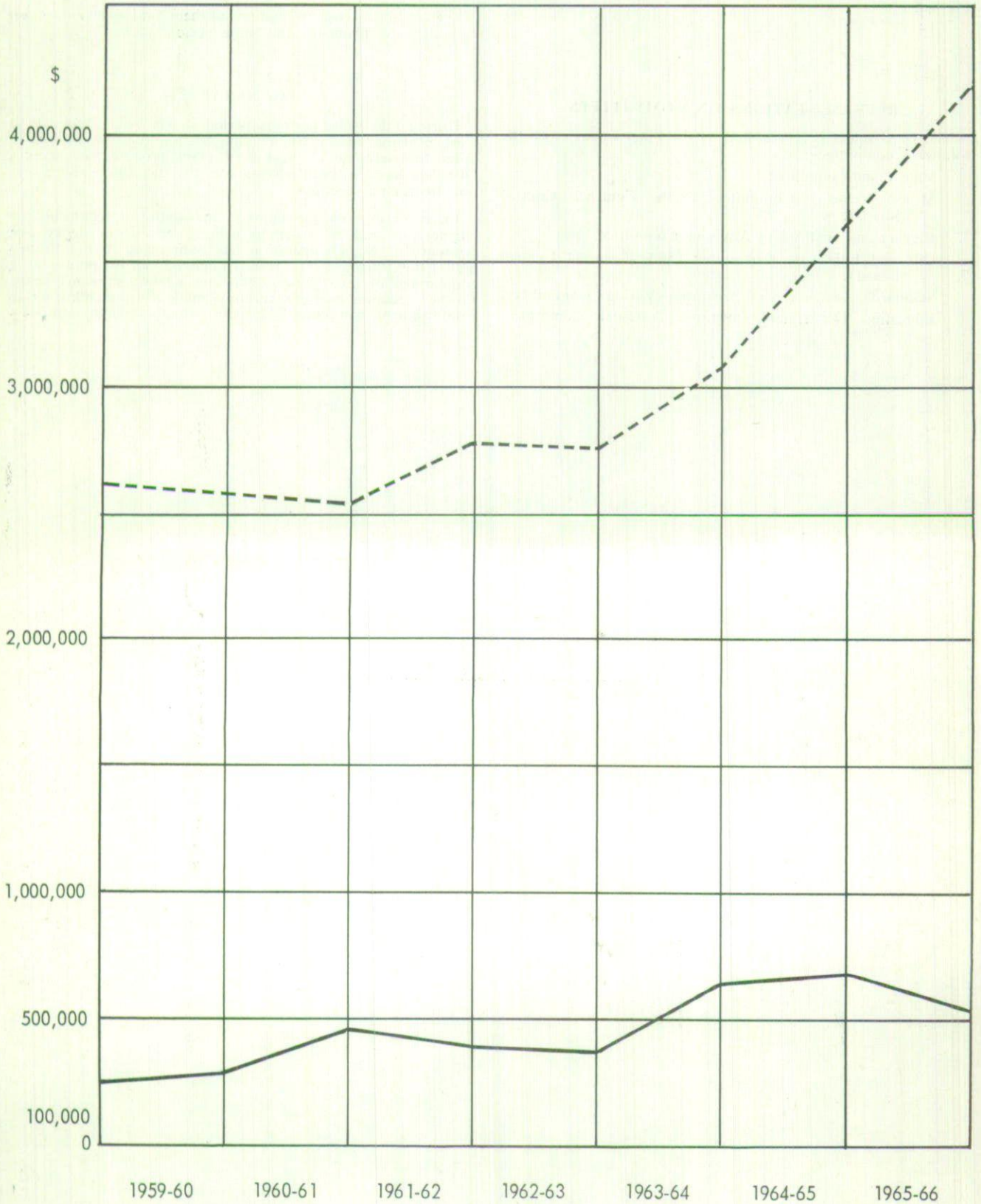
APPENDIX No. 2

GRAPH SHOWING COMPARISON BETWEEN CAPITAL COST OF EQUIPMENT HELD AND EXPENDITURE ON NEW PLANT.

PLANT BRANCH
DEPT OF PUBLIC WORKS

LEGEND:

CAPITAL COST OF EQUIPMENT HELD - - - - -
EXPENDITURE ON NEW PLANT _____



castle District on new wharf construction, The Islands Reclamation Scheme, and also at the Hunter Valley Flood Mitigation programme.

Building Construction and Maintenance Branch

Activity on plant matters has continued by the Building Construction and Maintenance Branch during the year on the extensive programme of work to Education Department requirements and other building construction work by the Branch.

Scientific Instrument Section

This section of the Plant Branch continues to give efficient maintenance and repair service for all instruments held in the Department the expenditure of which has been advanced during the year by new purchases amounting to approximately \$16,580.

REPRESENTATIONS ON COMMITTEES

The Department is represented by the Plant Engineer on the following committees:

- State Plant Committee.
- Motor Vehicles Committee (State Contract Control Board).
- Riggers and Scaffolding Advisory Committee.
- Oils and Lubricants Committee (State Contract Control Board).
- Standards Association of Australia—Various Committees.
- Education Department Furniture Advisory Committee.

FINANCIAL

The following is a financial comparison between current and previous years for No. 1 Plant Control Account:

	1961-62	1962-63	1963-64	1964-65	1965-66
Revenue	\$ 666,854	\$ 745,742	\$ 774,670	\$ 883,646	\$ 1,000,280
Working Expenses	500,692	518,788	541,712	599,258	647,496
Overhead	76,300	104,666*	50,110	79,802	86,851
Capital Charges....	70,280	70,466	75,600	93,700	99,475
Capital cost of Equipment held..	2,769,296	2,768,088	3,041,152	3,804,946	4,216,528

* Includes loss on realization of plant of \$41,082.

Details of the financial operations of the Branch are shown graphically in appendices by:

- (1) Comparison between Revenue, Working Expenses, and other charges during the year; and
- (2) capital cost of equipment held and expenditure on new plant for the same period.

GENERAL

During the twelve months period it has been necessary to work overtime in the Engineering Section for two periods in order to overcome a backlog of plant procurement actions. Overtime has also been necessary in the Inspection and Scientific Instrument Sections.

Increases in both the number and status of technical and engineering staff in order to achieve greater efficiency and economy of Branch operation has been made to the Branch Staff Establishment. The results obtained can be gauged by a comparison of the financial headings against previous years. Further recommendations recently made for amendments to Establishment will consolidate this situation when approved.

APPENDIX XI

STATE DOCKYARD

FUNCTIONS

The State Dockyard, Newcastle, was established by the New South Wales Engineering and Shipbuilding Undertaking Act, 1943, which empowered the Undertaking to carry out all types of engineering, shipbuilding, ship repair, docking and work of an incidental character.

OPERATIONS

Additional Facilities

Buildings.—The extension of the Shipyard Fabricating and Assembly Shop by 280 ft (making 1,000 ft in all) was completed during the year at a total cost of \$235,292 of which \$164,316 was expended during the period under review. An additional 50-ton O.E.T. crane was installed at a cost of \$42,618 giving a full 100-ton lifting capacity over the major section assembly areas.

A protective building was constructed over the newly installed shipyard plant (plate levelling rolls, shot blasting and spray painting machine)—the total cost being approximately \$25,000.

Building Berths.—Work continued on the reconstruction of No. 2 building berth to provide 25,000 ton d.w. building capacity. By the close of the period all above water work had been completed and underwater piling, fitting of headstocks, etc., was proceeding. Expenditure to date on this work, which is being carried out by the Department of Public Works, totals \$353,806.

Similar work on No. 1 building berth was commenced and by the close of the year, concrete retaining walls and ground works had been substantially completed whilst construction of crane track foundations was well advanced. The total

estimated cost of extending and widening this berth (excluding the cost of a new 40-ton travelling crane) is \$410,000 of which \$219,456 had been expended to 30th June, 1966.

Plant and Machinery.—The programme of modernization and expansion of shipbuilding facilities commenced last year was advanced by the installation during the period of several major shipyard plant items including 300-ton hydraulic cold frame bending machine, 12-ft wide plate straightening rolls, automatic plate and section shotblasting machine and automatic spray painting machine.

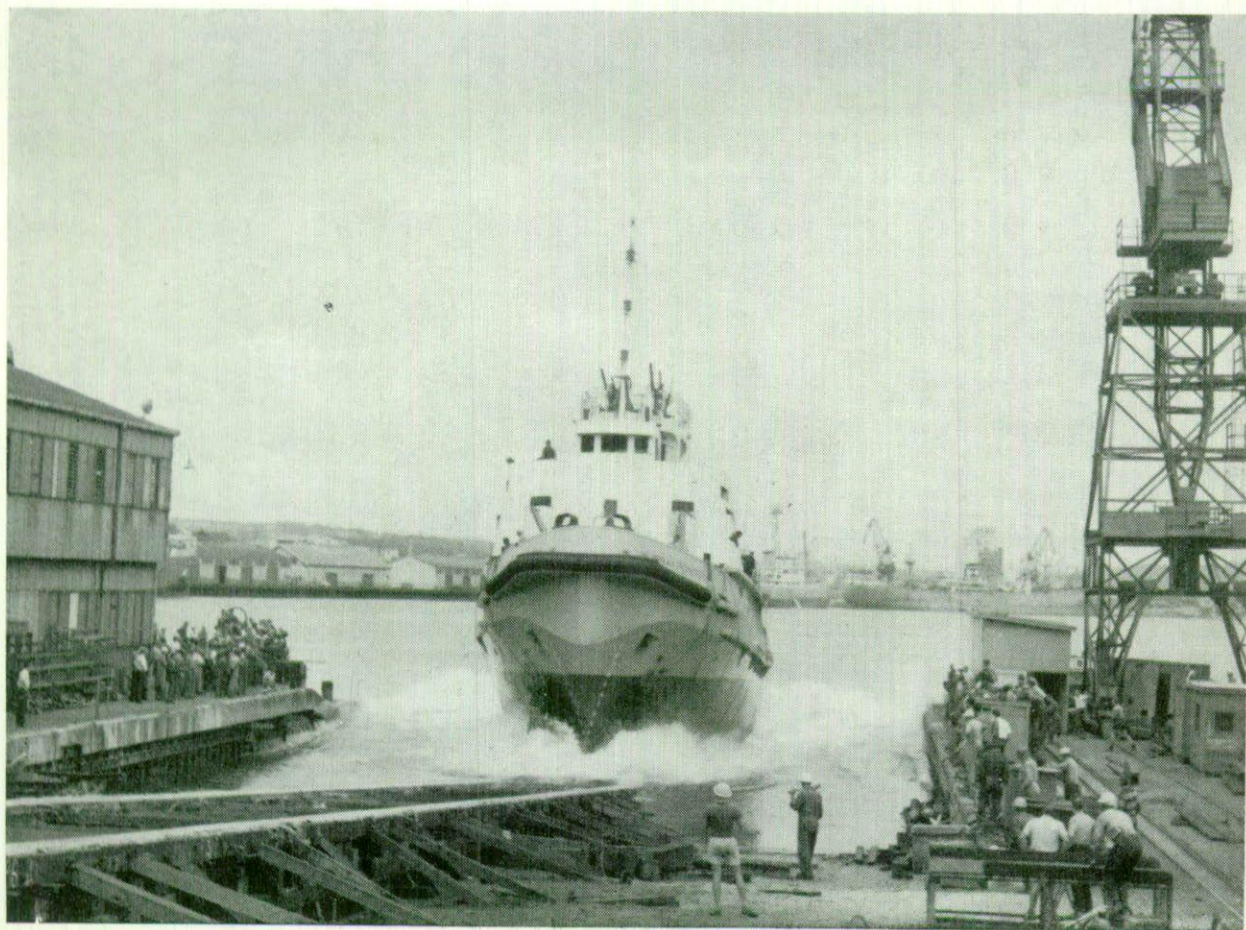
In addition to shipyard plant various other machine tools and smaller items of equipment were provided to ensure that the Dockyard's plant and facilities are maintained at an efficient level.

Vessels under construction

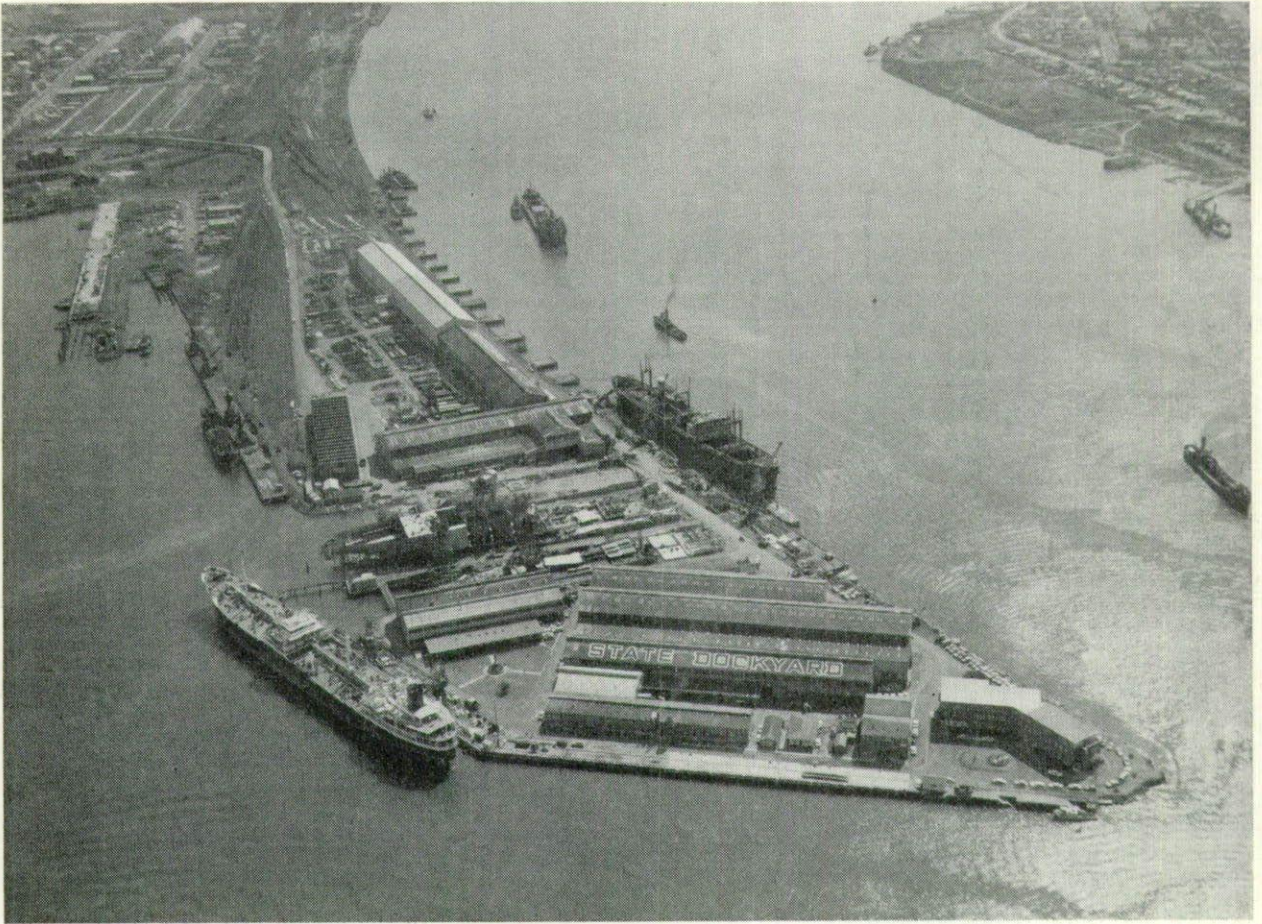
Australian Shipbuilding Board.—Yard Nos 76 and 77—two (2) 19,600-ton d.w. oil tankers for BP (Australia) Ltd. Construction of the hull for the first vessel was well advanced on the building berth and machinery installation and outfitting was in progress at the close of the period. The first bottom section of the second tanker was laid on No. 1 Building Berth during June, 1966.

Department of Public Works.—Yard No. 78—a 95-ft diesel propelled harbour and coastal Tug for the Department of Public Works—approval was received just prior to the close of the year to proceed with the construction of this tug. Working drawings are in course of preparation and shop manufacture will commence at an early date.

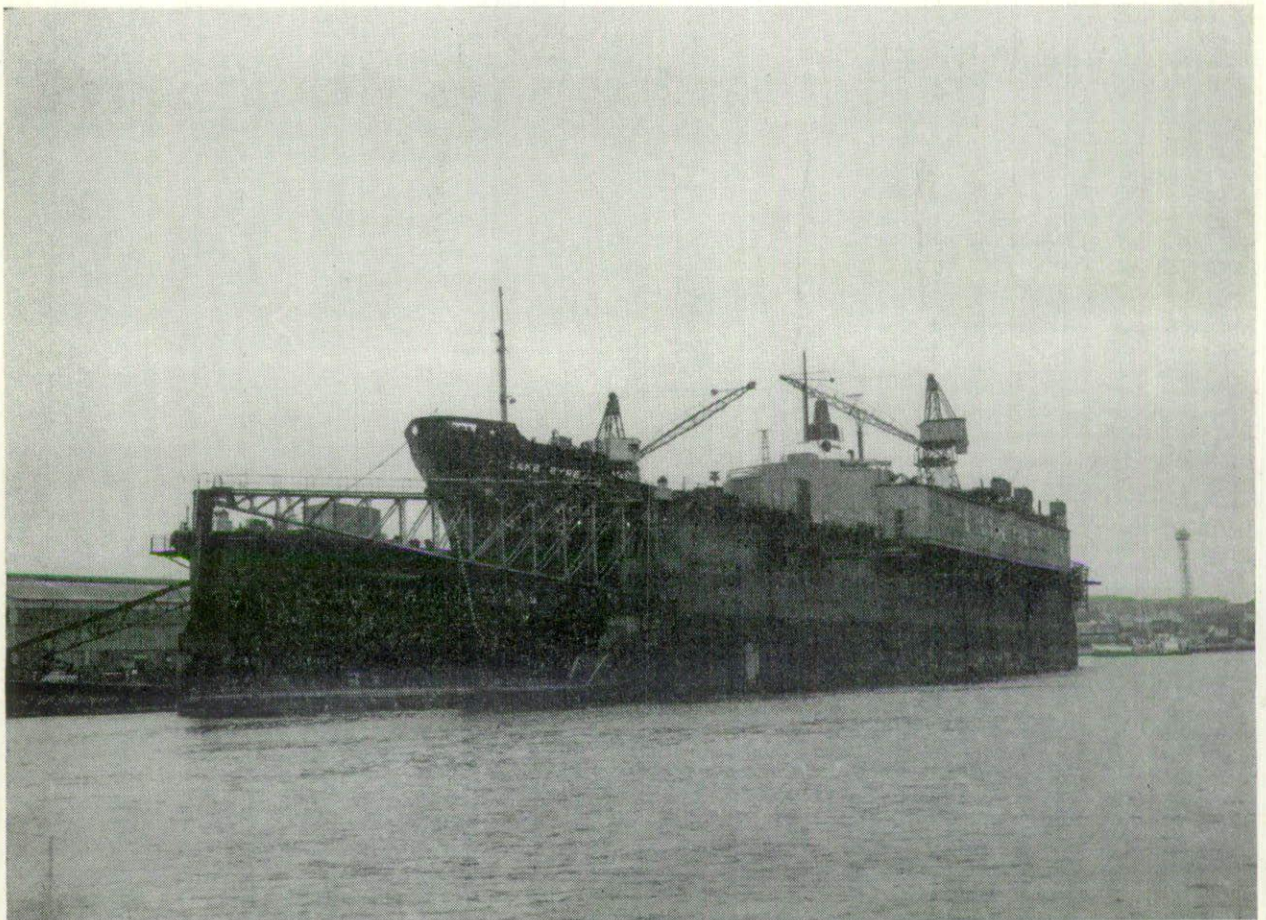
Vessels completed and handed over for service.—Yard No. 73—m.v. *Moresby*—a 3,600-ton d.w. cargo vessel built to the order of the Australian Shipbuilding Board for Burns Philp & Company Ltd successfully completed sea trials during June, 1965, and was handed over to the owners on 28th July, 1965.



Launching of Diesel Tug—"Murray Porter"



Aerial View of State Dockyard



10,000 ton d.w. bulk carrier "Lake Eyre" under repair in the floating dock

Yard Nos 74 and 75—two (2) 120-ft diesel propelled harbour and coastal Tugs ordered through the Australian Shipbuilding Board by the Victorian Public Works Department for service at the new BP Refinery at Westernport, Victoria. The first of the tugs, named *Henry Bolte* was launched on 27th November, 1965, and the second, named *Murray Porter* from the same berth on 11th December, 1965. After sea trials, both vessels were delivered to Melbourne and handed over on 28th January, 1966.

Ship construction activities since the inception of the State Dockyard in March, 1942, to 30th June, 1966, are:

- 63 vessels—completed and in service.
- 3 vessels—under construction.

General Engineering

During the year under review a considerable variety and volume of general engineering work was carried out for the heavy industries, Government instrumentalities and private companies. Major units completed included an ingot car for A.I. & S. Ltd; mill shell for International Combustion Co.; gear cases and housing for B.H.P. Co. Ltd; precipitator shells for Noyes Bros Pty Ltd; rotary wheel reclaimer for G.E.C. (Aust.) Pty Ltd, and water boxes for Commonwealth Steel Company Ltd.

Power Station Engineering

Condensers for both Nos 1 and 2—350 mw turbo-alternator sets for Munmorah Power Station were completed and delivered to site. Work commenced on a repeat order for condensers for Nos 3 and 4 and is progressing in accordance with the production programme and site requirements.

Manufacture of HP heaters for this installation was also undertaken under contract to English Electric Co. Pty Ltd—2 sets of shell and dome ends for No. 5 HP heater being completed whilst work on Nos 6 and 7 heaters was well advanced.

Ship Repair Activities

The following is a summary of ship repair activities during the period:

From 1st July, 1965 to 30th June, 1966—

	Tonnage
58 vessels docked and repaired (including Dredge Service vessels)	289,400
276 vessels not docked but repaired at wharves and slips (excluding Dredge Service vessels)	1,900,759
Repairs to Dredge Service vessels (excluding dockings)	131

From the inception of Dockyard to 30th June, 1966—

1,959 vessels docked and repaired	8,299,110
6,789 vessels not docked but repaired at wharves and slips	29,300,790

The major contracts undertaken for the twelve months' period 1st July, 1965, to 30th June, 1966, were in respect of:

Millers McArthur, Millers Canopus, R. W. Miller, Iron Spencer, Iron Yampi, Iron Whyalla, Lake Boga, Lake Illawarra, Lake Torrens, Timbarra, Slitta, Sletholm, Taranui, Punt Merewether, W. F. Dillingham, Van Linschoten, Chilean Nitrate, Wollongong, Mittagong, Hemiplecta, BP Enterprise, Koonya, Arago, Tamata.

Employees

At the close of the period, the number of staff and employees totalled 1,824.

Financial

For the twenty-fourth successive year, the Undertaking returned a surplus.

The turnover for the financial year ended 31st March, 1966, was \$8,765,560, and the net profit (after providing for depreciation, interest and statutory reserves) was \$388,734.

Aggregate results under the same headings (before appropriating for dividends to employees) for the full period of trading to 31st March, 1966, are:

	\$
Turnover	111,636,552
Net Profit	7,287,028

Profit Sharing Scheme

An amount of \$188,342 has been set aside from the 1965-66 net profit for payment of weekly dividends to employees during 1966-67. The average dividend rate for tradesmen during the year was \$3.75 per week. The total amount set aside for distribution since the commencement of the Scheme in 1951 is \$3,727,952.

APPENDIX XII

STATE BRICKWORKS

FUNCTIONS

The re-establishment of the State Brickworks was authorized by the State Brickworks Act No. 16 of 1946. The functions of the Brickworks include the production, manufacture, distribution and sale of all classes of bricks and any work or activity incidental or supplementary thereto.

OPERATIONS

There was a net profit of \$512,099 after making adequate provision for liabilities such as interest on capital, depreciation of capital assets, accrued repairs and maintenance and leave due to employees. The result, which was the greatest profit made since the Brickwork's re-establishment was an improvement of \$73,021 on the previous year's operations.

Brick production was maintained to capacity during the year. Bricks produced for the year amounted to 67,189,544 and production ex machines totalled 67,363,100.

The total quantity of bricks sold increased from 66,437,076 (sold at an average price of \$36.90 per 1,000 returning \$2,451,621.65) in 1964-65 to 67,233,261 in 1965-66 in which year the average price was \$38.45 per 1,000 returning an amount of \$2,585,158.08.

During the year the selling prices per 1,000 bricks ex yard were varied as shown hereunder:

Period	Face	Creams	Commons
1st April, 1965 to 20th July, 1965	\$ 45.20	\$ 55.75	\$ 32.80
21st July, 1965 to 31st March, 1966	45.95	56.50	33.55

The selling prices charged by the State Brickworks for the year under review were \$5 per 1,000 face, \$7.25 creams and \$4.40 for commons below the recognized trade rates. The reduction represented an annual saving of about \$280,000 to the Brickwork's customers.

Capital assets as at 31st March, 1966, totalled \$1,800,172.94 and were financed—\$843,087.92 from loan funds and \$957,085.02 from Working Account. The Capital Debt Account was \$393,088.

The personnel of the State Brickworks at 31st March, 1966, was 44 Public Service Board appointees and 490 Ministerial employees. Fifty-six contract brick carters and six hired vehicles with drivers were also engaged.

The attached graphs show:

- (a) The financial position of operations for the years 1964-65 and 1965-66. (Refer to 1963-64 chart for previous year's operations).
- (b) Bricks sold for each year of operation since the re-establishment of the State Brickworks.

FINANCIAL

Details of the financial operation of the undertaking are shown in Appendix I.

APPENDIX XIII

GOVERNMENT MOTOR GARAGE

FUNCTIONS

The Government Motor Garage was established for the purpose of servicing, maintaining and repairing motor vehicles owned by State Government Departments.

Services which the Garage provide are:

- (1) Repairs of all descriptions to Departmental Motor Vehicles which include cars, trucks, trailers, caravans and cycles.
- (2) Repairs to motor lawn mowers, light tractors, cultivators, stationary engines, fork lifts, marine engines and outboards.
- (3) A lubrication service (grease and oil change), steam cleaning, car washing and polishing; and the operation of a towing service.
- (4) Repairs to privately owned motor vehicles insured with the Government Insurance Office (Insurance Claims).
- (5) Body Building, which is carried out in all its phases and includes the design and construction of special bodies and alterations to existing bodies.
- (6) Fitting of all radio equipment, sirens, identification signs to Police vehicles.
- (7) All operations of accounting, costing, purchasing and banking are carried out within the Undertaking.

OPERATIONS

The Motor Garage is divided into three main workshops viz.:

- (1) Mechanical and electrical repairs to cars, trucks, vans, forklifts, tractors, grass-cutters/slashers and launch engines.
- (2) Repairs to cycles, cultivators, lawn mowers, outboards and other light machines.
- (3) Body building and repairs to motor vehicle bodies. Police Patrol Van bodies are built and most insurance work is carried out in this workshop.

A comprehensive range of spare parts is stocked from which quick moving parts are readily obtained. Many Departments draw accessories from this stock and parts are despatched by the Garage direct to the country branches.

Work carried out at the Government Motor Garage covered a wide field and many different types of repairs were effected to a variety of vehicles, e.g., engine tune ups, electrical repairs, wheel alignment, brake relines, transmission overhauls, and major and minor body repairs. Owing to the policy adopted of replacing vehicles at between 30,000 and 40,000 miles overhaul work on cars, trucks and cycles has been almost eliminated. Overhauls are now only carried out on vehicles having special bodies or launch engines.

Some special assignments were:

- The construction of 12 new Police Patrol Van bodies including interior fittings.
- Making up working models depicting the operations of clutch, ignition system, brake system, etc., and the conversion of two Ford Falcon cars to dual controls for the Police Driver Training School.
- Supply and fit 41 new electric sirens and modulators (which operate intermittently in lieu of continuously) to Police Patrol Cars.
- Fit up 4 x 4 International truck with rescue equipment for the Police Flood Rescue Squad.

GENERAL

To meet the ever-increasing demands of the Police Department overtime was worked in the body and mechanical sections. Twelve new patrol van bodies were built and sixty other bodies were renovated and fitted to new chasses, and 825 new four-wheel vehicles were fitted with special equipment, e.g., police signs, radios, etc.

A new function undertaken was the washing of cars. A new automatic car washing machine was installed for this purpose and approximately 40 cars were washed every week. Additional power points were fitted in the paint shop for connecting infra-ray quick drying lamps. By the aid of the lamps newly painted bodies are dried much more quickly, thus providing a faster turnover of Police Patrol Vans and other paint repairs.

Eighty-six tow jobs were carried out; the longest journey was from Jenolan Caves.

Only one job was delayed. This was caused by a new crankshaft having to be imported from England.

New equipment purchased during the year was:

- Surface grinding machine.
- Car washing machine.
- Drilling machine.
- Fast battery charger.

Other small items of equipment were purchased as required.

STAFF

During the year 19 motor mechanics, 5 panel beaters and 2 apprentices resigned. Most of these men were replaced and 5 apprentices commenced work.

Three members of the staff attended instruction courses at the British Motor Corporation and the Ford Company schools. Such courses assist the men to keep abreast of the latest models and repair methods.

The latest publications of Automotive Service and Repair Manuals were made available to the Staff for their guidance and edification.

FINANCIAL

Details of the financial operations are attached.

REPRESENTATIONS ON COMMITTEES

The Government Motor Garage is represented on the following committees:

- Lubrication Committee.
- Apprentices Selection Committee.

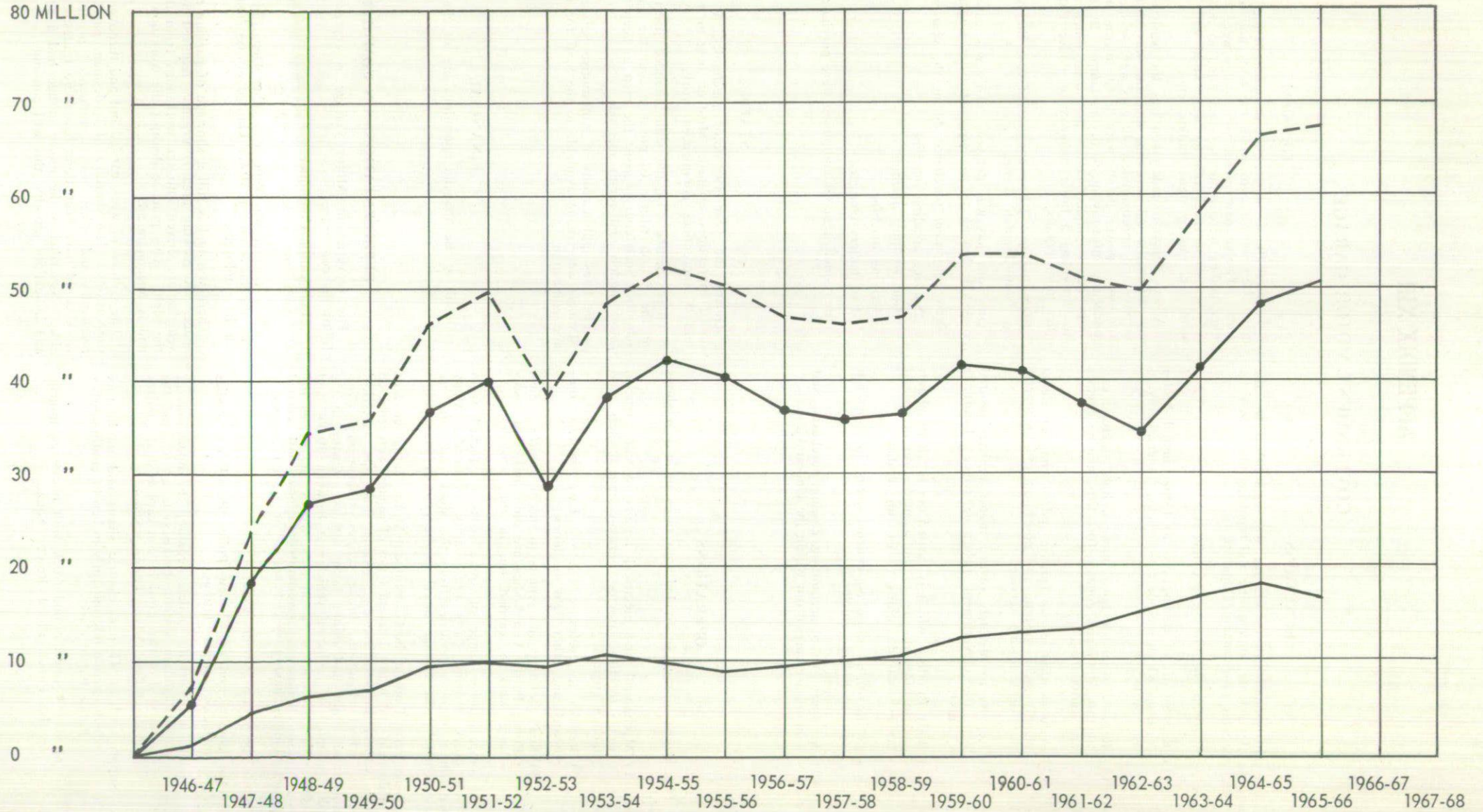
Close contact was kept with other Departments to ensure that the Government Motor Garage always had ample work for its employees.

There was and is still a shortage of parking and workshop space. A parking area is urgently required as daily many vehicles are driven into the workshops from the streets for the night. This practice disrupts the workshops, wastes time and is uneconomical.

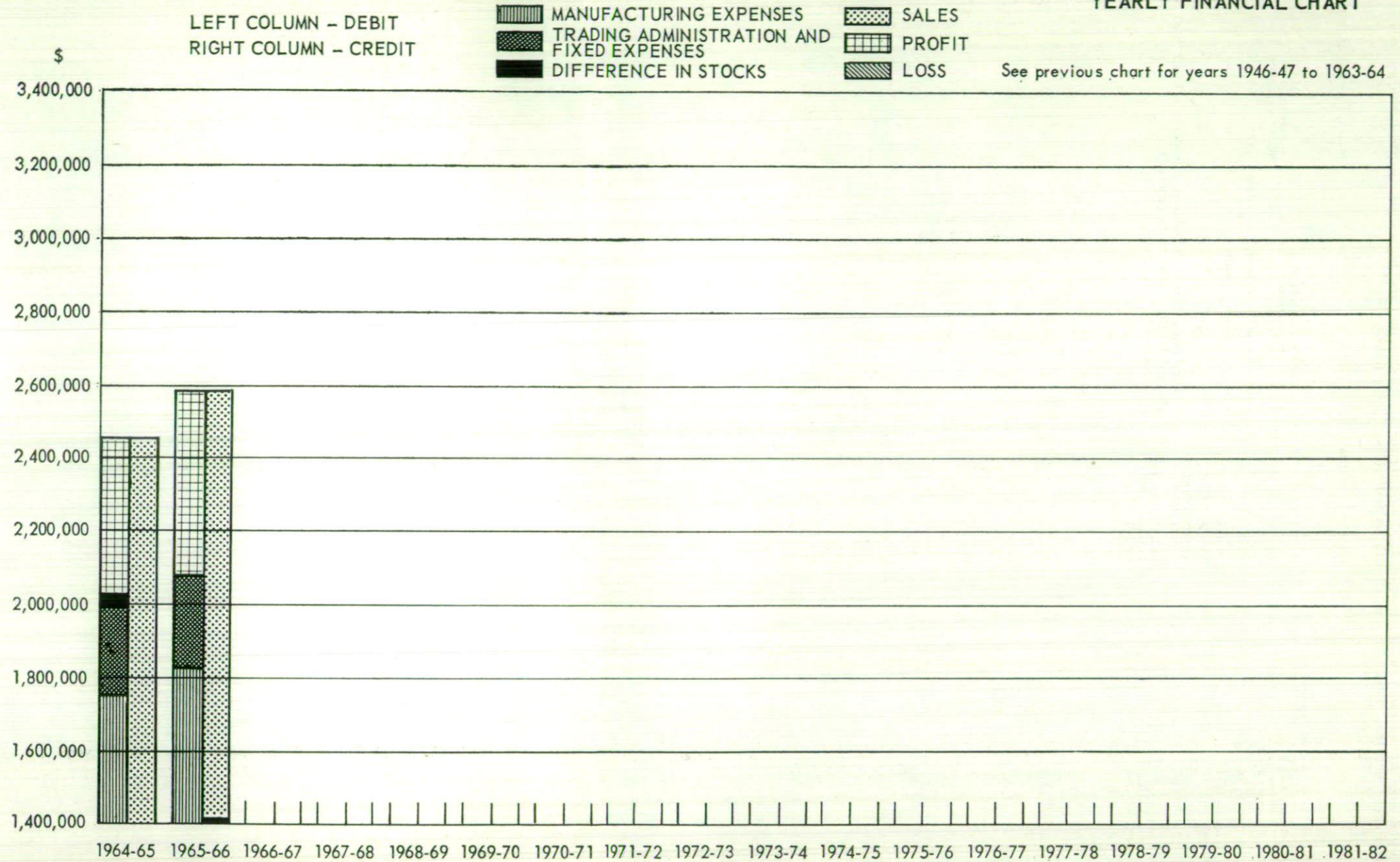
The volume of work carried out and turnover reached new proportions. The shortage of tradesmen, particularly motor mechanics and panel beaters, influenced production. More work could have been done had more tradesmen been available. Nevertheless the motor garage had a successful year and indications are that this will continue.

- - - - - TOTAL SALES
 ● - - - ● SALES OF COMMON BRICKS
 _____ SALES OF FACE BRICKS

STATE BRICKWORKS
BRICK SALES CHART



STATE BRICKWORKS YEARLY FINANCIAL CHART



Following are details of the operation of the Garage for the year ended 30th June, 1966, as compared with previous years:

	1964-65	1965-66
No. of Treasury Accounts operated on.....	1	1
Departmental Dissection of Treasury Accounts	1	1
No. of Bank Accounts	4	4
No. of Vouchers	2,430	2,162
No. of Cheques drawn	2,754	2,620
No. of Receipts issued	2,351	1,923
No. of Sundry Debtors claims	5,281	5,480
	\$	\$
Expenditure	337,910.76	362,712.12
Receipts	336,421.96	384,939.23
	ADMINISTRATION COSTS	
	\$	\$
Salaries	26,546.17	30,478.39
Shop Supervision	12,140.13	18,083.85
Store Supervision	7,092.91	8,075.03

The turnover for the year as compared with previous years is as follows:

	1963-64	1964-65	1965-66
	\$	\$	\$
Value of works carried out	294,379	327,573	334,876
Value of work in progress	18,844	20,076	18,557
Turnover	302,749	329,004	342,981
Employees	64	65	65
Total number of jobs (including Lubritorium)	14,225	15,117	15,406
	\$	\$	\$
Hourly rate charged at 30th June	2.60	2.60	2.60

The hourly rate of \$2.60 was considerably lower than that charged by the motor trade generally.

APPENDIX XIV

PERSONNEL MANAGEMENT

FUNCTIONS

The Personnel functions of the Department comprise: Induction of new employees; employing Professional and General Division staff under delegated authority; supervision of professional traineeship scheme; administration of staff reporting schemes; conduct of counselling and other interviews; approving study leave application and preparation of letters, reports, and submissions on personnel matters.

OPERATIONS

Induction

During the year, 410 new staff commenced duty in the Department and were inducted by the Personnel Section. This is by far the greatest number of new starters to commence in any one financial year since the Personnel Section was established in 1949. Of this number, twenty-eight were recruited from overseas whilst twenty-seven were recruited under delegated authority.

University Trainees

The Department is sponsoring 133 full-time trainees at the Universities:

University of Sydney—
45 Engineering.
17 Architectural.

University of New South Wales (including Newcastle University)—
37 Engineering.
26 Architectural.
6 Surveying.
2 Building.

At the 1965 examinations, fourteen trainees graduated, including six with honours. A trainee in Architecture was awarded the University Medal. Eleven trainees are repeating the year at their own expense after failure at examinations. Five trainees are undertaking studies in Science in conjunction with their engineering studies. A total of forty-one trainees was recruited in 1966, this being the largest intake for any year since trainees were first appointed to the Department.

Apprentices

The Department now has in training in the various trades a total number of 279 apprentices of whom 106 are in country areas. Of these eighteen were awarded special prizes by the Technical Colleges for examination performance. Indentures of five apprentices were cancelled because of unsatisfactory Technical College results and/or job performance.

Special projects concerned with apprentices during the year were preparation of detailed information on apprenticeship training within the Department for presentation by the Public Service Board to the Apprenticeship Inquiry set up by the Government. Detailed information relating to all trades in which apprentices are employed by the Department was compiled for use by the Public Service Board Recruiting Division in a brochure relating to technical careers.

To improve the quality of apprenticeship training in country areas, a special reporting form was designed and introduced. The rating report form is completed by supervising officers at the end of each term. The scheme was introduced in April and May when a visit was made to all country centres employing apprentices by the Personnel Officer and the Supervisor of Apprentices.

Rotation of Assignments

The scheme for planned rotation of assignments for clerical staff was continued and proposals are now in hand for the extension of this scheme to Engineering and Architectural cadets as well as to newly appointed graduates in the professional branches.

Part-time Courses

One hundred and seventy-one members of the staff were granted study leave concessions for attendance at part-time Certificate, Diploma or Degree courses. This is the largest number of officers undertaking part-time courses of study in the Department's history and more than twice the number who were granted study leave last year. These concessions are in addition to those granted to Regulation 116 candidates who attend the technical college one afternoon each week.

Free training in explosives and shotfiring was provided through the Railways Institute for twenty-five selected graduate engineering officers as well as for an additional number of country employees through the correspondence teaching division of the Department of Technical Education.

Exit Interviews

Ninety-four officers of the Professional and Administrative and Clerical Divisions resigned or retired during the year. This figure comprised thirty-three Professional staff, thirty-one male clerical and thirty female clerical. This is one less than for the previous year.

Counselling

Counselling formed an important part of the Section's activities and heavy demands were made by supervisors and staff. Typical interviews concerned staff with bad records of unpunctuality and absenteeism as well as for more complex cases.

Staff Reporting

Staff reporting has been in operation in the Department since April, 1961, and now covers more than 400 clerical staff up to Grade 2, 133 University trainees and 106 country apprentices. The Department now regards regular formal appraisal of staff as one of the most effective techniques available to supervisors for improving and developing staff. Since the introduction of staff reporting much more precise information has been supplied on abilities, skills, and deficiencies where these exist.

In addition to helping in improving and developing staff, well compiled staff reports are also valuable when considering officers for promotion to Class B positions or Grade I. In the near future, it is proposed to introduce a staff reporting scheme for a selected group of junior professional staff including graduates.

Country Visits

In addition to visits made to Newcastle and Port Kembla District Works Offices, at the urgent request of the District Engineer, to advise on staff problems, visits were also made to Building Maintenance Depots at Orange, Wagga, Goulburn, Port Kembla, Newcastle, Tamworth, and Lismore in connection with the introduction of the apprenticeship staff reporting form. A visit was also made to the Clarence Harbour Works, Maclean, where apprentices are employed.

Housing Accommodation

Regular liaison was maintained with the Government Real Estate Section of the Housing Commission of New South Wales, and ten Departmental officers in country areas and the metropolitan area were allocated houses.

Charitable Collections

Collectors from the various approved charity organizations were permitted to sell emblems throughout the Department on prescribed days. Collections organized by the Personnel Section raised \$196.73 for Sydney Legacy, \$83.99 for the United Returned Soldiers' Fund.

Welfare and Staff Amenities

The membership of the Staff Association is now approximate 560. Lunch-hour film screenings, orchestral and choral recitals, plays and revues, meetings of the Speakers Club, sport-

ing and other recreational activities were conducted during the lunch hours. The Co-operative Credit Union has a membership of 1,218. Assets now exceed \$500,000 and 3,245 loans totalling \$1,162,160 have been made to members.

The Staff Journal *Stateworks* was issued bi-monthly throughout the metropolitan and country districts. Personnel notes and other articles were contributed regularly by the Personnel Section.

The Staff Canteen, which is privately leased, continued to operate efficiently and was well-patronized by staff members and is regarded by the Department as a valuable amenity.

APPENDIX XV

BUILDING SERVICES SECTION

FUNCTIONS

The Building Services Section has been established to provide general buildings services in the State Office Block and a limited range of facilities to other Departments as follows:

- (1) The operation and/or maintenance of all mechanical and electrical services in the State Office Block.
- (2) The operation and maintenance of air-conditioning plants and ancillary services, in the Registrar-General's Department, Public Library, Law Courts, and 169 Phillip Street.
- (3) The maintenance of electrical services in the Public Library.
- (4) The operation of food services in the State Office Block, comprising a cafeteria, shop, executive dining-room, and tea-to-desk service.
- (5) A Document Reproduction Centre to meet the needs of all Departments located in the building. This service will include reproduction of documents by photocopying machines and duplicating machines of various types.
- (6) A Central Mail Dispatch Room for all outwards mail, using a variety of mechanical handling equipment. A range of advanced addressing equipment has been installed to perform addressing operations,

repetitive printing, and systems work. In addition to processing work for Departments in the building selected jobs will be performed for other Departments.

- (7) The operation of a PABX telephone exchange comprising 65 P.M.G. lines to the exchange and 117 P.M.G. lines from the exchange, 19 tie lines, and 1,100 extensions.
- (8) Security services for the building.
- (9) Information and commissionaire services on the ground floor of the Tower Block and Premier's Wing.
- (10) Operation of the basement areas, including parking, car washing, and receipt of goods.
- (11) A first-aid centre.
- (12) The operation of a theatrette and control of general conference rooms.

During the year a nucleus of an organization was assembled preparatory to operations commencing in the State Office Block. Many matters associated with the planning of facilities and services to be provided for Departments which will occupy the building were completed. Preliminary arrangements regarding the actual move of Departments to the new building were commenced.
