

PROVINCE OF BRITISH COLUMBIA

Minister of Public Works

REPORT
FOR THE FISCAL YEAR
1965/66



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1967

PROVINCE OF QUEBEC

Minister of Public Works

REPORT

FOR THE YEAR

1900

Printed and Published by the Queen's Printer, Montreal, 1901.

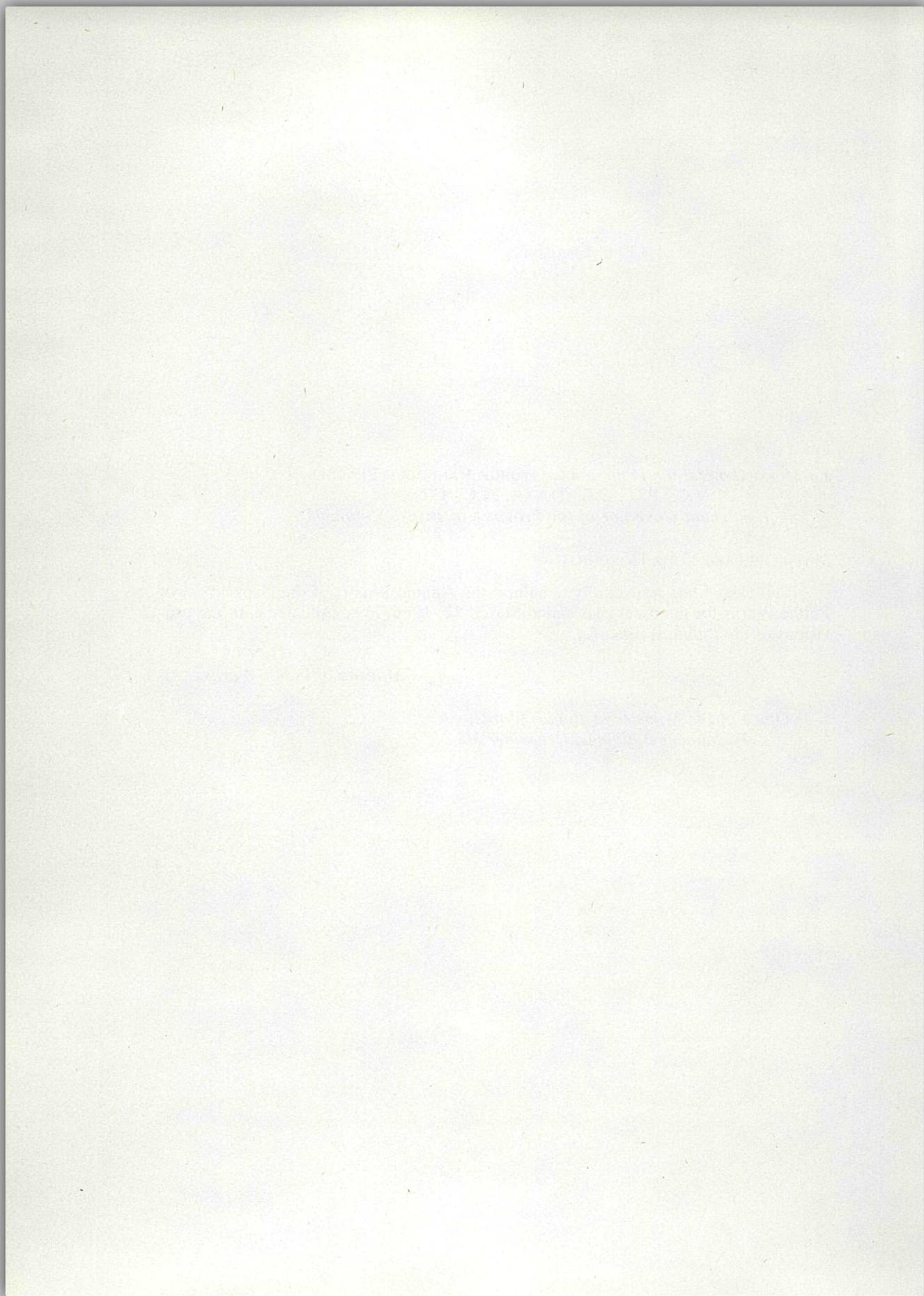
*To Major-General the Honourable GEORGE RANDOLPH PEARKES,
V.C., P.C., C.B., D.S.O., M.C., C.D.,
Lieutenant-Governor of the Province of British Columbia.*

MAY IT PLEASE YOUR HONOUR:

Herewith I beg respectfully to submit the Annual Report of the Department of Public Works for the fiscal year ended March 31, 1966, in compliance with the provisions of the *Public Works Act*.

W. N. CHANT,
Minister of Public Works.

*Office of the Minister of Public Works,
Parliament Buildings, December 30, 1966.*



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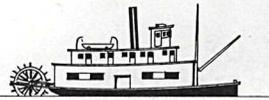
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REPORT OF THE DEPUTY MINISTER

*The Honourable W. N. Chant,
Minister of Public Works,
Parliament Buildings, Victoria, B.C.*

Sir,—I have the honour to submit for your consideration the Annual Report of the Department for the fiscal year ended March 31, 1966.

Elsewhere in this Report will be found those of the heads of divisions. These set out work accomplished and planned, tenders let and accepted, and Departmental accounts.

Rising costs of construction, as referred to in the report for last year, have continued to give concern. The criteria used in the past for estimating building costs no longer provide an effective means of doing so because of the erratic nature of the cost rise in its differing components. By using patterns found reliable in the past, the Department was underestimating contract cost.

Alternatives have been examined and studies are continuing. It is all too easy to suggest a panacea. However, it is not easy to choose an alternative which offers improvement. The method we are following as being most suitable to the requirements of Government service is a more exacting approach to elemental cost analysis.

Basically, this means a critical and thorough analysis of quantities and components entering into construction.

As an indication of the effectiveness of these means, an examination of the most recent 22 projects, having a contract value of nearly \$10,000,000, shows that low bids have been 6.2 per cent less than Departmental estimates.

This method tends to produce two trends. First, if we remain persuaded that our course is correct, then we can expect to move into full-scale estimating on a quantity survey basis. Second, it tends to a situation where cost estimates dictate design. We are endeavouring to minimize this effect as we feel that the sharp improvement in Government building design has received wide approval.

As the number of buildings under our control grows, so also does the importance of our maintenance section.

Further measures to co-ordinate the work of the safety divisions have been put into effect, with the result that a 12½-per-cent increase in permits taken out has been covered by approximately the same number of inspections.

This has been a very busy year, and the staff have met the problems and challenges which it has brought in a most loyal and cheerful manner. I can sincerely report high morale, and I would like to close my report to you, Sir, by placing on record my appreciation of the service which they have rendered.

A. E. WEBB,
Deputy Minister.



REPORT OF THE CHIEF ARCHITECT

During the hiatus between World Wars I and II, cost estimating was a moderately straightforward procedure. Price indices were sufficiently stable to be published weekly, shifts were almost predictable, and building components were fairly limited in comparison with the present day.

These guidelines no longer obtain. Choice of materials seems unlimited, and there is a wide diversity of techniques available to assemble them. To increase the burden of the estimator are the erratic, unpredictable upward costs of labour and material.

Normalcy in equating the cost of a project is now a memory rather than an everyday experience. The immense importance of cost and quality control thus becomes a matter of grave concern to the design departments. Accurate extrapolation can be achieved only by a highly sophisticated cost index based on day-to-day labour and material costs, and case histories of parallel projects.

It demands constant and acute awareness at all echelon levels and the expenditure of many man-hours on research. Quality control, likewise, must be maintained with vigilance on each individual project to adhere to standards appropriate to the project being designed. Cost lines must be held without negating æsthetics or constructional efficiency.

Due to the time lapse that ensues between the original budget figure and the actual tender call, it is mandatory that the original budget be accorded the closest study, and that strict controls be maintained throughout all phases of design.

In certain private practices a trend is developing to make the contractor a part of the architect-client team. It is the feeling of those who are sponsoring this idea that to have a good experienced contractor on the team in the early stages of development is of incalculable benefit to both the architect and the client, and it eliminates to a great extent the friction that occurs between the architect and the contractor. Procedures have been developed whereby the selection of the contractor beforehand can actually be achieved on a competitive basis. The whole idea is very well worth study where the cost of a project is of paramount concern.

Work undertaken by the Department of Public Works is set forth as follows:—

Category 1: Contracts let during the fiscal year 1965/66.

Category 2: Projects researched and planned during the same period.

CATEGORY 1

Thirty-two principal capital contracts were let, aggregating approximately \$8,750,000. Fifty-three per cent were classified under general projects, 22 per cent for the Department of Education, 19 per cent for the Department of Health Services and Hospital Insurance, and 6 per cent for the Attorney-General's Department.

Particulars of these contracts will be found at the end of the Public Works Report, but five projects of particular interest are mentioned here.

1. *Victoria—Archives and Museum Complex.*—Four contracts were let during the fiscal year for this project totalling \$1,415,716.41. These phased contracts were as follows:—

Phase 1: Demolition and excavation.

Phase 2: Structural steel and decking, approximately 2,000 tons.

Phase 3: Footings, foundation walls, and slabs preparatory to the steel erection.

Phase 3A: Reinforced concrete basement and retaining-walls to the Exhibit Building.

2. *Tranquille—Tranquille School.*—Two contracts were awarded, totalling \$1,872,531, for a new 104-bed addition to the school, and new kitchen and dining facilities. The latter were required to accommodate the new expansion and to provide more modern facilities.

3. *Dawson Creek—British Columbia Vocational School.*—The R.C.A.F. sector control site acquired from Crown Assets Disposal Corporation provided 18 existing serviceable buildings. A contract was let to convert these structures into administration offices, classrooms, workshops, dormitories, a gymnasium, and a cafeteria. In addition, two new workshops were built for automotive work and agricultural services. The value of the contract was \$1,535,858.

4. *Prince George—Addition to Men's Gaol.*—An additional 33,000 square feet of floor space was provided to accommodate 30 extra prisoners in cells and 40 in dormitories. The contract cost of this work was \$978,400.

5. *Terrace—British Columbia Vocational School.*—A contract was awarded in the amount of \$943,000 for a classroom and administration building. The classrooms were designed to provide courses in business training, coastal navigation, and other programmes. Later construction phases will provide workshops, dormitories, and a cafeteria.

CATEGORY 2

Approximately 78 projects were in various stages of planning in the fiscal year under review, and, of these, 36 went out to tender during this period. Of the balance remaining in the planning stage, 50 per cent were for the Department of Education, 18 per cent for the Department of Health Services and Hospital Insurance, 17 per cent general, and 15 per cent for the Attorney-General's Department.

DEPARTMENT OF EDUCATION

Planning of additional buildings and services for six of the existing vocational schools was carried on in varying degree. A brief summary of the proposed additions to each vocational-school complex and the Institute of Technology, Burnaby, follows.

1. *British Columbia Vocational School, Burnaby.*—(a) Vocational Classroom and Laboratory Building: This facility was planned for five principal disciplines, namely: (1) Electrical laboratory work; (2) draughting (architectural, civil, structural, and mechanical); (3) appliance maintenance—tuition in repair work of electrical appliances; (4) commercial, with courses in typing, business machines, and methods, and court reporting; (5) instrumentation.

(b) An extension to the cafeteria is necessitated by the increased student enrolment.

(c) Multi-purpose Building: This will provide general facilities for several disciplines and will include an assembly hall for large meetings, convocations, etc., as well as space for recreational purposes.

(d) Vocational Teacher Training College: This building was planned to be basically divided into three main sections—an administration wing, a classroom wing, and a shop wing. The total envisaged floor area planned at 78,000 square feet, of which 50 per cent would comprise the shop space.

2. *British Columbia Institute of Technology, Burnaby.*—(a) Library-Bookstore: The gross floor area will be approximately 80,000 square feet, with provision

for an exhibition area, an audio-visual department with a motion-picture production area, reference and collection space, and a curriculum wing.

(b) New Wing to the Existing Institute: This new wing, with a gross floor area of 164,000 square feet, was designed to provide approximately 20 classrooms, 30 laboratories, and 4 lecture theatres with an aggregate seating capacity for 720 persons. The addition was planned to provide such diverse facilities as wood utilization, building technology, industrial electronics, radar, and a planetarium.

3. *British Columbia Vocational School, Kelowna.*—Cafeteria: The provision of a cafeteria was found to be essential since eating facilities were not readily available in proximity to the vocational school.

4. *British Columbia Vocational School, Nanaimo.*—(a) An additional floor was planned for the existing classroom block to provide more classroom space.

(b) A dormitory for women was planned.

(c) Plans were started for a new additional general-purpose workshop.

5. *British Columbia Vocational School, Nelson.*—(a) A general-purpose workshop was planned.

(b) A cafeteria, again to a large extent standardized, was planned for this school.

6. *British Columbia Vocational School, Prince George.*—Planned as additions to the facilities currently in operation were the following buildings:—

(a) A general-purpose workshop.

(b) Alterations to the classroom block.

(c) A sawmill shed.

(d) A cafeteria.

7. *British Columbia Vocational School, Terrace.*—To provide necessary facilities for this school, which is as yet unoccupied, the following buildings were planned:—

(a) The boiler-house.

(b) A cafeteria.

DEPARTMENT OF HEALTH SERVICES AND HOSPITAL INSURANCE

1. *Victoria—Lee Avenue Mental Hospital.*—Planning was started on this multi-million-dollar project.

The gross floor area was determined at approximately 190,000 square feet with accommodation provided for an out-patients' department, a 10-bed unit day hospital, in-patient facilities for 150 adults and for 21 children.

2. *Victoria—Glendale School, Royal Oak.*—Planning was commenced on this large complex of buildings comprising a mental health facility for 450 retarded patients. The magnificent site is located north of the Colquitz Farm property. Basically, the planning requirements envisaged the following buildings:—

(a) An administration, treatment, kitchen, and ward building.

(b) Eight cottage units for patients.

(c) A classroom building.

(d) An assembly hall with indoor recreational facilities.

(e) Three cottage-type units for the emotionally disturbed, with a dining-room attached.

(f) A boiler-house, laundry, and maintenance-shop unit.

3. *Burnaby—Residential Care Centre.*—Planning was started on this six-building project, which will comprise:—

(a) Three residential units housing a total of 45 children, units being used for specific age-groups.

- (b) A school with seven classrooms.
- (c) An activity building which will house the administrative section, a training centre, a gymnasium, and a small swimming-pool.
- (d) A food centre, including areas for staff and out-patients. The centre was designed to serve the existing clinic and also to prepare meals to be served in the residential units.

The estimated cost of the project was determined at approximately \$1,750,000.

4. *Vancouver—Alterations to the Willow Chest Centre.*—The work involved in this project consisted in the replanning of approximately 9,000 square feet of existing surgical and laboratory facilities. The purpose of this was to enable the three main operating-rooms to be used jointly by Willow Chest Centre and Vancouver General Hospital. The changes to the operating-rooms were necessitated by the different and more stringent conditions requisite for the performance of open heart surgery.

5. *Essondale—Colony Farm.*—Planning was commenced on a new patients' and staff dining-room, kitchen, locker rooms, and central linen room. The cost is estimated at approximately \$360,000.

6. *Essondale—Medical Clinic.*—Research and planning continued on this project.

GENERAL

1. *Victoria—Provincial Archives and Museum.*—Detailed planning of this complicated project continued during the fiscal year.

2. *Victoria—Government House.*—Plans were prepared to add a conservatory at main-floor level on the west side of the House.

DEPARTMENT OF THE ATTORNEY-GENERAL

1. *Saltair—New Men's Gaol.*—Planning was continued on this new gaol, which will accommodate approximately 224 prisoners and 75 staff.

2. *Allco, Haney—Kitchen and Stores Building.*—Planning also continued for this building as the next phase of development at the institution.

3. *Hutda Lake—Men's Camp.*—Plans were prepared for this men's camp located near Prince George.

4. *Ruskin—Women's Camp.*—Similar-type accommodation was designed for this work camp for women.

5. *Burnaby—Motor-vehicle Testing-station.*—In accordance with newly established policy, planning was commenced for the first new testing-station outside downtown Vancouver. This station would be located south of the British Columbia Vocational School and Institute of Technology sites on Moscrop Street.

6. *Victoria—Motor-vehicle Testing-station.*—The suggested site for the first station to be erected on Vancouver Island was in the Lake Hill district just off Quadra Street.

GENERAL

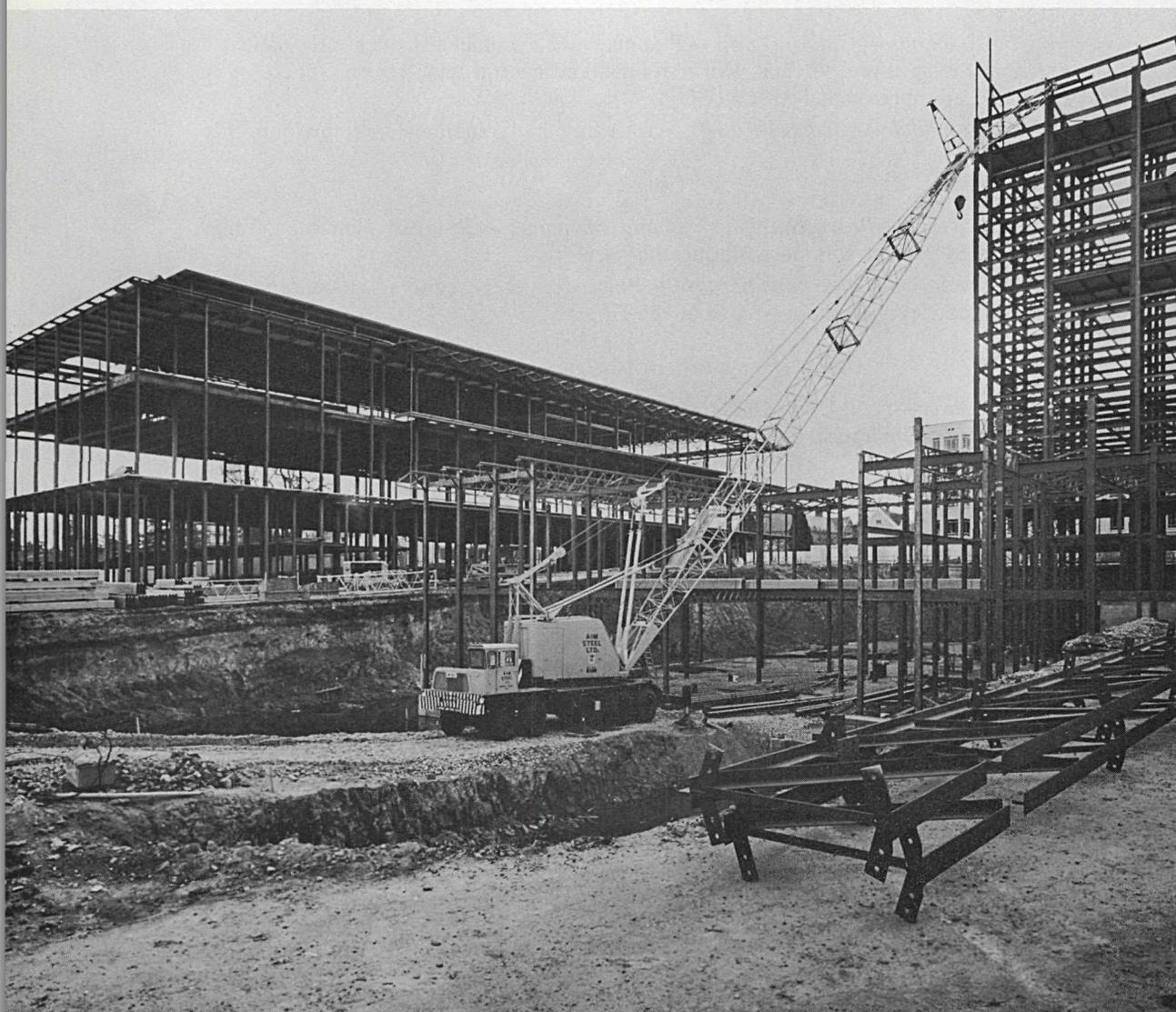
During the fiscal year 1965/66, 25 projects for senior citizens' housing were reviewed on behalf of the Provincial Secretary's Department, with constructive criticism offered on both design and construction.

A similar review of plans was made for the Lands Service for six buildings, chiefly fraternity houses, to be erected on University Endowment Lands at the University of British Columbia.

In summary, it is pleasing to record pride in the work of all divisions, particularly in the long and arduous work of planning the new Museum. Praise, also, is due to those in the field, Public Works Department superintendents and project inspectors alike, who have unfailingly given the assistance and co-operation requisite for the successful completion of the projects entrusted to them.

W. R. H. CURTIS, M.R.A.I.C., A.R.I.B.A., A.N.Z.I.A.,
Chief Architect.

Structural steelwork in British Columbia Archives and Museum, Victoria.





REPORT OF THE SUPERVISOR, ELECTRICAL DESIGN AND COMMUNICATIONS

During the fiscal year the Electrical Design and Communications Division has worked to full capacity to cope with the volume of work produced by our Architectural Division and by other Government departments. A large number of electrical designs correlated with the Architectural Division on capital projects were completed during the year. These included such units as the Hillside Building, Essondale; Kootenay Fish Hatchery, Bull River; 104-bed Unit, Tranquille; Trowel Trades Building, Burnaby; Department of Public Works Building, Burnaby.

Over 100 electrical designs of various sizes were carried out for the Construction and Maintenance Division. Throughout the year we continued to supply technical information and guidance to all maintenance electrical staffs when required, and must compliment these staffs on the excellent manner in which this work was carried out.

Considerable electrical designs were completed for the Department of Recreation and Conservation (Parks Division) covering the electrifying of the Mount Seymour facilities. This included the design and installation of a 12,000-volt transformer-station and cable distribution system to serve all aspects of the ski complex, and will allow the use of all modern electrical facilities in the Mount Seymour recreational area.

During the latter part of the year we carried out the electrical and lighting design for the British Columbia Centennial Fountain, Vancouver. We also supervised the installation. This was a most interesting project, and we are proud to have been associated with it. The close co-operation which existed between the Landscape Architect, the engineers, and ourselves contributed greatly to the success of this project.

In communications we have made vast improvements in many phases of our telephone system in the past year. In co-operation with the British Columbia Telephone Company, we have up-graded many installations throughout the Province to keep abreast with the demand for better communications in our continually expanding areas. Although our telephone and communication costs have increased approximately 48 per cent since 1962, we are now handling over three times the amount of calls throughout the Province that were handled during that time, which, on a per call basis, shows a substantial reduction with greatly increased efficiency.

Our "Tepak" system (direct lines) to major centres of the Province is working very efficiently. The following number of direct lines are now in service and available through the Parliament Buildings telephone switchboard to the following centres: Vancouver, 24; Kamloops, 4; Prince George, 3; Nanaimo, 4; Kelowna, 3; Nelson, 2.

It is interesting to note that our Parliament Buildings switchboard alone is presently handling, on the average, about 2,700 "Tepak" calls per day, plus approximately 6,000 incoming calls (total, 8,700). For the month of November, 1966, a total of 162,832 calls was handled through this switchboard.

It has been our pleasure to work with the various departments throughout the Government, and the co-operation and co-ordination extended to us by the other Departmental divisions has been excellent.

J. R. WALKER,
Supervisor.



REPORT OF THE CIVIL AND STRUCTURAL ENGINEER

Our Division has spent a very busy year, mainly on the design of mental health facilities and vocational schools. A heavy load for the Division has been the first four stages of the new Provincial Museum and Archives, Victoria, which were mainly structural and civil engineering work.

Our draughting staff was augmented during the summer months by two student technicians from the British Columbia Institute of Technology at Burnaby. We were very impressed with these students—first, with their sound basic training and second, with their very good work habits. The British Columbia Institute of Technology should be complimented on providing excellent staff and facilities for the training of engineering technicians. These fill a long-felt need for a personnel step between daughtsmen and engineers.

It is perhaps topical at this time to make some observations on the changes in building techniques and design that have occurred during the past 100 years.

Any building structure has two distinctly different tasks to perform. The first is that of carrying vertical and horizontal loads. The second is that of providing an enclosure which can regulate the flow of temperature, light, sound, air, and water between the building and its external environment. These two factors create an age-old paradox of building in that a material suitable for one function is not adaptable to the other. Steel and concrete are excellent load-bearing materials, but they are exceedingly poor thermal insulators. Mineral and glass wools make excellent thermal and acoustic insulators, but they have no structural value at all. Glass is transparent to light and heat in its pure form and is useless as an insulator. Wood is strong in tension and compression, but vulnerable to fire and rot. There is, in short, no such a thing as a universal building material.

The only way to escape this paradox is the way of nature; that is, through structural specialization. However, before the appearance of steel and reinforced concrete, the only natural material available for specialized use was wood.

Wood was, therefore, the dominant building material in the early days of British Columbia.

The first break-through in the separation of the skeleton from the skin came with the use of steel. A spectacular example of this was the erection of Paxton's Crystal Palace in London (*circa* 1851). The consequences of structural specialization, of the separation of building construction into skeleton and skin, were obvious. The concept of the curtain or non-bearing wall had appeared.

From this point on the modern building was evolved: steel was used for the load-bearing skeleton and materials such as brick, tile, terra-cotta, concrete, and glass for the walls. Reinforced-concrete frames and floor systems came into general use just after the turn of the century. In essence, they performed the same function as steel, but were heavier. In addition, they had the added advantages of being fireproof and more durable to weather.

The early non-load-bearing walls, while very much lighter than previous ones, were still being built up of relatively small units, such as brick and tile, the assembling of which required a lot of hand-labour. The next logical step, therefore, was to eliminate as much hand-labour on the site as possible, by prefabricating the curtain wall in story heights and in wide panels. In this way the advantages of industrial

production, already applied to the skeleton, could be used in the walls. From these considerations, large prefabricated panels of concrete, prestressed concrete, steel, stainless steel, aluminum, plastics, etc., developed.

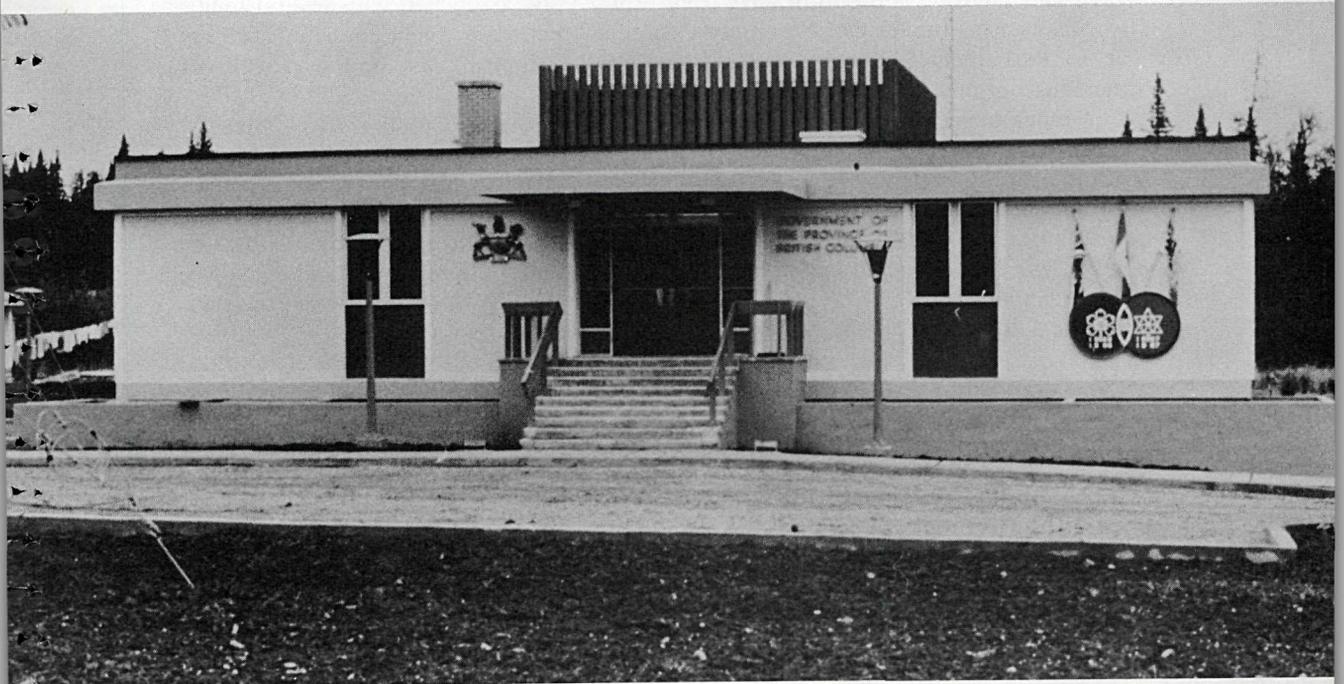
Some concept of the saving of dead weight resulting from the above can be noted in the use of new metal panels, complete with thermal and acoustical insulation, which are only 3 inches thick and weigh 12 pounds per square foot, instead of around 100 to 125 pounds per square foot for masonry. One large building in New York, a 23-story skyscraper, was sheathed in a single day with such panels. It is interesting to compare this with one of the first skyscrapers built, which had 16 stories and used load-bearing walls. The masonry walls of this building were 6 feet thick at sidewalk level.

The future of structural engineering appears to be in the use of stronger materials and materials that will reduce the weight of buildings. Earthquake loads are directly proportional to dead loads, so that any reduction of dead weight reduces the earthquake loading.

Another consideration would be to use the inherent structural strength of a building as a whole, not a unit composed of separate elements. The invention of the computer makes possible solution of the extremely complex and lengthy calculations involved in this concept.

We wish to express our appreciation for the co-operation received from other divisions in the Public Works Department. We wish, also, to thank other Government departments for their help, in particular the Department of Highways Testing Branch and the Lands Branch, Topographic Division.

J. R. SIMPSON, B.Sc., M.I.C.E., DIP. PUB. ADMIN.,
Senior Civil and Structural Engineer.



Government office building, Fort Nelson.



REPORT OF THE LANDSCAPE ARCHITECT

Landscape treatment of space must be played upon with skill and imagination to bring out inherent values. It is a collaborative role and, though specialized in application, rests on a broad footing of interrelationships. The public expects a high standard, and it is the task of the landscape profession to guide the projects to satisfy this requirement. Public works are, for the most part, concerned with land which is being used by large numbers of people, and the scale of landscape architecture must be applied appropriately with understanding and attention to detail. The writer is of the opinion this field is no place for the "home garden" approach. The complexities of the problems involved in the site layout must be shaped and clipped in a manner correct for the requirements.

New-design tools are required to apply the proper scale to public works. The crowds, the buildings, the automobile (and its roads), all reflect man's use of landscape and guide development of each open space.

Financing of public works landscape projects often extend over many years. Development and maintenance often proceed hand in hand. Rarely is a project delivered complete as one might accept a building. It is guided and shaped by the public owner's controls. There is need for guidance in the continued application of landscape design principles.

Our Government has created a position of leadership in its appreciation of space treatment adapted to the requirements of buildings so very diverse in design and use. This is instanced by the Vancouver Law Courts, the British Columbia Institute of Technology, and the Courthouse at Quesnel.

This Division is proud to have been prominently associated with several major works, such as the British Columbia Centennial Fountain, the Centennial Terrace at the Parliament Buildings, Victoria, and the developing plan for the grounds of the Museum and Archives complex.

Open space articulates activities, and the relationship to the whole may be expressed by the careful landscape development of its parts. There is a broad range of opportunity in public works, from the wide-open spaces demanded by recreation to individual building-sites in an urban setting. Faced with these unparalleled opportunities, the Landscape Division and its associates should endeavour to work toward a greater understanding of each other's techniques, philosophies, and aims, for, professionally speaking, the concept of public works in this field is only started. The development is yet to come.

R. H. SAVERY, A.I.L.A., B.C.S.L.A.,
Landscape Architect.



PUBLIC WORKS IN BRITISH COLUMBIA 100 YEARS AGO

In 1866 the Colony of British Columbia had been in existence for less than 10 years and the senior colony on Vancouver Island for less than 20 years. Sir James Douglas, on his retirement in 1864, had been joint Governor of both colonies. In his place separate Governors were appointed for each—Frederick Seymour in British Columbia and Arthur Edward Kennedy on Vancouver Island.

The period was one of intense rivalry between the two colonies, or, more correctly, between the two settlements at Victoria and New Westminster. The union of the two colonies was imminent, and the question of the seat of government was one of vital interest to the residents.

Editorial columns in the Daily British Colonist were, at times, spectacular in the use of language. Referring to the contemporary British Columbian of New Westminster: "Those parasites who hang around the garments of officialism [*sic*], the ghouls who fatten on decay, the creatures who have been hounding the country to death—degraded by falsehood, humiliated by vulgarity, and rendered contemptible by shallowness." Referring to New Westminster or "Stump City": "Even New Westminster will arise from its lethargic state and kneeling position, no longer grovelling in the dust before men 'dressed up in a little brief authority.'"

The Governor of British Columbia was absent in England during part of 1866, but on Vancouver Island there was considerable friction developing between Governor Kennedy and the House of Assembly. The local elected representatives felt that the cost of supporting the Governor and his administration, "that expensive burlesque of Government," was more than the public could afford, and were continually demanding reductions in administrative costs. In January, 1866, Governor Kennedy submitted the following Works and Buildings estimates for Vancouver Island. "General Repairs to Buildings, \$1,000.00"; "Fencing round Government Square, \$750.00"; "Construction of a Bell Tower at Race Rocks Lighthouse, \$600.00"; "Construction of a Fireproof Vault at the Treasury, \$800.00"; and "Finishing the Court House at Leech River, \$200.00."

The House passed the following item: "General Repairs to Buildings, \$150.00." All else was struck out! The slogan of the time was "retrenchment." Incidents like this may have been the cause of Governor Kennedy remarking on one occasion, "That there were but two classes on Vancouver Island—those who are convicts, and those who ought to be convicts."

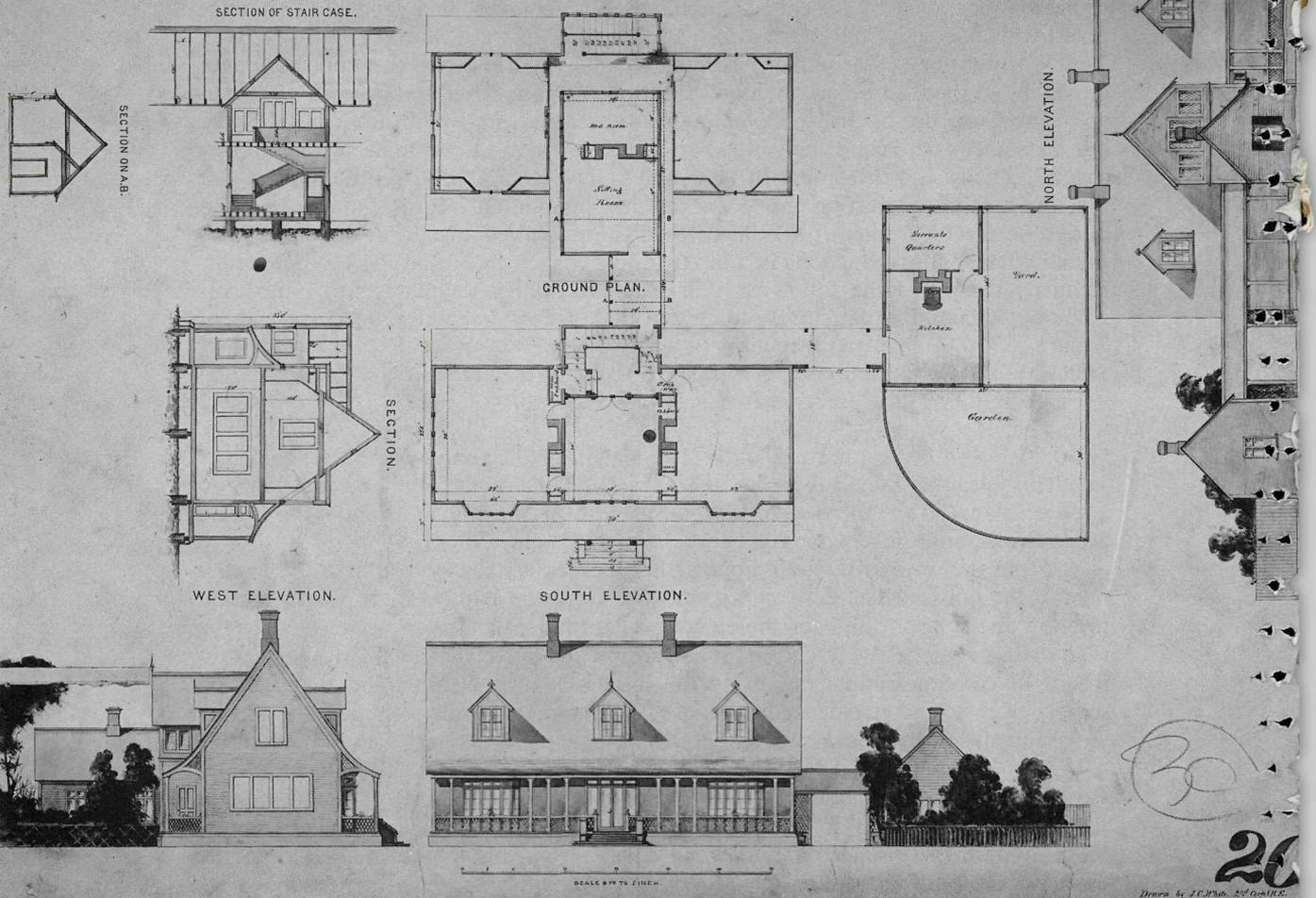
From the records it would appear that there was no way to please the gentlemen of the house. The Governor's demands were too high. There was a motion to allow the sum of \$300 for the clearing of a road or trail "to accommodate the nine or ten settlers at Metchosin who were greatly inconvenienced by the lack of means of communication." During the discussion it was remarked that "if the settlers were so inconvenienced, it showed little enterprise on their part to ask the Government for so little a sum as \$300." The settlers' request was too small!

On November 19, 1866, the union of the two colonies was proclaimed, and Governor Seymour appointed head of the united colony. Most of the Vancouver Islanders were anxious to rid themselves of Governor Kennedy ("Old Department") "who is disliked in his official capacity and his family in their domestic capacity, in about the same ratio." Within months Seymour was as unpopular on Vancouver Island as Kennedy had ever been.

Plan for proposed Government House, New Westminster, circa 1861.

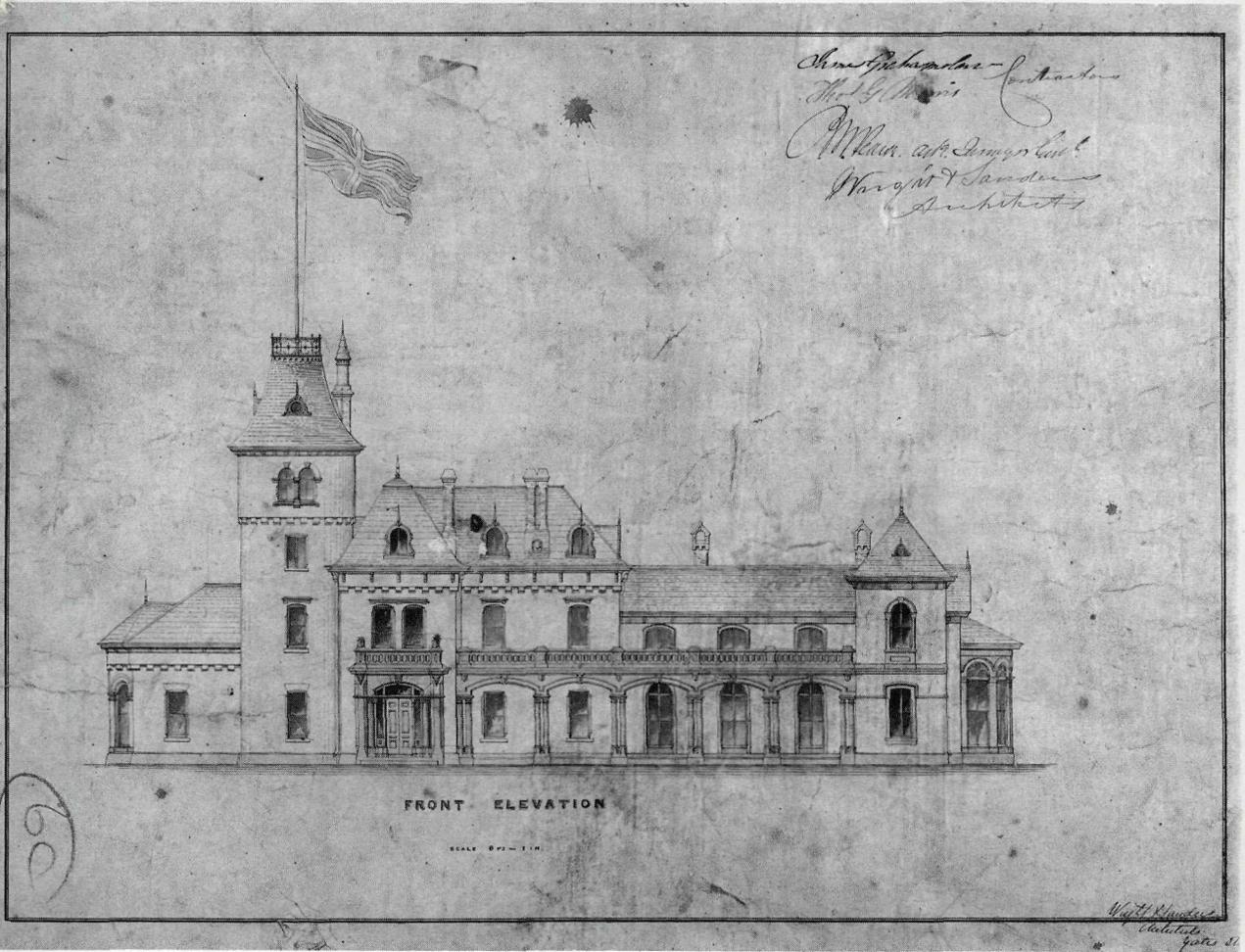
DESIGN FOR A GOVERNMENT HOUSE

AT
NEW WESTMINSTER, BRITISH COLUMBIA.
UPPER FLOOR PLAN.



20
Drawn by J.C. M'Nabb. 25th Oct 1861.

Plan for original Government House, Victoria, circa 1865.



In his speech to the First Legislative Council of the united Colony of British Columbia on January 24, 1867, Governor Frederick Seymour said: "The finances of both sections of the Colony were in a very unsatisfactory condition at the time Union took place—without examining into the question as to which of the two late Colonies most required the support of the other—that Union and the consequent large reduction of expenditure came none too soon. I do not propose to undertake any public work of magnitude during the year. The more pleasing task of improvement must be left for another year."

In spite of this statement, the various members proposed the following: \$10,000 for the purpose of completing the Metchosin Road (the settlers at Metchosin appeared to have learned their lesson); \$20,000 for the purpose of completing the Sooke Road (even in 1890 it took 6½ hours by stage to travel from Otter Point to Victoria); \$15,000 for the purpose of opening trails in the Columbia District; \$25,000 for the construction of a road from Goldstream to Cowichan and improving the road thence to Nanaimo; \$2,000 for a road through Comox; a sum not exceeding \$25,000 for repairs to the bridge at Nanaimo. During the discussions on these motions the Island and Mainland factions succeeding in proving to each other that each item was unnecessary expenditure, and all items were postponed except the repairs to the bridge at Nanaimo.

It is fascinating to picture the reactions of the worthy gentlemen of the 19th century to the 1866 estimates for highways and buildings combined, which sum was in the region of \$115,000,000. A further item in the estimates of 1867 was a request for \$600 for work on the road between New Westminster and English Bay, and a branch road over False Creek to the new sawmill on Burrard Inlet in the area known later as Gastown, and later still as the City of Vancouver. As a matter of interest, this road was not completed until 1877.

The construction of new roads in the colony was, of course, a major problem, and the method employed to finance this work required the imposition of road tolls. Civilian contractors received advances from the Government, and after these advances had been repaid through the tolls imposed on users of the road, the contractor continued to collect them for his own benefit. This resulted in numerous petitions by merchants and other users for the reduction or addition of such tolls. Although road tolls were generally abolished in British Columbia in 1872, the Government of 1926 used road tolls to finance "the reopening of the old romantic trail, i.e., the Cariboo Road through the Fraser Canyon," which toll remained in force until 1947.

General view of New Westminster, approximately 1880.





REPORT OF THE MECHANICAL ENGINEER

DESIGN SECTION

The Mechanical Design Division participated in practically all of the capital projects listed elsewhere in this Report. We have had a busy year.

There are two projects, however, that are worthy of further comment.

The first one was a special study of the requirements of the Mental Health Clinic to be built in Victoria to determine (a) the most desirable type of air-conditioning system to use in this type of building from the point of view of both capital and operating costs, and (b) the most desirable source of energy for the clinic.

Preliminary investigation reduced the number of possible suitable systems to eight. The eight systems were studied in detail, using a spectrum of combinations of energy source from "all electric" to "all steam."

Results indicated that for this type of building, and the use that will be made of it, an induction air-conditioning system would best combine excellent operating characteristics with low capital cost, and, secondly, on the same basis, that under the conditions applicable to this hospital steam was preferable to electricity.

The study also indicated that criteria for the use of electricity for heating purposes are a well-insulated building with low air infiltration and of relatively low or intermittent occupancy.

The second project of interest is the Centennial Museum in Victoria. It is one of the unique features of a modern museum that good air-conditioning is needed; in fact, it is considered a necessity by museum authorities. Exhibits deteriorate rapidly and drastically when stored in areas which allow wide fluctuations in ambient conditions such as occur in buildings with inadequate or no conditioning. Wooden exhibits and fibrous material of all sorts quickly become brittle without close humidity and temperature control to maintain oils they contain as long as possible. All exhibits require close control of air cleanliness. Some research areas require close control of odours.

The prime function, therefore, of the mechanical installation within a museum is the preservation of the exhibits and stored material, and not necessarily for the comfort of people. It is, however, convenient that the general conditions required are also those that provide comfort to people.

MAINTENANCE SECTION

This Division had a very active year in the operation and mechanical maintenance of boiler plants and mechanical services.

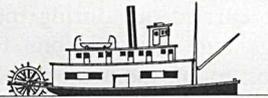
With machines becoming more complex, the need for sound preventive maintenance programmes becomes more and more essential. The chief stationary engineers and mechanical maintenance foremen throughout the Province are keeping informed on new machinery and methods of operation and in establishing sound maintenance programmes. They are to be commended for their efforts. The Division continued very active in providing headquarters supervision over the operation and maintenance of boiler plants and building mechanical services; 23 field trips were made, with visits to all institutions and a majority of individual Government buildings.

In addition to the mechanical designs which were carried out during the year for new construction, the Division prepared drawings and specifications for 24 projects involving additions, alterations, or renovations to mechanical services in Government buildings. Some of the projects carried out are as follows:—

- (1) Conversion of the heating-boilers to oil-firing in the Courthouses at Alberni, Princeton, and Kaslo. Conversion of the heating-boiler to gas-firing in the Forestry Building, Nelson.
- (2) Complete new heating systems in the Courthouses at Nelson and Salmon Arm.
- (3) Air-conditioning systems for three computer centres in Victoria.
- (4) New deaerating heater and feed-water system for the steam-boiler plant at Pearson Tuberculosis Hospital.
- (5) New dust-collection system for woodworking shops at the Haney Correctional Institution.
- (6) Additional ventilation systems for the Stores Building and Administration Wing, Dellview Hospital, Vernon.
- (7) Ventilation systems for additional welding booths at vocational schools at Nanaimo and Prince George.

In concluding this report, I would like to record my appreciation to all the divisions in the Department and to the superintendents of works and project inspectors for the co-operation and assistance they have given us during the year.

W. E. MILLS, B.A.SC., P.ENG., DIP. PUB. ADMIN.,
Senior Mechanical Engineer.



REPORT OF THE ARCHITECT-PLANNER

The work of this Division is concerned primarily with the use of land in all its deviations, from buildings situated on it to the purchase or sale of land.

Long-term projects involving exchange of properties between different tiers of government have been successfully completed in Vernon, Burnaby, and Victoria.

The pressure for leased space continues to mount. As departments enlarge their activities, the demand for office and storage space grows. This unimpressive part of our work occupies a great deal of time.

The costs of existing and new rentals continue to increase as accommodation becomes more difficult to obtain.

In this regard, and as pointed out in the Department's Precinct Report, space allocation for all Civil Servants should be standardized, and not set within the preserve of each departmental head.

This Division has enjoyed very good relations with those other departments concerned with the setting-up of surveys, the search for suitable sites (Crown or otherwise), and the formulation of agreements and other pertinent matters.

A survey is in process of Governmental accommodation on the Lower Mainland, with particular bearing upon parking conditions.

Master plans are in the course of preparation for Abbotsford, Colquitz, Kamloops, and Tranquille, while others such as Burnaby, Jericho Hill, and the Legislative Precinct are in the process of being revised in order to keep up with changes.

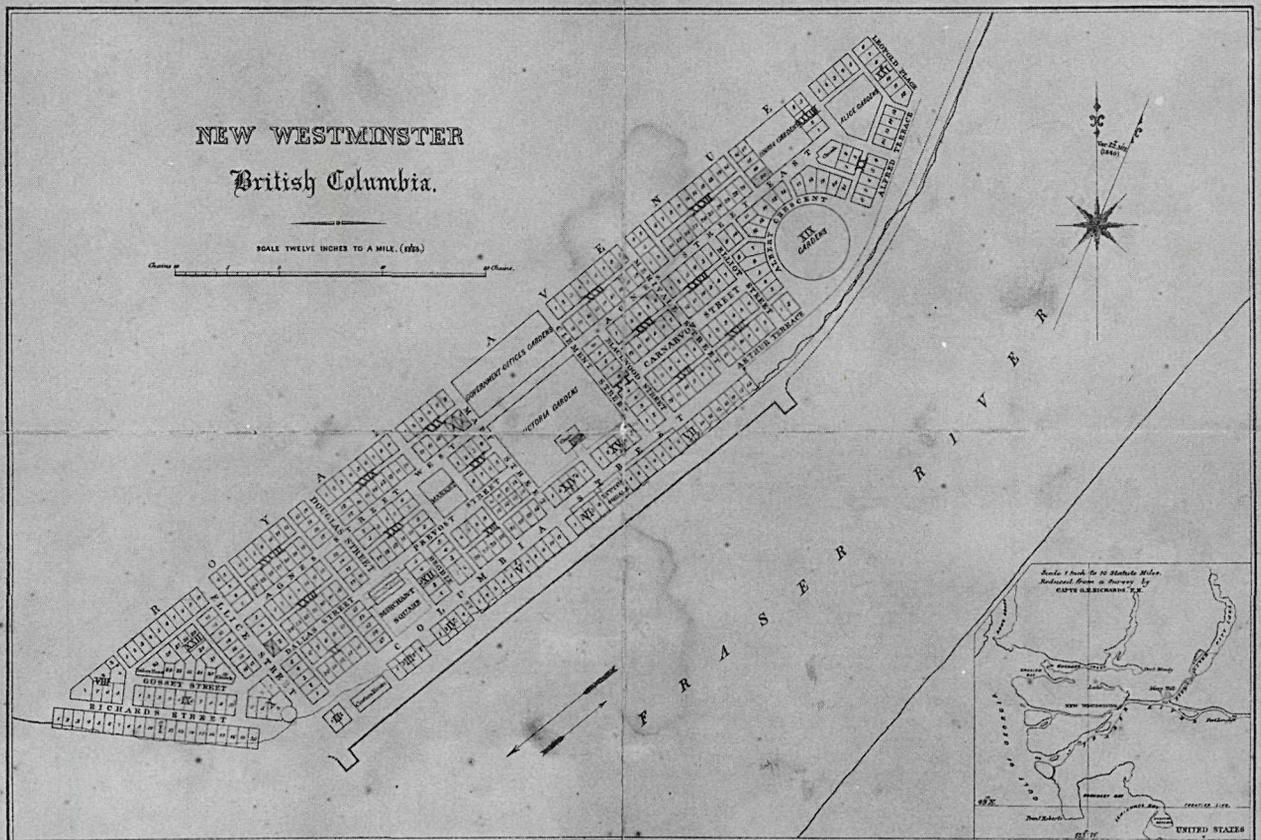
A special committee has been formed for the purpose of setting out recommendations on possible gaol-sites. These are now being suggested and will be framed on those that offer the most promise. When this work has been completed, it will be put forward for policy consideration.

With the opening of Bastion Square and the decoration of the old Courthouse, it is gratifying to recall that Department officials instigated the original committee which formulated policies. The sketch-plans were drafted in this Division, many of the ideas then put forward being incorporated in the finished design.

The continuing and orderly growth of urban Canada demands co-ordinated action at the Federal, Provincial, and municipal levels. It is not a question of whose responsibility is which, so much as it is clearly a joint and multiple responsibility. Nothing short of the complete range of fiscal, political, and administrative resources of the three levels of government will be effective in dealing with the interlocking problems of Canadian urban centres. The growing complexities of urban life are particularly evident in metropolitan areas.

W. D. LOUGHER-GOODEY, M.T.P.I., M.T.P.I.C., M.I.F.L.A.,
F.I.L.A., M.A.S.P.O., A.L.I.STRUCT.E.,
Architect-Planner.

Original town plan, City of New Westminster, 1861.



Drawn by Lance Corporal James Gray, R.E.

Lithographed at the Royal Engineer Camp New Westminster May 1861 by order of Col. R. C. Moore, R.E. Retd.

Price 2/6

Printed by Supt. Williams, Oldham, E.S.



Interior, view, Koptenay, Fish Hatchery.

Exterior view, Kootenai Fish Hatchery



REPORT OF THE CONSTRUCTION AND MAINTENANCE ARCHITECT

The volume of buildings under construction during this fiscal year necessitated, at one period, the employment of 11 project inspectors. These personnel were stationed throughout the Province and provided supervision of construction on one or more projects in an area.

Recruitment of this group of employees was progressively undertaken to ensure trained inspectors were available to fill vacancies arising from retirements in addition to providing relief for persons on sick and other leave. To enable the new entrants to familiarize themselves with Departmental procedures, prior to assuming responsibility on site, an orientation course was organized, and included a period in headquarters together with subsequent service on site with an experienced project inspector.

We have, by engaging only men with a background of practical experience in construction, with potential for future development, provided means to ensure the high standard of quality, workmanship, and economy required in the construction of Provincial buildings.

Project inspectors were appointed to the following works under construction during this period:—

- (1) Victoria Museum and Archives Building.
- (2) Terrace Vocational School.
- (3) Prince George Gaol addition.
- (4) Dawson Creek Vocational School.
- (5) Vancouver Institute of Technology.
- (6) Burnaby Vocational School Trowel Trades Building.
- (7) Burnaby Public Works Building.
- (8) Tranquille 104-bed unit.
- (9) Ruskin camp for women prisoners.
- (10) Vancouver Liquor Control Board bottling plant.
- (11) Sundry buildings and works throughout the Province.

Major projects accepted from the contractors as substantially complete during this period include the following:—

- (a) Ganges Provincial Building, Phase I.
- (b) Ganges Provincial Building, completion of Phase II.
- (c) Vancouver Pearson Hospital (day rooms).
- (d) Fort Nelson Provincial Building.
- (e) Quesnel Courthouse.
- (f) Riverside Hospital Hillside Building.
- (g) Kootenay Fish Hatchery.
- (h) Haney Allco, Dormitories 2 and 3.
- (i) Riverside Hospital garbage-handling, East Lawn Building.
- (j) Vernon Dellview Hospital boiler-house.

The completion of these and other buildings necessitated participation by this Division in obtaining suitable personnel for building maintenance, and considerable work by the zone superintendents in fabricating small fitments, and implementing minor work to facilitate the early occupancy by the Province.

Throughout this fiscal period, we have continued to maintain active liaison with all the design divisions of this Department, and with their co-operation have man-

Elevation of proposed museum for Victoria, 1861.

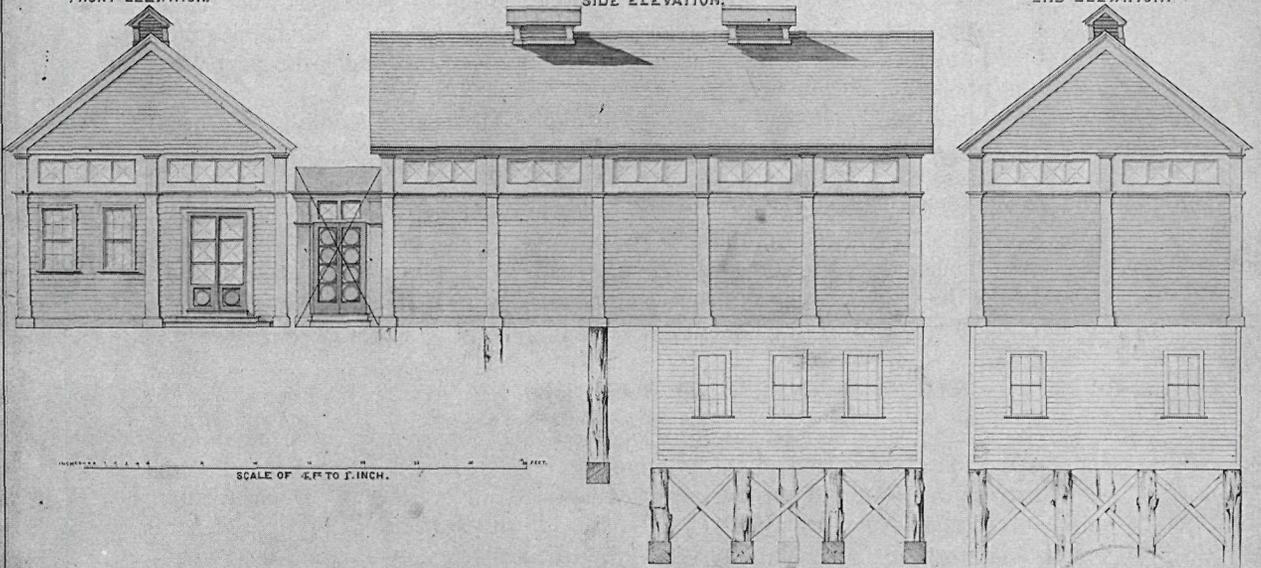
PLATE N^o 1

MUSEUM FOR THE EXHIBITION
OF
BRITISH COLUMBIAN
PRODUCE

FRONT ELEVATION.

SIDE ELEVATION.

END ELEVATION.



London Office Department
7th May 1861.

Witness signature

J. Smith

22

DRAWN BY J.C. WHITE ARCHT. & ENGR. VICTORIA
April 1861

W. Hooper

34

aged to resolve many of the day-to-day problems which arise during and after the construction of buildings.

In addition to this work, this Division's headquarters component prepared drawings, specifications, and supervised the following projects which utilized capital funds:—

- (1) Oakalla Prison Farm: Alterations and redesign of kitchen facilities.
- (2) Oakalla Prison Farm: Redecking and reroofing of Westgate Unit, including the design of new sliding roof domes to permit adequate ventilation.
- (3) New Denver: Redesign and alterations to existing buildings to make suitable accommodation available for the Department of Social Welfare youth centre project. In respect to item (3), as these facilities were immediately required for occupancy and the nature of the work and its location were not conducive to obtaining competitive bids, a skilled labour force was engaged on a casual basis under the direction of one of this Division's project inspectors.
- (4) Victoria Data Processing Centre: The relocation of the Textbook Branch of the Department of Education made available space in the precinct for the expansion of these facilities. With the co-operation of this Department's Engineering Division, I.B.M. Company, and the Department of Industrial Development, Trade, and Commerce, the area was completely redesigned to accommodate computers and business machines. Completion of this work now provides a more adequate and suitable environment for the performance of this important Government process.
- (5) Riverside Hospital Centre Lawn Building: Major renovations were made to the area adjoining the main entrance to provide a new admitting suite. Implementation of this work provided improved facilities in keeping with prevailing hospital design criteria.
- (6) Woodlands School, Fraserview Hospital: The central sterile supply area was remodelled and work implemented by the superintendent of works crews.
- (7) Residences were erected in the following areas: Lillooet (two), Dease Lake (two), and Smithers.
- (8) Plans and specifications were also prepared for a pump-house at Pentiction, at the request of the Water Resources Service of the Department of Lands, Forests, and Water Resources.

MAINTENANCE AND BUILDING MANAGEMENT

The number of premises leased to accommodate Government departments has increased and was reflected in the volume of design, draughting, and negotiation work carried out by this Division during the period under review. Departmental procedures entailed participation by the Division in the inspection of proposed new rentals to ascertain their suitability for use by the department initiating the rental. In the majority of instances it was also necessary to prepare plans and specifications for the subdivision of the space, negotiate with the landlord to undertake the construction work, and inspect same on completion. As initial field inspection was often made by our superintendent of works, and subsequent design and draughting carried out by the headquarters component, this work made a sizeable increase to the work load of this and other divisions of the Department.

Throughout the year periodic visits have been made to all superintendents of works zones, and it is gratifying to record the success we have achieved by providing supervision of normal maintenance in the field by the formation of works zones.

Plans and specifications for major renovations and numerous maintenance projects were prepared in headquarters for issue and implementation by our superintendents in the works zones. In some instances the work was carried out by the maintenance crews, and in others by the award of local contracts. It is also interesting to note in the remote regions of this Province it was found impossible to interest anyone to submit a tender on work required. In zones where a superintendent has been established, this problem is often surmounted by using our own works force, but in areas with inadequate or non-existent labour forces, we are faced with a very difficult problem.

The following list, with a concise description of the work, includes some of the larger maintenance and renewal work undertaken in this period:—

- (1) New Westminster Courthouse: Repair of cornices, parapet, and exterior building fabric to eliminate hazards to the public.
- (2) Revelstoke Courthouse: Refinishing and preservation of dome.
- (3) Burnaby Mental Health Hospital: Reroofing and new flashings.
- (4) Nelson Gaol: Exterior decoration and repairs.
- (5) Nanaimo Courthouse: Interior decorations and repairs.
- (6) Courtenay Courthouse: Alterations to the windows in R.C.M.P. cell unit to provide satisfactory security.
- (7) Nelson Courthouse: Deterioration of plaster wall surfaces necessitated the installation of new panelling in the courtroom, also the artificial illumination intensity was increased to comply with current acceptable standards.

In addition to the above work, a consistent programme of expanding existing accommodation and facilities was carried out by all the superintendents in their respective areas, which has contributed to the most effective use of all existing accommodation.

In conclusion, I would like to thank all Government Agents and others in the field and at headquarters for the help and co-operation they have extended to myself and members of this Division.

STANLEY LLOYD, M.R.A.I.C., A.R.I.B.A., DIP. PUB. ADMIN.,
Senior Construction and Maintenance Architect.

THE COMPUTER AND THE INFORMATION BLOCK

The society which first has the accumulated information of the world at its command will have a tremendous advantage in any field of endeavour. The construction industry lives on information. Information on building design, cost, materials, equipment, and maintenance is essential to its operation. No person or group in our modern society can operate on its own experience. Information on the work that others are doing must be received, stored, and retrieved at will. Businessmen, contractors, industrialists, professionals, scientists, and tradesmen, all spend increasing numbers of years in assimilating the accumulating knowledge of their occupations. As the store of knowledge increases, the divisions of labour are subdivided into specialties and sub-specialties. With this division comes more information, until we now have an avalanche of information. Total world production of technical documents in 1961 was 658,000; in 1965 it rose to 900,500. No man has time to read all the information that is published in his own specialty, nor even time to find in this avalanche what is pertinent to a current problem. There can be little wonder that disasters typified by the recent thalidomide cases do occur.

Each specialist is aware that pertinent information is stored somewhere. He is also depressingly aware that no one place has it all, and that each place that stores information stores garbage with food, out of date with up to date, and duplicate with unique. The Library of Congress, which attempts to catalogue every United States publication, now has some 44,000,000 items, yet it is estimated that only one-fourth of the available scientific information in the United States is catalogued. Universities and scientific foundations store and catalogue; industries and professions contribute. Private abstracting and indexing services are available. A directory of specialized information services in the physical and biological sciences contains 427 organizations which has been winnowed from an original list of 10,000. There are gaps and overlaps in this array of services. The time spent in searching for information that may be catalogued can be prohibitive. The publication "Machine Design" states that "a large steel company insists that it is cheaper to repeat an experiment if the cost does not exceed \$100,000 than to pay for a search to determine whether it has been done before."

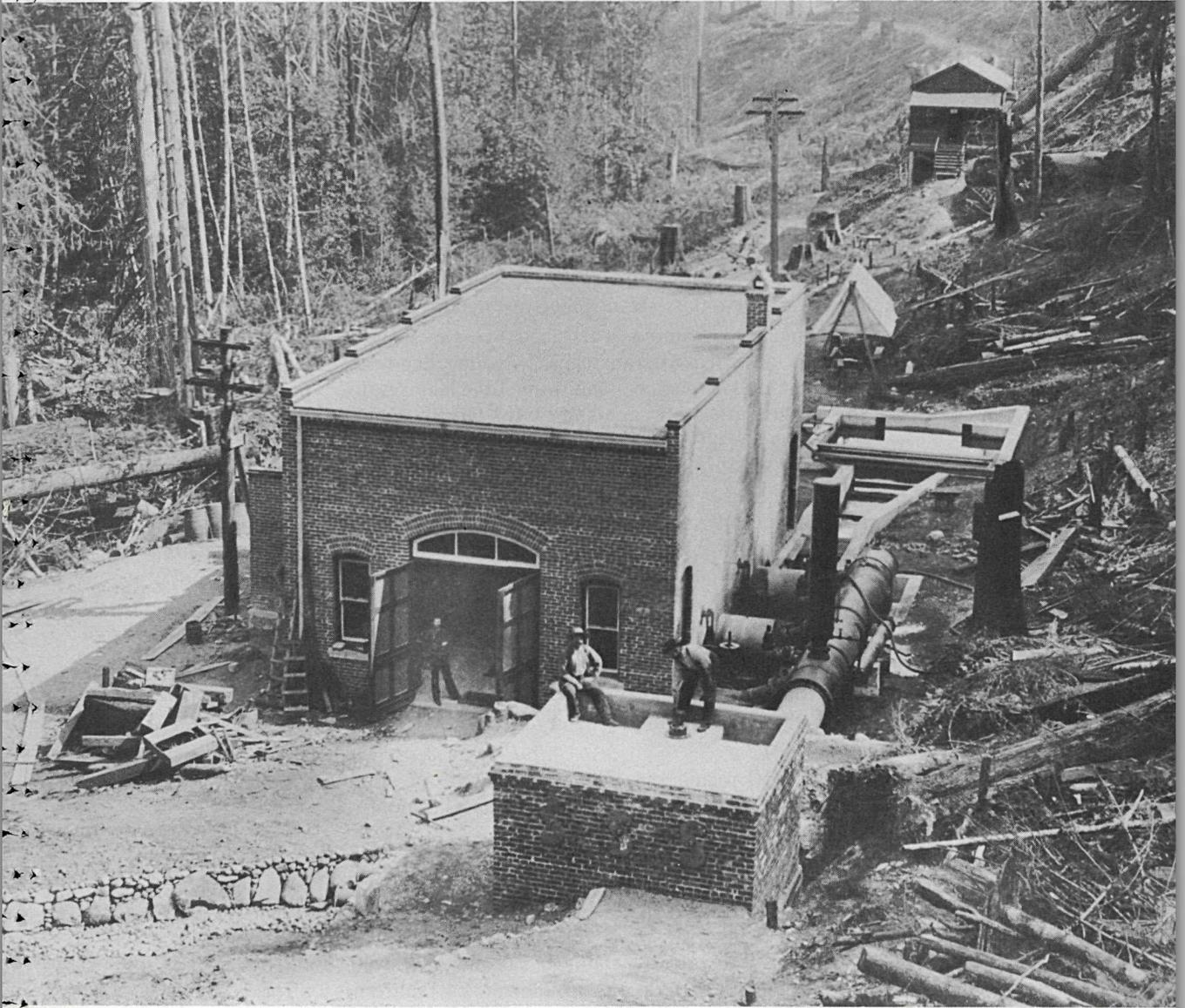
A study of the existing cataloguing in the United States led the Senate Committee on Government Operations in 1961 to the conclusion that unwitting and needless duplication in Federally supported electronics research may cost the taxpayer \$200,000,000 per year. The American Chemical Society estimated in 1963 that 10 per cent of the money spent in the United States on research and development was wasted and that this waste would be in the neighbourhood of \$2 billion per year. There was no estimate of the expenditure in cataloguing and continued reading of this duplicated information.

This frustrating heap of information will continue to grow until some orderly and complete system of sorting, filing, and discarding is put into operation. It will take years to devise a system, and years more to programme and implement the system. Every year's delay will add to the heap. Some sections of different societies have started work on this accumulation. New York State is developing a State-wide information system and a reference and research library resources programme. The City of Houston is considering a municipal technical data centre for scientists and technicians. The Engineers' Joint Council is planning a united engineering information system in New York City. The American Chemical Society is developing a national chemical information system. Canadian Case Law Research Limited of Edmonton, has implemented a search and retrieval system of Canadian law. Ten universities are attempting to unite the literature of their campuses through computers. They envisage a network of bookless libraries composed of study booths, electric typewriters, and television screens in which the small college would have a better library than any now in existence.

The Public Works Department has a small part of this problem, that part in the field of building construction, materials, and equipment. The architects of the Province share this problem together with the engineers, contractors, and the whole construction industry. A feasibility study is being made to put the Department's catalogues on tape. More and more individuals and groups are recognizing the problem and doing something about it, but who is co-ordinating, who is sorting out the overlaps, who is assigning areas that are neglected, who will pay, and who will say how much? Some authority must take on this responsibility or there will be a new deluge of incomplete and redundant information.

W. W. EKINS,
Supervising Architect.

Exterior view of first hydro-electric plant in British Columbia at Goldstream, near Victoria.





REPORT OF THE CHIEF INSPECTOR OF BOILERS AND PRESSURE VESSELS

GENERAL

The rapid growth of industry throughout the Province is reflected in every phase of our operations. The work load in the design office, shop inspection, engineers' examinations, and welding tests is consistently high. Work in this field shows an increase of 43 per cent.

OPERATIONS

Welders will always be the key men in our heavy-construction industry. In spite of the fact that our vocational schools are working to capacity in welder training, and there is also a steady influx of welders from other Provinces, neither source satisfies demand. This year the welders' tests have increased 26.5 per cent. It is to be noted that welders engaged on pressure equipment within the scope of the *Gas Act* and the *Pipe-lines Act* are also required to hold certificates issued by this Division.

Designs surveyed show an increase of 12.5 per cent. An interesting fact is the increase of engineers who have written first-class examinations (72.5 per cent), which shows the keen competition for positions in our large plants.

There are now 56 first-class steam plants as against 29 in 1945.

The new technical programme introduced five years ago by the Vancouver Vocational Institute, designed to train capable young engineers for the superior positions in the large steam plants, is showing excellent results. The successful graduates of this programme are in demand by the large companies.

There are now 23 black-liquor recovery boilers in the Province. This will increase to 30 by 1968. Since boilers of this type are a hazard peculiar to themselves, a professional engineer was added to the staff to give special attention to their design, construction, and operation and repair. He has proved most valuable to us. This is true, also, of the owners, who co-operate well with him and appreciate his attention, advice, and assistance.

THE ACT AND REGULATIONS

Section 9 of the Act was amended at the 1965 Session of the Legislature to extend the requirement of an installation permit to all boilers.

The draft of Part III regulations, Safety Code for Mechanical Refrigeration, will be completed shortly.

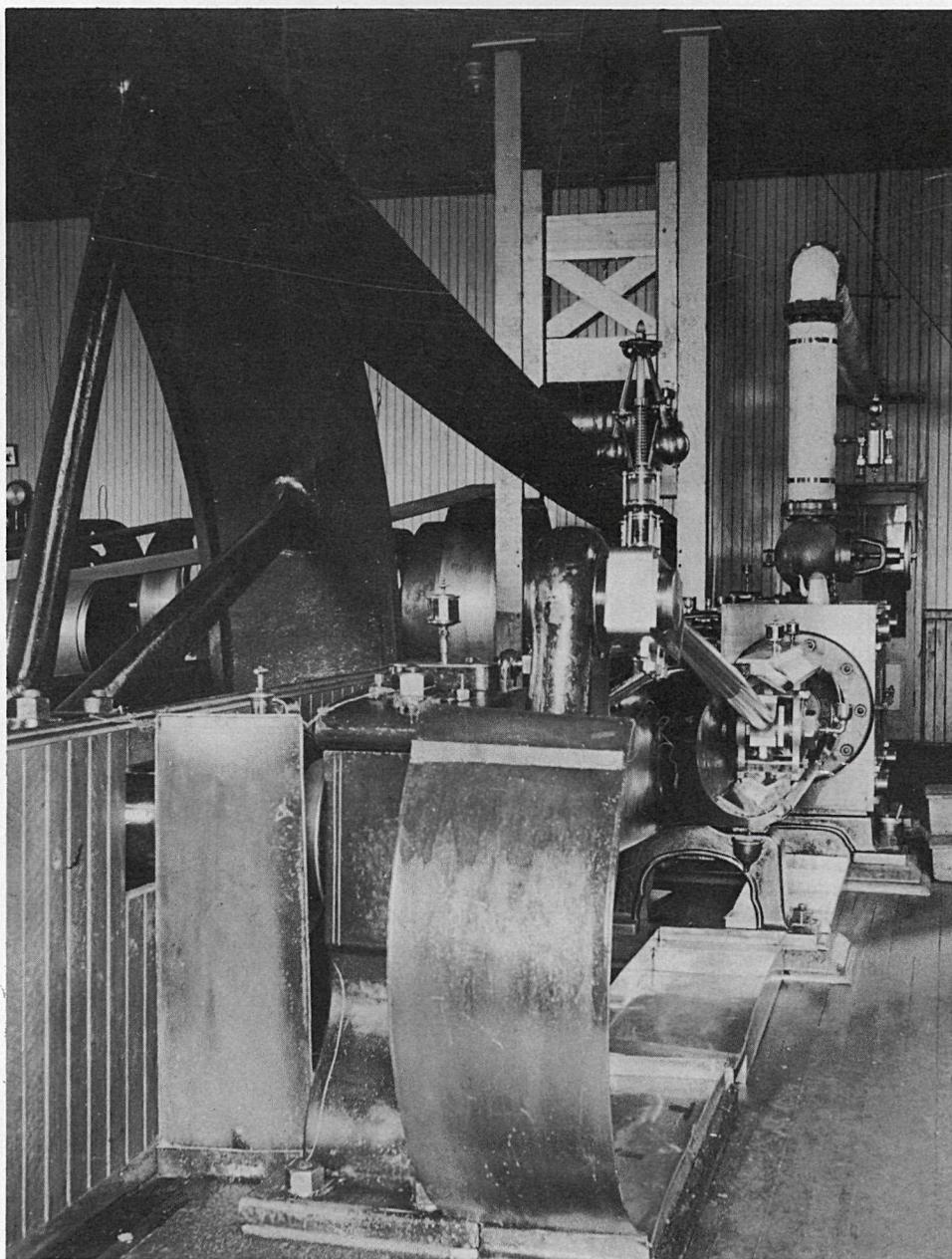
The revised Part VI regulations, Stationary Engineers, approved last year, has been well received both by the public and the engineers' union.

ACCIDENTS

One steam boiler and one pressure vessel were involved in accidents as follows (no person was killed or injured):—

May 7, 1965, at Vancouver: Damage sustained by water-tube boiler No. 45462-BC, due to low water condition, brought on by failure of controls. Water wall tubes and circulating tubes were distorted and had to be replaced.

Early 150-horsepower Corliss steam engine, *circa* 1894.



March 16, 1966, at Heffley Creek: A propane transport tank was completely destroyed by explosion. A leakage at a damaged hose coupling released gas which became ignited and overheated the tank.

Complete investigations were made of all these accidents, and full reports with recommendations are on file.

SUMMARY OF WORK

	1965/66	1964/65	1963/64
Designs registered.....	945	843	872
Boilers built under inspection.....	66	91	131
Pressure vessels built under inspection.....	2,156	1,503	1,433
Total boilers inspected.....	4,162	4,120	4,378
Total pressure vessels inspected.....	3,068	2,182	2,531
New boiler installations.....	478	399	443
Engineers examined.....	732	798	570
Welders examined.....	1,647	1,301	1,201
Total revenue.....	\$139,547.56	\$131,178.21	\$113,391.75

ENGINEERS' EXAMINATIONS

Class	Number Examined	Passed	Failed
First, A.....	41	20	21
First, B.....	9	8	1
Second.....	116	62	54
Third.....	171	147	24
Fourth.....	311	252	59
Boiler operator, A.....	31	27	4
Boiler operator, L.P.B.....	48	41	7
Boiler operator, H.P.B.....	5	4	1
Totals.....	732	561	171

WELDERS' TESTS

Grade	Number Examined	Passed	Failed
A.....	337	310	27
B.....	487	359	128
C.....	187	159	28
D.....	122	104	18
Oxy-acetylene.....	270	257	13
Downhill.....	112	105	7
Provisional.....	140	133	7
Totals.....	1,655	1,427	228

Renewals, 735.

S. SMITH,
Chief Inspector.



REPORT OF THE INSPECTOR OF ELECTRICAL ENERGY

BOARD OF EXAMINERS FOR ELECTRICAL CONTRACTORS

The Honourable Minister of Public Works has been pleased to appoint the following members to the Board, effective January 1, 1966: Mr. J. Grumey, electrical contractor, representing the Vancouver Electrical Association; Mr. D. Topp, electrical contractor, representing the Electrical Contractors' Association of British Columbia; Mr. W. A. Woodill, electrical contractor, representing the Associated Electrical Contractors of British Columbia; Mr. E. Hammersmark, electrical inspector for the municipality of the District of North Vancouver, representing cities and municipalities. Other members of the Board are Mr. L. Robson (Chairman), Chief Inspector of Electrical Energy, and Mr. G. A. Harrower, Assistant Inspector of Electrical Energy. Nine meetings were held throughout the year.

The total number of certificates of competency in effect during the year was as follows:—

Class A	244	Class PC	160
Class B	533	Class TB	1
Class C	539		—
Class PA	40		
Class PB	118	Total	1,635

This represents an approximate increase of 12 per cent over the number of certificates in effect for the previous year.

Three hundred and sixty-one candidates for electrical contractors' certificates of competency were examined during the year, with the following results:—

Class	Number of Candidates Examined	Passed	Failed
A	46	20	26
B	149	92	57
C	166	89	77
Totals	361	201	160

This represents an approximate increase of 19.3 per cent over the number of candidates examined during the previous year.

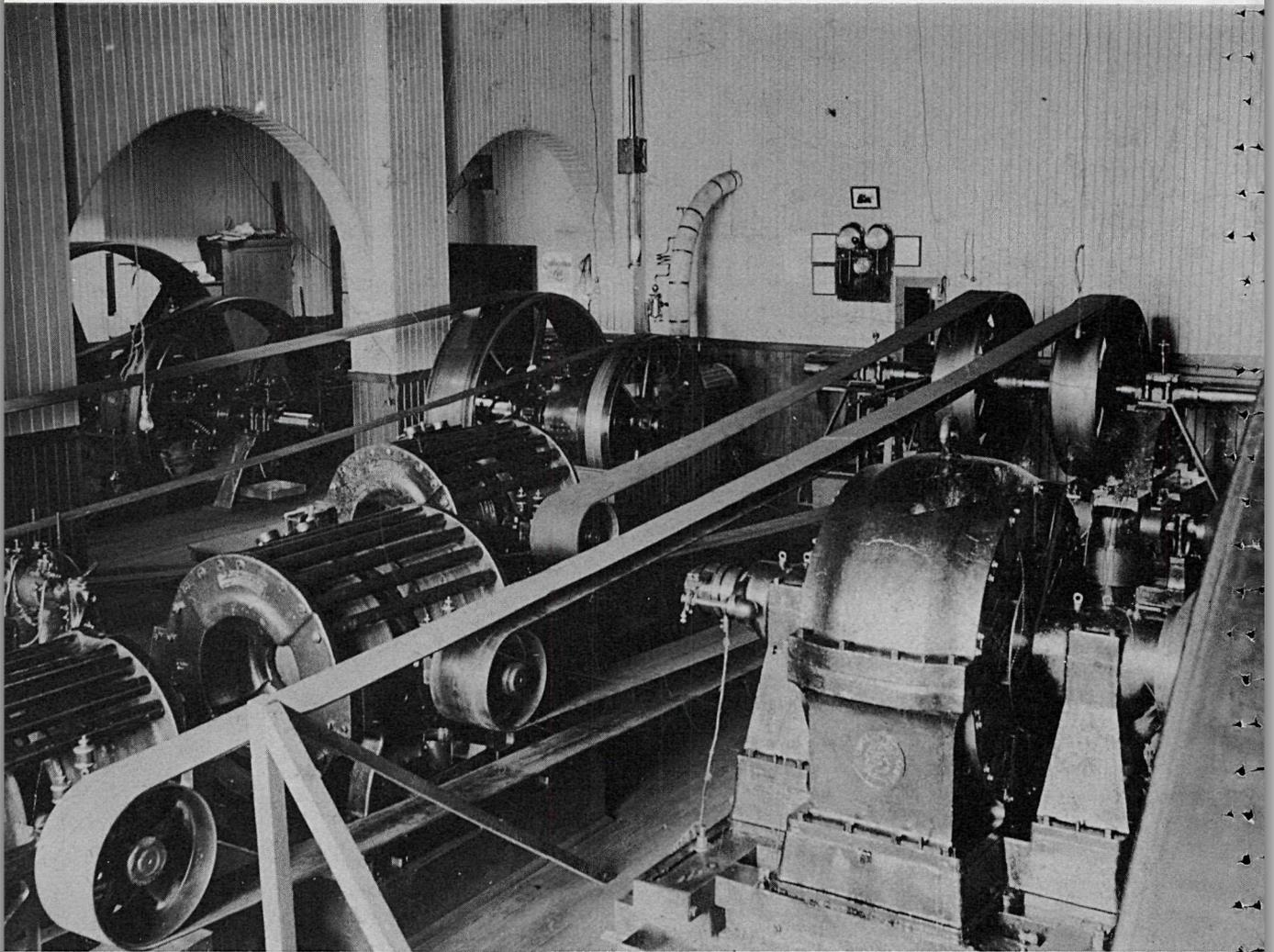
PERMITS

The system whereby electrical permits may be issued for single-family and duplex dwellings through Government Agencies continues to provide a very satisfactory service. Studies are under way to determine the feasibility of extending this plan to larger installations.

The total number of permits issued during the year was as follows:—

April, 1965	3,380	November, 1965	4,731
May, 1965	4,376	December, 1965	4,303
June, 1965	5,146	January, 1966	3,546
July, 1965	4,402	February, 1966	4,167
August, 1965	4,728	March, 1966	4,309
September, 1965	5,369		—
October, 1965	4,878	Total	53,335

Electric generating plant, New Westminster, *circa* 1894.



This represents an increase over the previous year of over 12½ per cent and continues to reflect the economic growth of the Province, particularly in the construction industry.

DISTRICT OFFICES AND INSPECTIONS

The number of inspections undertaken by our staff is approximately the same as last year. During the year, and because of the large increase in applications for permits, it was necessary to put into effect a system whereby certain types of installations would be cleared for electric service upon receipt of a signed declaration from the contractor that the installation met the minimum requirements. Regulations 71/65 and 57/65 were introduced and approved to facilitate this programme. In essence, more responsibility was placed on the installing contractor. A spot-check system was devised for domestic installations, and this seems to be effective.

An indication of the growth of the work of this Division may be gained from a comparison of inspections made and permits issued over the last 10 years, as follows:—

	Inspections	Permits
1956/57	53,265	32,748
1957/58	60,109	37,662
1958/59	69,324	42,618
1959/60	73,651	44,006
1960/61	65,943	41,252
1961/62	64,153	40,630
1962/63	65,846	42,374
1963/64	70,881	44,872
1964/65	70,989	47,403
1965/66	70,258	53,335

Considerable difficulty was being experienced in providing proper service in the north central area of the Province due to staff limitations. As a result of sympathetic response for additional staff, new offices were opened at Smithers and Clinton. This, together with a rearrangement of district boundaries, has brought about a definite improvement as well as making possible a more efficient operation.

The northern part of Vancouver Island is presenting a serious problem due to our inability to obtain suitable staff. This is receiving our continued attention.

It should be noted that the number of inspections now being undertaken is a maximum for the staff presently available.

CANADIAN STANDARDS ASSOCIATION

Meeting of the Approvals Council (Electrical) and the Canadian Electrical Code, Part I, were attended by the Chief Inspector. These were held in June at Banff, Alta., and in November in Toronto.

EQUIPMENT INSPECTION

Applications for acceptance of electrical equipment not listed by the national laboratory service have increased again this year. The total number was 471, as compared to 435 for the preceding year, an increase of over 8 per cent.

This service continues to be beneficial to industry and makes possible the use of this type of equipment with a minimum of delay, while at the same time ensuring satisfactory standard of safety.

EXAMINATION OF MOTION-PICTURE PROJECTIONISTS

The Branch assisted the Provincial Fire Marshal in conducting 12 examinations for projectionists. The regulations covering such examinations provide that the Inspector of Electrical Energy be a member of this Examining Board in company with the Fire Marshal. In this connection, all fees arising from these examinations accrue to the credit of the Fire Marshal's department.

POLE-LINE PERMITS

During the year the Branch checked 1,196 applications for the erection of pole-lines on Crown lands or Provincial highways. Recommendations on each application were forwarded to the Regional Engineer of the Department of Highways. This is approximately just under 12 per cent higher than last year.

ACCIDENTS

There were 18 accidents recorded during the year, and nine of these were fatal.

June 30, 1965: One person was electrocuted while using welding apparatus at his place of employment.

July 7, 1965: One person was electrocuted when a crane cable came into contact with an overhead line.

July 30, 1965: One person, a child, was electrocuted while playing with a hose adjacent to a water pump.

August 17, 1965: One person was electrocuted when a metal clothes-line being strung from a trailer home came into contact with a power source.

September 21, 1965: One person was electrocuted when he accidentally or otherwise removed a clamping-ring on a push-button device.

December 5, 1965: One person died from suffocation due to smoke from a deficient heating-pad.

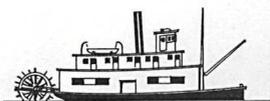
January 27, 1966: One person was electrocuted when climbing a distribution power pole to rescue a cat.

February 7, 1966: One person was electrocuted after accidentally touching a sump pump motor which was alive to the ground.

March 11, 1966: One person was electrocuted when a crane cable came into contact with a 12-kilovolt power-line.

May I again express my appreciation for your splendid co-operation and continued interest in our problems, and to your Departmental staff for valuable assistance rendered during the year.

L. ROBSON, P.ENG.,
Chief Inspector of Electrical Energy.



REPORT OF THE CHIEF GAS INSPECTOR

THE ACT

There was an amendment made to the *Gas Act*, known as the *Gas Act Amendment Act, 1966*. This Act shall come into force and effect on a date to be fixed by the Lieutenant-Governor by his Proclamation.

THE DIVISION

The offices of the three Safety Engineering Services branches were amalgamated in Prince George, and the issuing of permits was transferred from the Government Agent's office to the new office.

The Government Agents in Oliver, Fernie, Fort St. John, and Fort Nelson now issue single-family dwelling permits.

A total of 17 Government Agents' offices now issue single-family dwelling permits.

Night schools for Grade I gasfitters were held in Vancouver, Burnaby, Abbotsford, and Prince George, and night-school courses for Grade II fitters were held in Burnaby and Prince George.

The engineering drawings for the first liquefied natural-gas installation in Canada have been reviewed by this Branch. The liquefying of the gas and the primary storage will be done in The Corporation of the Township of Richmond. The gas will then be transported at atmospheric pressures and a temperature of minus 260° F. to Squamish. At Squamish it will be stored until it is required by the gas utility.

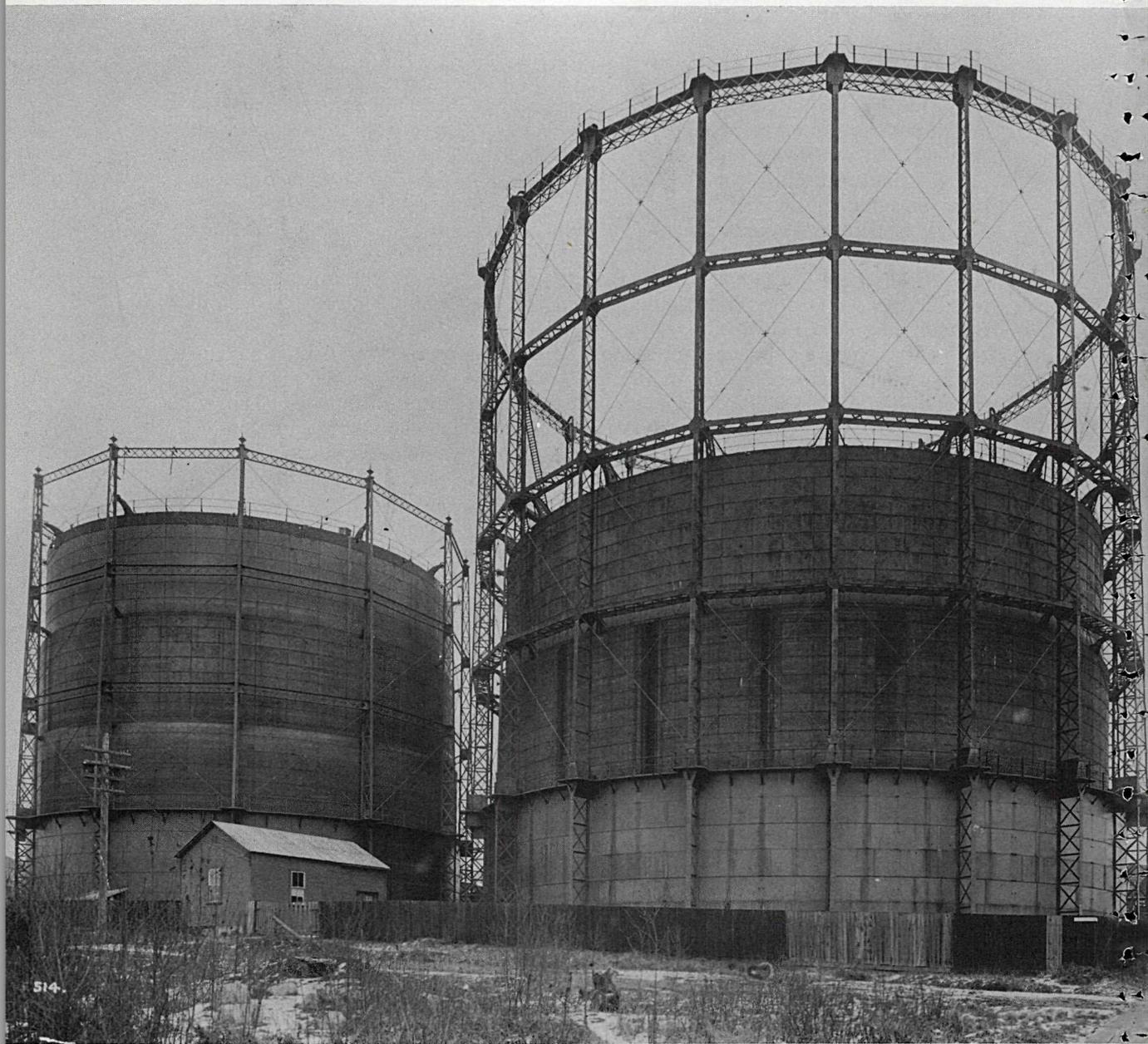
The Chief Inspector continues to represent the Province on the following Canadian Standards Association committees:

- (1) The B149 Installation Code for Gas Burning Appliances and Equipment.
- (2) The B200 Canadian Standards Association Sectional Committee on Specifications for Certification of Gas Burning Appliances.
- (3) The Subcommittee for the Design, Installation and Testing Section of the Z184 Installation Code for Gas Transmission and Distribution Piping Systems.
- (4) The Task Force Committee of the B137.4 Plastic Piping for Gas Services, and the B137.14 Recommended Practice for the Installation of Plastic Pipe for Gas Service.

The B149 Committee meeting and the B200 Sectional Committee meeting were held in April in Montreal and November in Winnipeg. The work of the B149 Committee in Montreal was to up-date the standards to keep abreast of the many technological advances in the gas industry. The Winnipeg meeting was a special meeting where the Committee, at the request of the liquefied petroleum-gas industry, started the task of separating the liquefied petroleum-gas portion of the code from the natural-gas portion. The Sectional Committee reviewed the proposed changes in the Specifications for Certification of Gas Appliances.

As the industrial growth of the Province increased, more specialized gas-fired equipment is required by industry. The three major testing laboratories—Canadian Standards Association, Canadian Gas Association, and Underwriters' Laboratories of Canada—do not have facilities to test specialized equipment, therefore field testing and certification of gas-fired equipment is done by this Branch. Last year 1,319

Gasometers, Victoria, early 1900's.



applications were made to this Branch for field certification of commercial and industrial equipment. Seven hundred and twenty-three were certified without any modification, 592 were required to modify the design in the field before being certified, and four pieces of equipment were rejected.

ACCIDENTS

Thirteen accidents and fires were investigated by this Branch where there were no injuries and only minor fire losses.

Pilot lights on gas water-heaters and furnaces ignited gasoline or solvent vapours in four cases. In one case an electrical extension cord shorted, burning through the flexible metal range connector and lighting the escaping gas. In another case a bed was placed against a room heater and the bed clothes caught fire. In two cases malfunction of an automatic control caused the fire. In five cases the final conclusions were that gas had not been involved. In Kelowna a major accident occurred in which four persons were injured. This accident was caused by a defective pipe, and the ignition source was a relay controlling the refrigeration equipment.

SUMMARY OF WORK

	1965/66	1964/65	1963/64
Appliance Certification.....	1,319	1,003	1,010
New designs checked.....	970	901	834
Gas Codes distributed.....	881	580	2,021
Gasfitters' licences issued.....	1,570	1,608	1,661
Gas contractors' licences issued.....	553	528	516
Provisional licences issued.....	486	521	513
Gasfitters' examinations.....	155	159	169
Gasfitters' re-examinations.....	43	54	46
Number of gasfitters passed examination.....	150	116	147
Number of gas permits issued, municipalities.....	10,048	10,499	10,153
Number of gas permits issued by this Branch.....	13,898	14,303	14,558
Permit application pads distributed.....	398	377	688

A. G. KANEEN, P.ENG.,
Chief Inspector.

**LANGUAGES SPOKEN BY MEMBERS
OF THE STAFF OF
THE DEPARTMENT OF PUBLIC WORKS**

Arabic (1).	Italian (3).
Bosnian (1).	Japanese (1).
Chinese (1).	Norwegian (4).
Croatian (2).	Pakistani (1).
Danish (7).	Polish (1).
Dutch (11).	Russian (1).
Estonian (1).	Serbian (1).
Finnish (1).	Slovenian (1).
Flemish (1).	Spanish (1).
French (15).	Swedish (5).
German (26).	Swiss (1).
Greek (1).	Ukrainian (2).
Hindi (2).	Urdu (1).
Hungarian (5).	Yiddish (1).
Indonesian (1).	Yugoslavian (2).
Icelandic (1).	

The figures in parentheses are the number of staff members who speak the language indicated.



Facsimile of first dollar bills printed in British Columbia, December 1, 1859.



REPORT OF THE COMPTROLLER OF EXPENDITURE

The following pages present in detail the expenditures relating to the construction, alteration, and repairs on the various Government buildings and institutions, etc., coming under the management, charge, and direction of the Minister of Public Works.

A. E. RHODES,
Comptroller of Expenditure.

STATEMENT OF EXPENDITURES, FISCAL YEAR 1965/66

ADMINISTRATION AND MAINTENANCE VOTES

(For details see Public Accounts.)

Vote 286—Minister's Office	\$27,648.33
Vote 287—Administration	217,549.36
Vote 288—Government Buildings (Maintenance)	6,417,069.96
Vote 290—Rentals	992,738.15
Vote 291—Safety Inspection Division, Vancouver (includes Gas Inspection Steam Boiler Inspection, and Electrical Energy Inspection Branches)	777,555.44
	(Gross) \$8,432,561.24
<i>Less credits—</i>	
Rentals and recoverable items, Government buildings, etc.	177,568.39
Repayable by commissions, boards, etc.—Rental Vote	77,759.59
	<u>\$8,177,233.26</u>

CAPITAL

Vote 289—Construction of Provincial Buildings (<i>see</i> expenditure by building, listed below)	(Gross) \$10,512,563.58
<i>Less</i> Parliament Buildings parking-lot fees, etc.	49,170.50
<i>Less</i> Federal Government contributions—	
Project No. 486-B—Museum and Archives Building, Victoria	\$687,899.35
(Health Grants) Project No. 31-B-10—Pearson Tuberculosis Hospital	59,713.33
Project No. 5-B-108—	
Hillside Building, Essondale	69,277.50
Tranquille	156,000.00
	<u>972,890.18</u>
	<u>\$9,490,502.90</u>

SUMMARY

Gross expenditure, Department of Public Works—	
Administration and maintenance	\$8,432,561.24
Capital	10,512,563.58
	\$18,945,124.82
<i>Less credits—</i>	
Maintenance	255,327.98
Capital	1,022,060.68
	<u>\$17,667,736.16</u>

VOTE 289—CONSTRUCTION OF PROVINCIAL BUILDINGS

Project No.	Description	Expenditure
453-B	Allco Infirmary, Haney	\$124,730.00
517-B	Allison Pass Highways establishment—reroofing	12,877.00
458-B	Abbotsford Animal Pathology Building	91,857.51
421-B	Bull River Fish Hatchery	1,144,139.03
484-B	Burnaby Mental Health Centre—repairs to roofs and paved courts	9,972.11
299-B-2	Burnaby Vocational Training School—Public Works building	210,740.68
495-B	Cedarvale ferryman's residence	7,041.26
497-B	Chetwynd Weigh-scale Station, Department of Commercial Transport Colony Farm—	26,980.19
6-B-34	Repairs to piggery	11,652.37
6-B-35	Silo and barn	43,100.08
6-B-36	Scullery and can-washing	95,703.46
6-B-37	Coquitlam River Bridge—repairs	5,125.05
457-B	Creston—Highways establishment	3,207.81

VOTE 289—CONSTRUCTION OF PROVINCIAL BUILDINGS—*Continued*

Project No.	Description	Expenditure
	Dellview Hospital—	
25-B-12	Addition to boiler-house	\$18,282.36
25-B-13	Roads, paths, and drainage	11,000.00
151-B	Douglas Building, Victoria—cafeteria equipment	5,504.63
468-B-1	Duncan—Government office building	108,485.95
	Essondale—	
5-B-102	Alterations and renovations to kitchen and staff rooms, dining-room areas	22,293.37
5-B-108	Hillside Building	241,843.32
5-B-116	Landscaping, roads, parking, etc.	43,242.16
5-B-119	Garbage-handling incinerator	176,450.77
5-B-121	Structural alterations	46,015.01
5-B-123	Renovations, Valleyview, Units 1, 2, and 3	131.00
5-B-131	Laundry equipment	16,906.74
5-B-132	Emergency electric power, boiler-house	526.79
5-B-133	Admitting suite, Centre Lawn Building	41,343.63
5-B-350	Public Works building	10,881.86
451-B	Fernie Courthouse—exterior restoration	6,954.60
512-B	Department of Finance—alterations for Mechanical Tabulation Branch	12,251.50
482-B	Fort Nelson—Government office building and residence	314,103.39
485-B	Ganges—Government office building	186,271.95
289-B	General expenses (planning, surveys, supplies, etc.)	348,021.32
467-B	Golden—residence for Government Agent	2,769.00
384-B	Grounds improvement, various Government buildings (Provincial)	50,410.93
	Haney—	
123-B-5	Development of grounds and irrigation	7,321.63
123-B-12	Alterations, workshop area	1,496.71
450-B	Hope—additional lockup facilities	6,619.70
499-B	Hutda Lake—prefabricated camp for use as a correction institution	532.16
426-B	Invermere—Provincial Government building	19,272.78
	Jericho Hill School—	
79-B-10	Dormitory unit and development	94,546.94
79-B-11	Classroom and Industrial Arts Building	96,116.44
508-B	Kamloops—remodel certain buildings on the Department of National Defence site (for Attorney-General's Department)	10,155.33
509-B	Kamloops—acquisition of former Royal Canadian Navy ammunition depot (including watchman's services and special maintenance services)	414,082.81
477-B	Kaslo—purchase of property for Government Agent's residence	3,752.35
528-B	Air Lands Service (water services to process laboratory)	1,723.74
464-B	Lee Avenue, Victoria—mental hospital (includes purchase of property and preliminary design)	77,594.20
494-B	Lillooet—Government Agent's residence	14,425.20
501-B	Lillooet—Department of Highways house	14,575.18
518-B	Liquor Warehouse, Fort and Langley Streets, Victoria—purchase and remodelling	191,154.95
492-B	Motor-vehicle Building, Victoria—Data Processing Centre	111,805.61
414-B	Nelson Courthouse—renewal of heating system	39,893.82
496-B	Nelson—renovations to Highways district office	5,691.50
498-B	Nelson—Highways residence	10,294.95
519-B	New Denver Dormitory—alterations	80,785.29
534-B	New Westminster Courthouse—external renovations	1,183.56
	Oakalla—	
39-B-18	Security fence	2,249.49
39-B-62	Roads (drainage and parking)	7,988.73
39-B-63	Additional gaol facilities (Westgate)	19,328.61
39-B-65	Renovations to kitchen	30,027.22
39-B-66	Conversion to gas	5,578.59
39-B-69	Roofing (Westgate)	122,248.11
382-B	Oliver Courthouse	8,039.38
487-B	Parliament Buildings Precinct—acquisition of property	7,645.00
385-B	Parliament Buildings—parking facilities	38,253.97
500-B	Parliament Buildings Area—purchase of certain property and preparing it for parking	304,379.62
	Pearson Tuberculosis Hospital—	
31-B-9	Modifications	5,137.63
31-B-10	Activity room	251,260.09
31-B-12	Boiler plant	1,175.85

VOTE 289—CONSTRUCTION OF PROVINCIAL BUILDINGS—*Continued*

Project No.	Description	Expenditure
471-B	Penticton—Department of Highways garage and yard site	\$1,941.60
479-B	Prince George area, Zone No. 5—structural alterations	15,714.80
418-B	Prince George Courthouse—sun screens	23,060.16
470-B	Prince George—addition to men's gaol	350,902.64
505-B	Prince George—Department of Highways, office manager's residence	21,104.11
491-B	Prince George—weigh-scale station	9,334.93
437-B	Prince Rupert—exterior restoration	6,363.74
455-B	Quesnel Courthouse	514,297.93
452-B	Revelstoke Courthouse—exterior restoration	942.50
504-B	Ruskin Women's Prison (Twin Maples Farm)	37,121.74
	Skeenaview Hospital—	
24-B-6	Laundry equipment	315.29
24-B-8	Water supply	17,687.57
24-B-10	Alterations and renovations	15,140.77
427-B	Smithers Government Agent's residence	14,203.55
	Tranquille School—	
10-B-12	Water supply and sewage disposal	10,000.00
10-B-41	Alterations to main building	50,028.15
10-B-44	Renovations to boiler-house	10,000.00
10-B-49	Playground	9,965.03
10-B-50	Conversion of additional facilities	8,000.00
10-B-51	104-bed unit	841,533.68
10-B-52	Extension to kitchen facilities	348,067.65
408-B	Vancouver area—structural alterations	49,411.14
488-B	Vancouver Civic Square—acquisition of property	49,786.40
537-B	Vancouver Courthouse—Centennial Terrace	14,665.98
476-B	Vancouver Island Gaol	4,484.68
489-B	Vancouver—Pesticide Laboratory	5,807.28
438-B	Vernon Courthouse—exterior restoration	25,000.00
292-B	Victoria area—structural alterations	73,177.09
486-B	Victoria—Museum and Archives	1,837,843.70
	Woodlands School—	
7-B-40	Landscaping, fencing, paving, etc.	9,555.43
7-B-46	Structural alterations	27,755.39
7-B-47	Sound system	850.00
369-B	Education—College of Education, University of British Columbia, Vancouver	215,359.82
	Vocational—	
401-B	Institute of Technology, Burnaby	383.03
507-B	Vocational Teacher College, Burnaby (completely recovered from Department of Education)	Nil
299-B	Burnaby Vocational School (completely recovered from Depart- ment of Education)	Nil
299-B-3	Burnaby Vocational School—trowel trades and painting shop (to be recovered from Department of Education in 1966/67)	19,212.11
481-B	Dawson Creek Vocational School (to be recovered from De- partment of Education in 1966/67)	2,961.82
412-B	Kelowna Vocational School (to be recovered from Department of Education in 1966/67)	39.50
429-B	Nelson Vocational School (to be recovered from Department of Education in 1966/67)	498.49
407-B	Terrace Vocational School (to be recovered from Department of Education in 1966/67)	30,072.30
511-B	Terrace Vocational School—sewer and water (completely recov- ered from Department of Education)	Nil
513-B	Victoria Vocational School (completely recovered from Depart- ment of Education)	Nil
	Highways, garages, etc.—	
530-B	Aleza Lake—two-bay shed	12,073.75
415-B	Albert Canyon—equipment and fuel sheds	9,436.65
419-B	Beaverdell—oil-house and pumps	3,005.00
526-B	Bowen Island—one-bay storage shed	4,000.00
428-B	Cedarvale—three-bay shed and oil-house	16,439.69
405-B	Cloverdale—centre lining storage building	28,000.00
420-B	Maintenance depot at Dease Lake	99,712.62
523-B	Denman Island—one-bay storage shed	4,000.00
370-B	Gabriola Island—one-bay storage shed	4,000.00
393-B	Galiano Island—one-bay storage shed	4,000.00

VOTE 289—CONSTRUCTION OF PROVINCIAL BUILDINGS—*Continued*

Project No.	Description	Expenditure
	Highways, garages, etc.— <i>Continued</i>	
533-B	Good Hope Lake—three-bay shed	\$44,036.52
402-B	Greenwood—oil-house	2,995.00
493-B	Hazelton—foreman mechanic's residence	10,500.00
516-B	Hixon—two-bay equipment-shed	12,000.00
531-B	Honeymoon Camp—oil-shed	3,812.05
522-B	Hornby Island—one-bay storage shed	4,000.00
521-B	Jordan River—two-bay storage shed, oil-shed, and fuel pumps....	1,332.03
525-B	Lasqueti Island—one-bay storage shed	4,000.00
527-B	Madeira Park—three-bay storage shed	11,829.45
529-B	New Hazelton—two-bay storage shed	10,107.59
510-B	Pattullo Bridge buildings	22,000.00
377-B	Pender Island—one-bay storage shed	4,000.00
490-B	Port Hardy—road maintenance foreman accommodation	4,500.00
524-B	Quadra Island—one-bay storage shed	4,000.00
532-B	Rolla—oil-shed	3,831.71
349-B	Salmo—three-bay shed and oil-house	27,737.22
378-B	Saturna Island—one-bay storage shed	4,000.00
520-B	Texada Island—two-bay storage shed, oil-shed, and fuel pumps	13,170.55
515-B	Wells—one-bay extension and oil-shed and new garage doors....	11,999.78
		<u>\$10,512,563.58</u>

TENDERS RECEIVED AND CONTRACTS AWARDED FOR BUILDINGS

Description of Work and Names of Tenderers	Amount	Remarks
<i>Tranquille School, 104-bed unit, Tranquille:</i>		
Burns & Dutton Construction (1962) Ltd.....	\$995,000.00	
Commonwealth Construction Co. Ltd.....	983,400.00	
Sorensen Construction Co. Ltd.....	978,923.00	
Bennett & White Construction (1962) Ltd.....	928,817.00	
Narod Construction Ltd.....	926,851.00	Awarded.
<i>Irrigation System, Animal Pathology Laboratory, Abbotsford:</i>		
Pacific Pipe & Flume Ltd.....	8,769.00	
Pacific Lawn Sprinklers Ltd.....	5,359.00	Awarded.
Terra Irrigation Ltd.....	7,120.00	
<i>Irrigation System, Jericho Hill School, Vancouver:</i>		
Terra Irrigation Ltd.....	14,843.20	Awarded.
Pacific Pipe & Flume Ltd.....	17,405.00	
Pacific Lawn Sprinklers Ltd.....	18,497.00	
<i>British Columbia Vocational School, Dawson Creek:</i>		
Dyke Construction Ltd.....	768,200.00	Not awarded.
<i>British Columbia Archives and Museum, Victoria, Phase I:</i>		
Wakeman & Trimble Contractors Ltd.....	188,219.00	
Chew Excavating Ltd.....	169,328.81	Awarded.
<i>Landscaping Boulevard Area, College of Education, University of British Columbia, Vancouver:</i>		
Jensen & Johnsen.....	6,724.00	Awarded.
Holland Landscapers Ltd.....	8,934.00	
<i>Silo and Barn, Colony Farm, Essondale:</i>		
Western Building Ltd.....	41,000.00	Awarded.
Newland Construction & Development Ltd.....	52,840.00	
Hall Construction Ltd.....	42,220.00	
Cain Truscott Contractors.....	42,873.00	
<i>Weight-scale Station, Chetwynd:</i>		
Lawrick Construction Ltd.....	26,842.00	
Dyke Construction Ltd.....	22,880.00	Awarded.
<i>Centre Lawn Building, Riverview Hospital, Essondale:</i>		
Lickley, Johnson, Palmer Construction Ltd.....	159,622.00	
Kennett Construction Ltd.....	163,200.00	
Stevenson Construction Co. Ltd.....	152,673.00	
Hall Construction Ltd.....	144,230.00	Awarded.
Western Building Ltd.....	154,453.00	
<i>Renovations to Heating Systems, Courthouse and Land Registry Building, Nelson:</i>		
Whitticks Mechanical Contractors Ltd.....	39,700.00	Awarded.
<i>British Columbia Archives and Museum, Victoria, Phase II (Supplying and Erection of Steel):</i>		
Dominion Bridge Co. Ltd.....	1,093,694.40	
Canada Iron Foundries Ltd. (Western Bridge Division).....	1,095,086.70	
A.I.M. Steel Ltd.....	1,079,813.60	Awarded.
<i>Addition to Men's Gaol, Prince George:</i>		
Sorensen Construction Co. Ltd.....	978,400.00	Awarded.
Marpole Construction Co.....	993,092.00	
Heart Construction Ltd.....	1,088,447.00	
Poole Construction Ltd.....	1,039,900.00	
<i>Alterations and Renovations, R.C.M.P. Building, Invermere:</i>		
G. Hirschfeld.....	16,443.00	Awarded.
Windvall Builders Ltd.....	20,975.00	
<i>British Columbia Institute of Technology, Site Extension (1965), Burnaby:</i>		
G. W. Led'ingham & Co. Ltd.....	515,000.00	
H.B. Contracting Ltd.....	459,885.00	Awarded.
<i>Exterior Restorations, North-west and South Elevators, Courthouse, Prince Rupert:</i>		
B.C. Tuckpointing Ltd.....	19,878.00	Awarded.
<i>Exterior Renovations, Courthouse, Vernon:</i>		
Gustavos Construction Ltd.....	33,971.00	
B.C. Tuckpointing Ltd.....	21,782.00	Awarded.
<i>Scullery, Colony Farm, Essondale:</i>		
Hall Construction Ltd.....	123,135.00	Awarded.
Lickley, Johnson, Palmer Construction Ltd.....	123,694.00	
Stevenson Construction Co. Ltd.....	129,894.00	
Western Building Ltd.....	128,581.00	

TENDERS RECEIVED AND CONTRACTS AWARDED—Continued

Description of Work and Names of Tenderers	Amount	Remarks
<i>British Columbia Archives and Museum, Victoria, Phase III:</i>		
R. A. Hall Ltd.	\$107,770.85	
G. H. Wheaton Ltd.	123,986.75	
Farmer Construction Ltd.	110,929.33	
Burns & Dutton Construction (1962) Ltd.	107,574.00	Awarded.
<i>Trowel Trades Building, British Columbia Vocational School, Burnaby:</i>		
Western Building Ltd.	415,000.00	Awarded.
Brockbank & Hemingway Ltd.	432,000.00	
B. Bjornson & Sons Ltd.	418,900.00	
<i>Modifications, Forest Products Laboratory, B.C.I.T., Burnaby:</i>		
Flanders Installations Ltd.	43,909.00	Awarded.
Mechanical Installations Co. Ltd.	63,892.00	
Argus Installations Ltd.	57,750.00	
<i>Classroom and Administration Building, British Columbia Vocational School, Terrace:</i>		
Narod Construction Ltd.	990,879.00	
B. Bjornson & Sons Ltd.	943,000.00	Awarded.
<i>Public Works Maintenance Building, Burnaby:</i>		
Western Building Ltd.	218,000.00	
Hall Construction Ltd.	221,600.00	
Cain Truscott Contractors	214,000.00	
A. W. Gillis Ltd.	213,810.00	Awarded.
<i>Improvements to Sewers and Water Mains (1965), Skeenaview Hospital, Terrace:</i>		
Blakeburn Engineering Ltd.	33,471.60	
Nunan Construction Ltd.	24,085.00	Awarded.
<i>New Kitchen and Dining Facilities, Tranquille School, Tranquille:</i>		
Burns & Dutton Construction (1962) Ltd.	957,000.00	
Narod Construction Ltd.	945,680.00	Awarded.
<i>Data Processing Centre, Menzies Street, Victoria:</i>		
E. J. Hunter & Sons Ltd.	107,418.00	
H. E. Fowler & Sons Ltd.	110,964.00	
Luney Bros. & Hamilton Ltd.	108,350.00	
M. P. Paine Co.	95,757.91	Awarded.
Patterson Construction Ltd.	102,555.00	
G. H. Wheaton Ltd.	102,486.00	
R. A. Hall Ltd.	109,675.00	
<i>Men's Camp, Hutda Lake, Prince George, and Women's Camp, Ruskin:</i>		
<i>Men's Camp:</i>		
Apex Holdings Ltd. and State Construction & Engineering Ltd.	224,962.00	
Sorensen Construction Co. Ltd.	224,700.00	
Campmobile Manufacturing Ltd.	114,170.65	Awarded.
Bennett & White Construction (1962) Ltd.	322,922.00	
Atco Industries Ltd.	208,276.00	
<i>Women's Camp:</i>		
Apex Holdings Ltd. and State Construction & Engineering Ltd.	186,488.00	
Engineered Homes (B.C.) Ltd.	183,635.00	
Campmobile Manufacturing Ltd.	123,133.00	Awarded.
Bennett & White Construction (1962) Ltd.	271,882.00	
Atco Industries Ltd.	173,054.00	
<i>Sawmill, British Columbia Vocational School, Prince George:</i>		
Basarab Construction Co. Ltd.	37,493.00	
Crossroads Construction Co. Ltd.	30,439.00	Not awarded.
Lipp's Contracting Ltd.	49,793.00	
Sorensen Construction Co. Ltd.	48,423.00	
<i>Highways Establishment, Vanderhoof:</i>		
Basarab Construction Co. Ltd.	356,980.00	Not awarded.
Canwest Construction Co. Ltd.	389,463.00	
<i>British Columbia Vocational School, Dawson Creek:</i>		
Marwell Construction Co. Ltd.	1,535,858.00	Awarded.
Dyke Construction Ltd.	1,696,822.00	
<i>Provincial Government Offices, Duncan, Phase II:</i>		
D. Robinson Construction (1952) Ltd.	1,364,000.00	Not awarded.
Burns & Dutton Construction (1962) Ltd.	1,495,000.00	
Farmer Construction Ltd.	1,460,152.00	
G. H. Wheaton Ltd.	1,457,156.00	
<i>British Columbia Museum and Archives, Phase IIIA:</i>		
Burns & Dutton Construction (1962) Ltd.	72,969.15	
C. J. Oliver Ltd.	59,900.00	Awarded.
R. A. Hall Ltd.	91,673.55	

TENDERS RECEIVED AND CONTRACTS AWARDED—Continued

Description of Work and Names of Tenderers	Amount	Remarks
<i>Confederation Gardens, Victoria:</i>		
Ornamental Bronze Co.....	\$17,936.00	Incomplete bid.
Birmingham Guild.....	22,668.71	
Bernhard Zackerman.....	25,500.00	
Smith Bros. Foundry & Machine Works.....	22,671.12	
Jas. E. Saull.....	21,725.19	Awarded.
Morris Singer Co.....	46,926.26	
<i>Landscape Development and Plant Material for Centennial Terrace, Courthouse, Vancouver:</i>		
Holland Landscapers Ltd.....	11,652.00	Awarded.
Jensen & Johnsen Landscape Contractors Ltd.....	17,927.00	
<i>Demolition of Houses on Lee Avenue:</i>		
Mattison & Patterson Ltd.....	2,434.00	
Chew Excavating Ltd.....	2,972.00	
Gordon Smith and Douglas Carvell.....	1,400.00	
Oliver Equipment Service & Supply Ltd.....	5,980.00	
Jenson Bulldozing Ltd.....	4,412.00	
Jim Dandy Cleanup Service.....	3,200.00	
Apex Demolition.....	.50	Awarded.
O.K. Trucking Co. Ltd.....	1,250.00	
Farmer Construction Ltd.....	3,226.00	
<i>Clearing, Grubbing, and Rough Grading, Vancouver Courthouse Grounds, Vancouver:</i>		
Holland Landscapers Ltd.....	6,970.00	
Jensen & Johnsen Landscape Contractors Ltd.....	5,985.00	Awarded.
Casano & Sons Bulldozing Nanaimo Ltd.....	10,990.00	
<i>Alterations to Main Kitchen, Oakalla Prison Farm, Phase III:</i>		
Cain Truscott Contractors Ltd.....	45,700.00	
Kelsey Construction Ltd.....	41,650.00	
Royal City Construction Co. Ltd.....	29,878.00	Awarded.
Highland Construction.....	43,040.00	
<i>Maintenance of Grounds, Provincial Government Properties, Mission:</i>		
H. G. Fehst.....	2,640.00	Awarded.
Valley Landscapers.....		No bond.
Jensen & Johnsen Landscape Contractors Ltd.....	9,450.00	
Bakerview Gardens.....		No bond.
<i>Maintenance of Grounds, Provincial Government Properties, Courthouse, Quesnel:</i>		
Richbar Nursery.....	6,776.00	Awarded.
Holland Landscapers Ltd.....	9,194.36	
<i>Maintenance of Grounds, Provincial Government Properties, Courthouse, Oliver:</i>		
F. W. Hack & Sons Ltd.....	7,000.00	Awarded.
Holland Landscapers Ltd.....	8,475.60	
<i>Maintenance of Grounds, Provincial Government Properties, Animal Pathology Laboratory, Abbotsford:</i>		
H. G. Fehst.....	8,200.00	Awarded.
Jensen & Johnsen Landscape Contractors Ltd.....	14,850.00	
Bakerview Gardens.....	10,773.40	No bond.
Valley Landscapers.....	8,305.00	No bond.

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1967