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MEMORANDUM ON THE INTEGRATION AND REORGANIZATION OF THE MINISTRY OF
WORKS AND HYDRAULICS

At paragraph 67 of the Report of the Committee on the Organization and Maintenance of Public Works (the Graham Morgan Report) it was recommended that the Public Works and Drainage and Irrigation Departments should be amalgamated into a single Department. The Government's decision on this recommendation as recorded at paragraph 4.2 of the Memorandum on the Report (Sessional Paper No. 4/1961) was as follows -

"The Government has given the matter the most careful consideration and has decided that the two Departments should be integrated with the Ministry of Communications and Works as early as possible."

2. With the introduction of the new Constitution in 1961, the opportunity was taken to create a new Ministry of Works and Hydraulics to be responsible for the Departments of Public Works and of Drainage and Irrigation, together with a number of functions, notably the provision of office accommodation and the allocation of public officers' quarters, transferred from the former Chief Secretary's Office. In creating the new Ministry the intention was that the two Departments should be fully integrated within it, and to facilitate such integration, it was decided to build an extension to the Drainage and Irrigation Department building at Kingston, Georgetown, to house the Ministerial offices.

3. The new offices of the Ministry at Kingston were completed early in January, 1962, and the Ministry's headquarters were transferred there on 9th January of this year. Shortly after the transfer was effected a survey of the existing organization of the Ministry and of the two Departments was undertaken with a view to making recommendations, in the form of a report, for the integration and re-organization of the Ministry. This report was completed in February of this year.

4. After the Report had been submitted to him, the Minister of Works and Hydraulics appointed a Committee to consider the Report and to advise him in framing recommendations to be made to the Government. The Committee comprised the following persons -

Mr. S. M. Saffee, Parliamentary Secretary, Ministry of Works and Hydraulics

Mr. P. A. Forte, Permanent Secretary, Ministry of Works and Hydraulics

Mr. J. A. d'Oliveira, Principal Assistant Secretary, Ministry of Works and Hydraulics

Mr. S. S. Naraine, Director of Drainage and Irrigation (Ag.)

Mr. P. A. D. Allsopp, Director of Public Works (Ag.)

Mr. W. P. d'Andrade, Secretary to the Treasury

Mr. C. M. Fraser, Accountant General

Mr. R. P. Farnum, Deputy Accountant General

Mr. D. W. Dunlop, Director of Audit.

5. The Government has considered the recommendations submitted to it by the Minister of Works and Hydraulics in the light of the Committee's advice, and has decided that the Departments of Public Works and of Drainage and Irrigation shall be amalgamated and integrated within the Ministry of Works and Hydraulics with effect from 1st January, 1963. Draft Estimates for 1963 to give effect to the Government's proposals have accordingly been prepared and will shortly be laid before the Legislature for approval.

6. With regard to the form of organization to be adopted, the Government recognizes that organization and re-organization are not static functions but are a continuing process, to be kept constantly under review and modified and adapted to changing conditions as necessary. Thus, it is not asserted that the proposals contained in this Memorandum constitute the ideal solution of the problems which presented themselves, but rather that they are the most acceptable of the alternatives available, in the light of the country's present economic position, the likely size of the work programmes which it will be possible to embark on in the near future, and the availability of trained and experienced staff. It is the Government's intention to review completely at a later date the organization which will result from the implementation of the proposals now adopted, to apply lessons learned from the working of the new organization and to take account of the conditions prevailing at the time of the review.

7. A copy of the Principal Assistant Secretary's Report is attached to this Memorandum and the comments of the Government on points raised in it, and its decisions on the recommendations which it contains, are set out below.

GENERAL ORGANIZATION PATTERN

8. paragraphs 6 - 9

The recommendations in these paragraphs of the Report are accepted, except that the designation of the Chief Professional Officer will be "Director of Works and Hydraulics." With regard to salary, the Government considers that it would be invidious to place the post of Director of Works and Hydraulics on a higher salary scale than that enjoyed by the highest-graded professional officers in other large Ministries, e.g. the Chief Medical Officer and the Director of Agriculture. The salary attached to this post will therefore be on the scale F 5: \$10,560; any additional emoluments required to attract an officer of the necessary calibre to be the first holder of this post would be in the form of an appropriate allowance.

9. paragraph 10

It is considered that the creation of a single Administration Division under a Chief Administrative Officer of Principal Assistant Secretary level would not be appropriate first, because the work-load on the Chief Administrative Officer would be far too great for one officer to carry effectively, and secondly, because it would not give sufficient recognition to the importance of the expenditure control function which in an integrated Ministry will be the prime responsibility of the Permanent Secretary. A split into two Divisions, to be known as the Finance Division and the Administration Division, under a Principal Finance Officer and a Principal Administrative Officer, respectively, each of Principal Assistant Secretary grade, has accordingly been decided upon.

10. paragraphs 11 and 12

The recommendation that there should be a Director of Works and a Director of Hydraulics, who would function to some extent as Deputies to the Director-General, has not been accepted. There will instead be a single Deputy Director of Works and Hydraulics with salary on the scale F 8: \$9,600. The two Directorates will then resolve themselves into four Divisions - Roads, Buildings, Mechanical and Hydraulics. In keeping with present levels of responsibility the grading of the Heads of Divisions will be grouped as follows -

Chief Engineer, Roads Division)	
Chief Engineer, Hydraulics Division	)	- F 8: \$9,600
Chief Architect, Buildings Division)	
Chief Engineer, Mechanical Division	)	- F 9: \$9,300

11. paragraph 13

The unified pattern of District organization is endorsed. The functions in relation to District Engineers originally assigned to the Director-General will, however, fall to the Deputy Director of Works and Hydraulics.

TECHNICAL COMMON SERVICES

12. paragraphs 15-19 accepted, subject to minor changes consequential upon the decision that there shall be a single Deputy Director of Works and Hydraulics in place of two Directors.

DISTRICT ORGANIZATION

13. paragraphs 20 - 25

The recommendations in this section of the Report have been accepted, subject to the following -

(a) (i) paragraph 22

Georgetown The greater Georgetown area for purposes other than buildings will be included within the East Coast, Demerara, District and not the East Bank, Demerara, District as proposed.

- (a) (ii) Mahaicony-West Berbice It has been decided that the Western boundary of this District should be the Western boundary of the existing Mahaicony Local Authority area rather than the Mahaicony River since it is felt that the interests of the people living on both sides of the River are similar and should be looked after by the same District office. The headquarters of the new District will be at Fort Wellington.
- (iii) East Berbice This District will be significantly larger and more important than the others and it is considered that two Engineers should be posted to it. One of these Engineers will be placed in charge of the District and a responsibility allowance of \$720 per annum will be attached to the post of District Engineer in this District.
- (b) paragraph 23 It has been decided that a new grade of Superintendent, parallel to the present grade of Superintendent of Works in the Drainage and Irrigation Department, should be introduced in the Districts for Roads and, where necessary, for Buildings. The grade would be known generally as Superintendent of Works but specialised holders of these posts would be known as Roads Superintendent, Buildings Superintendent, Mechanical Superintendent and Hydraulics Superintendent. It would be unrealistic to insist on technical qualifications for appointment to posts of Superintendent for the time being but the importance of such training is recognized and the aim of improving technical qualifications will continue to be vigorously pursued so that it may be possible in the shortest possible time to fill all the technical posts in the Ministry with appropriately qualified persons.
- (c) paragraph 25 The officer who will function as general supervisor of District Engineers will be the Deputy Director of Works and Hydraulics.

FINANCE DIVISION.

14. As stated at paragraph 9 above, it is considered that the grouping of all the functions dealt with at paragraphs 26 to 38 of the Report into a single Administration Division is impracticable. The creation of a Finance Division under a Principal Finance Officer of Principal Assistant Secretary level is therefore proposed. The Principal Finance Officer would supervise and co-ordinate the work of the Accounts Branch, the Supplies Branch and the Field Audit Branch, but his prime responsibility would be the important new function of expenditure control which, while formally laid upon the Permanent Secretary, would for practical purposes be delegated largely to him.

15. paragraph 30

With an officer of Principal Assistant Secretary level responsible for "administrative" functions relating to Finance, the recommendation in the Report that the Chief Accountant's post be up-graded to Assistant Secretary grade is no longer justified. Similarly, there will be no need for a post of Administrative Assistant for finance matters under the new arrangements now proposed, and the recommendation in the Report that such a post be created

has not been accepted. In the light of a survey made of the staffing needs of an integrated Accounts Branch for the Ministry, the establishment of the combined Branch, as compared with the existing separate Accounts units in the Public Works Department and Drainage and Irrigation Department, will be as follows -

	<u>Present</u>	<u>Proposed</u>
Chief Accountant	1	1
Accountants	2	2
Assistant Accountants	6	4
Class I Clerks	13	13
Class II Clerks	33	26
Departmental Clerical Officers -		
Senior	1	1
Grade II	3	2

16. paragraph 31

The Supplies Branch, responsible for the Central Stores, will be a Branch of the Finance Division. The Stationery Store has now been placed under the administration of the Controller of Government Printing and Stationery, Ministry of Home Affairs. It is considered that the post of Storekeeper is graded too low at A 19: \$3288 - \$4128 and it has been decided to regrade this post to the scale A 13: \$4344 - \$4848.

17. With the consolidation of the two existing Field Audit units into a single Field Audit Branch within the Finance Division, one post of Field Auditor and one of Assistant Field Auditor will become redundant since it is felt that one Field Auditor with one Assistant should be able to exercise adequate control over this Branch.

ADMINISTRATION DIVISION

18. It has been decided that an Administration Division should be created, under a Principal Administrative Officer of Principal Assistant Secretary grade, to be responsible for Personnel, general administrative matters and Registries.

19. paragraph 28

The recommendation that a unified Personnel Branch be set up has been accepted, but the establishment and grading of posts within this Branch will be as follows -

1 Senior Personnel Officer	-	A 7: \$5040 - \$6240
1 Personnel Officer	-	A13: \$4344 - \$4848
2 Assistant Personnel Officers	-	A19: \$3288 - \$4128

The importance of having trained staff to deal with personnel matters has been recognized by the Government and efforts will be made to select suitable officers for training in this field. No qualifications can be insisted upon at present for appointment to any of these posts but it is the Government's intention to introduce a qualification requirement for these posts as soon as practicable,

20. paragraphs 32 - 35

In the light of the Organization and Methods survey of the existing registries carried out with a view to determining their organization and staffing needs in an integrated Ministry, the following has been decided in principle-

- (a) There shall be a Central Registry and a number of sub-registries conveniently located to serve the various Divisions and Branches of the integrated Ministry.
- (b) All registry, secretarial and typist staff shall be under the supervision of a Senior Woman Secretary.
- (c) Probable staffing requirements for registry, secretarial and typing staff, compared with the existing establishment, would be as follows -

	<u>1962</u>	<u>1963</u>
Senior Woman Secretary	1	1
Secretary	2	1
Senior Clerical Assistants	10	7
Clerical Assistants	31	28

21. paragraphs 36 - 38 accepted

22. paragraphs 39 - 41 Not applicable in view of the decision that there shall not be a Directorate of Works.

ROADS DIVISION

23. The Government considers that the existing level of the Chief Engineer, Roads Division, does not reflect the true importance of roads in the national economy. It is considered that the Chief Engineer of this Division should be of the same grade as his counterpart in the Hydraulics Division and this post will be placed on the scale F8: \$9,600. While this decision is based on the Government's view of the importance of roads and of the responsibility which the head of this Division will bear by comparison with the head of the Hydraulics Division, it may also be noted that equalisation will remove the difficulty referred to at paragraph 40 of the Report - namely, the disadvantage under which a Chief Engineer, Roads Division, would labour with regard to promotion to the post of Director if his post was graded below that of the Chief Engineer, Hydraulics Division.

24. paragraph 43

It is considered that the proposal at this paragraph of the Report that the Construction and Maintenance Branches be consolidated into a single Branch under an Executive Engineer is not feasible. It has therefore been decided that the four existing Branches - Materials, Location and Design, Construction, Maintenance - shall be kept separate, and that the head of each Branch shall have the status of an Executive Engineer.

25. paragraphs 44 - 45 accepted

26. paragraph 46 accepted, subject to what has been said above about the retention of separate Construction and Maintenance Branches.

27. paragraph 47 accepted

BUILDINGS DIVISION

28. paragraphs 48 - 59 accepted

MECHANICAL DIVISION

29. paragraphs 60 - 62 accepted

HYDRAULICS DIVISION

30. paragraphs 63 - 69

The proposed Directorate of Hydraulics will be converted into a Hydraulics Division, under a Chief Engineer on the Scale F 8: \$9,600.

31. It is considered that the form of organization proposed in the Report for the Directorate of Hydraulics is sound and consideration will be given to its adoption at a later date. However, taking into account the present financial circumstances of the country and the shortage of staff with the training and experience required to man the organization recommended in the Report, it has been decided that the organization of the Hydraulics Division should for the time being follow as closely as possible that of the existing Department of Drainage and Irrigation, having regard to the changes in the functions of the Division which integration will bring about. Thus, the Hydraulics Division will be broken down as follows -

- (a) Chief Engineer, corresponding to the present Director of Drainage and Irrigation, but with salary on the scale F 8: \$9,600 instead of F 5: \$10,560.
- (b) Deputy Chief Engineer, replacing the present Deputy Director of Drainage and Irrigation, with salary on the new scale \$9,120 instead of F 9: \$9,360.
- (c) Executive Engineer, Construction Branch

This post corresponds to the present Executive Engineer, (Projects). Within this Branch would come the unified Survey Section (Hydrological and Hydrographic) under the Superintendent of Surveys, and the Designs Section under an Engineer.

- (d) Executive Engineer, Declared Areas Branch

This post would correspond to the present Executive Engineer (Declared Areas).

- (e) Executive Engineer, Sea Defences Branch

This post will be transferred from the Public Works Department to the Hydraulics Division.

(f) Executive Engineer, Research Branch

This corresponds to the existing post of Executive Engineer (Research).

(g) Water Administration Officer

Since this post will not require legal qualifications the title "Water Law Officer" is not considered appropriate and the designation "Water Administration Officer" will be substituted for it. This officer will be of Executive Engineer level and he will have responsibilities in connexion with the declaration of new drainage areas, the assessment of compensation and the administration of the legislation in force relating to the work of the Division. The recommendation at paragraph 65 of the Report that this officer should perform the duties of Secretary to the Sea Defence and Drainage and Irrigation Boards, with a Senior Clerk as Assistant Secretary to the Boards, is accepted.

PURE WATER SUPPLY

32. The Government has at present under consideration the establishment of a Water Corporation to assume responsibility for the provision of potable water throughout the country. Pending a decision on the establishment of such a Corporation, it has been decided that the Pure Water Supply will remain attached to the Ministry of Works and Hydraulics for the purposes of day-to-day administration, while the Ministry of Labour, Health and Housing will be responsible for policy. No change in the existing establishment of the Pure Water Supply is contemplated.



**REPORT ON THE ORGANISATION
OF THE
MINISTRY OF WORKS AND HYDRAULICS**

February, 1962.
C.G.F. & S. 1132/62

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INTRODUCTION

This Report on the organization of the Ministry of Works and Hydraulics has been prepared to enable proposals for the integration of the Ministry with the Departments of Public Works and of Drainage and Irrigation to be formulated for presentation to Government.

2. The Report is based on a survey of the present organization of the three units comprising the Ministry and an assessment, made after consultation with the Heads and other professional officers of the two Departments, of the form that integration should take and of the numbers and gradings of posts needed to enable the integrated Ministry to fulfil its functions efficiently. Previous reports bearing on the matters under consideration were also consulted: these were, the Organization and Methods Report on the Public Works Department, March 1958, the Graham Morgan Report on the Organization and Maintenance of Public Works, March 1959, the Report for the Years 1957, 1958 and 1959 on the Drainage and Irrigation Department, and the Report of the Public Service Structural Review Committee, 1960 - 1961. A paper on the Organization of a Public Works Department presented by Sir Reginald Taylor, C.M.G., B.Sc. (Eng.), M.I.C.E., Engineer-in-Chief, Crown Agents, to the Conference on Civil Engineering Problems Overseas, June 1960, and the report of the discussion on this paper, contained much material of interest in connexion with this study.

3. No attempt has been made to conduct a detailed organization and methods study of all the parts of the Ministry and Departments, nor to assess staffing needs in relation to clerical and subordinate staff generally. Consideration has accordingly been concentrated on the broad pattern of the organization to be adopted and staffing recommendations are confined for the most part to the professional and administrative grades. Where a post or category of posts has not been specifically mentioned it is to be assumed that no change in designation, grading or numbers is recommended.

4. It is the general view that when disparate units are integrated with one another this should result either in the same service at less cost or in significantly better service at the same cost; it is not expected that integration should result in higher cost. However, in formulating integration proposals it is necessary to consider the whole of the existing organization of the entities to be integrated and to enquire first, whether each unit is properly staffed before integration and whether the staff is graded in accordance with its duties, and second, whether the top-level posts of the separate units will be adequately graded in relation to the responsibility their holders will now bear in the expanded unit after integration. It is also necessary to take into consideration the principle of unity of command; if three branches headed by officers of the same level are brought together into a single branch it will be necessary to up-grade one of the posts to enable the head of the unified branch to be above the level of the other officers in his branch; a triumvirate would hardly make for efficiency.

5. The aim of these proposals is to create an organization structure which, provided the posts embodied in it are filled by persons of the required calibre, will be conducive to efficiency. However, account must also be taken of the economic circumstances of the country and the recommendations made fall far short in most cases of what is understood to be the minimum necessary for proper functioning. The proposals put forward constitute the minimum which

could be recommended in the interests of efficiency; nevertheless so many cases of under-staffing and under-grading were found that an overall increase in cost seems unavoidable although, as shown in the approximate comparison of costs at Appendix I, the total increase in personal emoluments over those of the present Ministry and Departments should only be of the order of \$24,000 in a total fixed and unfixed establishment salaries and wages bill of about \$1,500,000.

GENERAL ORGANIZATION PATTERN

6. The form which integration should take will vary from one Ministry to another in accordance with the circumstances of each. The Ministry of Works and Hydraulics lends itself to complete integration, thanks to the physical location of all its headquarter offices in close proximity to one another and to the comparative homogeneity of its functions. The objective to be aimed at is a pattern of organization for the whole Ministry which eliminates as far as practicable duplication and overlapping and brings together common services under central control; which assigns functions to those units best equipped to perform them and which lays down clearly defined lines of authority.

7. The Civil Service Head of the Ministry will be the Permanent Secretary. The use of the term "Department" in relation to parts of the Ministry should be discontinued and the word "Department" would then be used interchangeably with the word "Ministry"; the term "Head of Department" would therefore apply to the Permanent Secretary. The Permanent Secretary will be responsible to the Minister for the proper functioning of the Ministry, to the Public Service Commission for personnel matters and to the Director of Audit and the Public Accounts Committee of the Legislature on questions relating to the expenditure of public funds in his capacity as Accounting Officer for the Ministry. He will be the chief adviser to the Minister on all matters coming within the purview of the Ministry. The Permanent Secretary may insist on being present at any interview held between the Minister and any other officer of the Ministry.

8. In a technical Department such as that of Works and Hydraulics it will be necessary to provide for direction and co-ordination of the technical functions and for the tendering of technical advice to the Minister and to the Permanent Secretary. The question whether these functions should be vested in a single officer or whether the present Departments should continue as separate entities for technical purposes engaged the attention of the Graham Morgan Committee and has been much canvassed since. The Graham Morgan Report came down in favour of amalgamation, basing its conclusion on the savings which would result from cutting out duplication of headquarters services and the overlapping of professional staff in the field. A relevant extract from the Report by Sir Herbert Manzoni, C.B.E., M.I.C.E., as Commissioner to enquire into the separation of the Roads Branch from the Public Works Department in Kenya was quoted in the Graham Morgan Report (page 15) and is reproduced below -

"In the case of an organization of the size and kind of the Public Works Department of Kenya the theoretical arguments against separation into a number of independent departments are unanswerable; they are based upon flexibility, economy of supplementary services, the maintenance

of size and variety adequate to attract responsible personnel, and the benefits of unified control. These arguments have been examined again and again by responsible persons and bodies of persons and almost invariably the conclusions have been against separation."

Sir Reginald Taylor enumerates the arguments in favour of unification, referring to the economies which accrue from unified provision of common services, and from standardization of plant and equipment. From the viewpoint of the tendering of advice he states the advantages of unification in these words -

"Technical advice comes from one source. Non-technical Ministers will not have to make decisions between the proposals of various technical departments competing for limited finance. Assessment of relative merits will have been done by the technical head of the unitary department."¹

The argument for unification based on the need to have advice tendered by a single officer is strong. It would also be difficult to enjoy the benefits of unified technical common services, especially as regards the Districts, where there was no single officer able to arbitrate on the basis of technical considerations between the users of the common services. For the reasons discussed above the creation of a new post above the level of the two existing heads of departments, with the designation of Director-General, is recommended.

9. The Director-General will be the chief adviser to the Ministry on technical matters. He would normally tender his advice to the Permanent Secretary who would in turn advise the Minister on policy after taking into consideration the technical advice tendered by the Director-General. However, the Director-General may be called into consultation by the Minister or he may wish to give advice on a particular matter to the Minister in person; in such cases there would be no objection to direct contact between the Minister and the Director-General, the sole proviso being, as has been stated at paragraph 7, that the Permanent Secretary shall have the right to be present on such occasions. A proper appreciation of their respective roles and of each other's point of view, and a good personal relationship between them, will be needed to promote harmonious working of this arrangement but it should be made clear that the Permanent Secretary and the Director-General will be in no sense rivals or the heads of independent empires; the Director-General is subordinate to the Permanent Secretary and in case of disagreement the decision of the Permanent Secretary shall prevail. On the other hand there are spheres in which a lay Permanent Secretary would not be competent to function, namely technical direction of the Ministry's operations and the co-ordination of these operations; these functions, subject to laid-down policy and the general responsibility of the Permanent Secretary for the proper working of the Ministry, would fall to the Director-General. It is also suggested that the Director-General should have a special responsibility for matters relating to the training of the professional and technical staff of the Ministry. From what has been said it is clear that an officer of very high calibre will be needed to perform the duties of the post of Director-General effectively. It will therefore be necessary to offer a salary commensurate with the responsibilities of the post and which will attract the right type of person; a salary on the scale F 3: \$11,040 (unrevised) is the minimum that should be attached to this post.

10. Common services of the type generally classified as "administrative" and "executive" may conveniently be grouped into an Administration Division under a Chief Administrative Officer of the level of a Principal Assistant Secretary. Within this Division would be grouped

* Sir Reginald Taylor, loc. cit., page 10

personnel, finance, accounting and field audit, storekeeping, registry, typing and messenger services, and those functions now performed by the ministerial secretariat commonly referred to as "devilling". Functions of the same nature now performed separately in each of the three existing units would be brought together into unified Branches within the Administration Division.

11. Shorn of their administrative and executive services, which will be transferred to the Administration Division, the present Departments of Public Works and of Drainage and Irrigation should be transformed respectively into a Directorate of Works and a Directorate of Hydraulics, responsibility for Sea Defences being transferred to Hydraulics and the mechanical engineering functions of the present Department of Drainage and Irrigation being centralized within the Mechanical Division of the Directorate of Works. The name "Department" should not be applied to these units because it is important to emphasize the change in their responsibilities within an integrated Ministry in which, as we have seen in paragraph 7 above, the Ministry as a whole becomes the Department with all the functions and responsibilities previously conferred on Departments in relation to staff, financial accountability and legal liability. Under these proposals the two Directors will function to some extent as Deputies to the Director-General in respect of their Directorates, but with more autonomy than is usually accorded to Deputies. They will supply technical direction, supervision and co-ordination of the Divisions of which each Directorate is composed, subject to the general direction of the Director-General who in turn will, as we have seen, carry out his duties under the general authority of the Minister and the Permanent Secretary.

12. It is proposed that the posts of Deputy Director will disappear. The Directorate of Works will be divided into three Divisions, Roads, Buildings and Mechanical, the first and third under a Chief Engineer and the second under a Chief Architect, all three Division Heads being of the level of the present Deputy Director. The Directorate of Hydraulics will also have its functions separated into three Divisions - Operations, Development and Research - each under a Chief Engineer of Deputy Director level. Each Division, in both Directorates, will be further divided into Branches with heads of a status in keeping with their responsibilities.

13. A unified pattern of District organization is proposed whereby the District Engineers act as the agents in the field of the Directors and the Division Heads requiring their services. For matters affecting them personally District Engineers will come under the supervision of the Director-General who will also resolve any conflict arising out of the responsibilities of District Engineers as between the two Directorates.

14. In the succeeding sections general consideration will be given to the question of the provision of technical common services and to the pattern of District organization to be adopted. The organization proposed for the Administration Division and the two Directorates will then be discussed in some detail. A chart illustrating the proposed organization is at Appendix II to this Report.

TECHNICAL COMMON SERVICES

15. Before going on to examine in detail the proposed organization of the various Divisions it is desirable to give some attention to the manner in which technical services common to two or more Divisions, e.g.

materials research, structural design, quantity surveying and hydrological surveying, should be organized. Three alternatives present themselves -

- (a) they may be organized as separate branches responsible to the appropriate Director and undertaking work at the request of the Divisions requiring their services;
- (b) they may be grouped together as a technical services division under a Chief Engineer responsible to the Director;
- (c) they may be located within the Divisions which made the greatest use of their services, undertaking work for other Divisions on direct request or by arrangement with the Head of the Division in which the service is located.

16. The arrangements at (a) and (b) above by emphasizing the common service nature of the functions of these branches would tend to ensure that all Divisions requiring their assistance would be served impartially. The Graham Morgan Report favoured the organization of these services as separate branches responsible direct to the Head of Department and his Deputy. However, the disadvantage of this arrangement, apparent from a glance at the chart on page 21 of that Report, is that it greatly increases the span of control of the Head of Department, involving him inescapably in considerable direct supervisory responsibilities.

17. The arrangement whereby the technical common service branches would be grouped into a Technical Services Division responsible to the particular Director would be quite compatible with the principle of organization which informs this study. Direct supervision and allocation of assignments on behalf of the various Divisions requiring assistance would be undertaken by the Head of Division and the need for direct intervention by the Director would be negligible. The main drawback to this quite useful arrangement would be the fact that it introduces an additional high-salaried post which in the interests of economy should never be done unless the disadvantages of any alternative arrangement are so manifest as to seriously impair efficiency.

18. The disadvantage of the third arrangement, locating the service in the Division where it is most used, is that other Divisions requiring assistance would tend to have their requests neglected in favour of the tasks being performed for the Division of which the service forms part. Despite this undoubted drawback the balance of advantage would nevertheless lie in the third arrangement if the service in question is required to a predominant degree by one Division and only on occasion by others. Taking the services in question individually, it is estimated that the materials research engineer needs to devote over 75% of his time to work required by the Roads Division. The structural engineer similarly will be engaged very largely in design work for bridges and culverts but will need to be brought into consultation by the architects from time to time. The training of Quantity Surveyors has a heavy bias towards quantities for buildings and they are unlikely to be very familiar with engineering quantities. Sir Reginald Taylor, Engineer-in-Chief, Crown Agents, in discussion of his paper on "The Organization of a Public Works Department" presented to the Conference on Civil Engineer Problems Overseas in June 1960, is quite emphatic on this point; the Report of the Conference records his views as follows -

".....as regards quantity surveying he had regarded it as primarily a building function. He rather regretted the present tendency in East Africa for this section to be given the responsibility for preparing and managing every Works Department contract. He considered that managing an engineering contract was a function of an engineer and that experience in preparing contract documents and in managing contracts were most important factors in the development of young engineers."¹

If it were decided that cost accounting should be introduced into the Ministry the services of a quantity surveyor would be desirable. But if this were done at least one quantity surveyor would probably be required full-time and it would be more appropriate to appoint one to a special post within the Finance Branch rather than to attempt to use the Quantity Surveyors' Branch on a common service basis for this purpose. It would therefore be quite sound in principle to locate the Quantity Surveyors' Branch within the Buildings Division. For similar reasons the hydrological and hydrographic survey pool of the Directorate of Hydraulics will be located within the Development Division.

19. With common service branches located within the Division with which their work is most closely connected, good relations between the persons concerned should ensure adequate attention to the needs of the other Divisions. If, for example, an Architect engaged in the design of a building wished to consult the Structural Engineer he could do so direct. Given good relations the Structural Engineer would give the assistance sought; however, if he pleaded pressure of work for his own Division, the Chief Architect could get in touch with the Chief Engineer, Roads Division, and ask him to arrange for the Structural Engineer to give his help. If this approach failed it would then be necessary for the Chief Architect to seek the intervention of the Director of Works who, after considering the work requirements of the two Divisions concerned, would give instructions as to the order of priority in which the Structural Engineer would deal with the assignments given to him. The intervention of the Director should be necessary only as a last resort. It should also be borne in mind that in the absence of good will the organization patterns at (a) and (b) of paragraph 15 would not automatically obviate the need to invoke the authority of the Director since, even if the Structural Engineer were in a separate specialist Branch directly responsible to the Director or to the head of a Technical Services Division, his view of the relative priorities of the tasks assigned to him might not coincide with that of those seeking to use his services. It is always difficult to serve two masters whatever organization pattern is adopted.

DISTRICT ORGANIZATION

20. Assuming integration at the District level, several different patterns of District organization are possible. One pattern is the creation of the "super-District," a large District headed by an Executive Engineer, supervising and co-ordinating a full team of professional officers representing each of the headquarters specializations, District Roads Engineer,

¹Conference on Civil Engineering Problems Overseas. A collection of papers presented at the Institution of Civil Engineers in June 1960, page 50.

District Hydraulics Engineer, District Mechanical Engineer and District Architect. This structure has obvious advantages: it would confer the benefits of specialization and a marked increase in the efficiency of District operations would undoubtedly flow from the presence of a full professional team. The drawbacks are however equally patent: it is doubtful whether the present circumstances of British Guiana would allow or even require so elaborate and costly a pattern of District organization, unless the size of each District were greatly enlarged and the number of Districts correspondingly reduced. But, if this were done each District would tend to be unwieldy in size and it would be necessary for some of them to span the natural barriers of our unbridged rivers, offsetting the economies of scale and the benefits of specialization by the expense and time which each specialist officer would consume in merely travelling from one part of the District to another. Another disadvantage, more arguable perhaps, is that the professional staff would specialize too early and so lose the benefit of the broad experience which the "maid-of-all-work" type of District Engineer acquires in the course of exercising responsibility for all the variety of works undertaken by the different branches of his profession.

21. At the other end of the organizational scale from the large District staffed by specialists is the small District in the charge of a single professional officer which would result if we simply added the number of District Engineers of the Public Works Department to those of the Drainage and Irrigation Department and divided the populated areas of the country by that number so that one Engineer would be placed in control of all works in a smaller district. This would have the advantage of keeping the cost of professional District staff at the same level as at present, it would undoubtedly reduce the time and money spent in travelling and it would give District Engineers the broad experience which is felt to be advantageous to them at this stage of their career. However, the cost advantages would be largely offset by the duplication of supporting staff - technical and clerical - which this pattern would entail and in some cases by the need to provide office accommodation and quarters in a different location.

22. Perhaps the most feasible solution would be to have for the unified District organization about the same number of Districts as each Department now has, where necessary posting an Assistant Engineer to the District in addition to the District Engineer and concentrating on improving the quality of the supporting technical staff. This would retain the advantage of broad experience for the District Engineer, afford Assistant Engineers something of the same benefits at an earlier stage in their career, release a number of officers of full engineer grade for much needed headquarters posts, keep travelling time and expense within reasonable bounds, enable attention to be given to the quality of the supporting technical staff rather than to the quantity, and reduce to a minimum the need to provide additional office space and quarters. The following suggested Districts would probably meet the desired criteria of size, manageability, ease of transition from the present system and conformity to natural boundaries -

- (a) Essequibo - the present Public Works Department Essequibo District. An Assistant Engineer should be posted to this District.
- (b) West Demerara - the present Public Works Department West Demerara District, with an Assistant Engineer.

- (c) East Bank Demerara - Atkinson Field, the East Bank and Greater Georgetown for all purposes other than buildings for which special provision is proposed (see paragraph 56 below).
- (d) East Coast Demerara - The present East Demerara-West Berbice District for both Public Works and Drainage and Irrigation is unquestionably too large and a division into two all-purpose districts seems to be the most acceptable solution in this case. The boundary might be the Mahaicony River, the District east of that line becoming
- (e) Mahaicony-West Berbice
- (f) East Berbice - the present Public Works Department East Berbice District to which one, and possibly two, Assistant Engineers should be posted. In view of the heavy concentration of Drainage and Irrigation areas in this District one of the Assistant Engineers, if two are posted, should be made responsible to the District Engineer for Drainage and Irrigation works exclusively.

23. The need to improve the general level of qualifications of technical supervisory staff in the Districts is well-recognized. The objective to aim at is a District staff of trained technicians specializing in each of the fields for which the District Engineer will be generally responsible. Each District would accordingly have under the District Engineer (and his Assistant) a Buildings Superintendent, a Roads Superintendent, a Hydraulics Superintendent and - in Districts where a mechanical workshop of any size is located or where the amount of fixed installation requires one - a Mechanical Superintendent. The qualification required for the Superintendent grade would probably be something of the order of the City and Guilds Ordinary Certificate in the appropriate subjects. It will obviously take some time to staff all the Districts with adequately qualified technicians but it is suggested that a start be made now by re-designating all Senior Overseers Superintendents and regrading them from their present salary scale, A 14: \$2400 - \$3192 to A 13a: \$2400 - \$3192 // - \$3840, the acquisition of the necessary qualification being made a condition of their crossing the bar at \$3192. This will provide the younger and more ambitious among them with an incentive to improve their qualifications, and the opportunity to do so should be afforded to all who are thought capable of benefitting from the required training. Overseers Grade II should be redesignated Assistant (Roads, Buildings etc.) Superintendents and a scheme should be worked out to enable present holders of these posts to improve their qualifications, increments in their scale being granted to those who qualify themselves while qualified new recruits should enter the scale at a point well above the minimum. The nucleus of these better-qualified technicians already exists in the Superintendents of Works of the Drainage and Irrigation Department.

24. What has been said above concerning the need for better qualified technical supervisory staff applies with equal force to the Clerks-in-Charge of District offices. These should be of the level of Senior Clerks and they should as far as possible serve a tour in the Personnel and Finance Branches at headquarters before being posted to Districts to enable them to gain an insight into these two important aspects of their work in the Districts. Full advantage should also be taken of any training facilities, especially on the Personnel side, which may become available as a result of the greater emphasis now being placed on training within the public service.

25. District Engineers will function in their Districts as the agents of each of the headquarters Divisions. The Head of each Division will, subject to policy laid down by higher authority, apportion the allocation for his district services among the District Engineers who will carry out the instructions of the Head of Division and report to him on the progress of the works undertaken on his behalf. They will also function as his advisers, drawing up a suggested programme of works based on their observations on the spot and on their assessment of need. In point of discipline and other matters affecting them personally, salaries, allowances, conditions of service, leave, District Engineers will come directly under the Director-General who will also intervene in the event of any conflict arising out of their responsibility to the two Directors for the execution of works.

ADMINISTRATION DIVISION

26. When the Organization and Methods survey of the Public Works Department was carried out in 1958 the reviewing team found that it was the intention to group the secretarial, Records, Accounts, Personnel, Stores, Stationery Store and Field Audit Sections into an Administration Division headed by a non-technical Assistant Director on the scale F 12: \$7680, but this officer was not in post at the time of the review. Commenting on the proposal the team said -

"The grouping of these activities into an Administration Division and placing it in the charge of an Assistant Director appears to be sound."¹

The Assistant Director was however never appointed and in 1961 it was decided to reserve the provision for this post in the Estimates against a post of Principal Assistant Secretary in the Ministry of Works and Hydraulics which was to come into being with the new constitutional arrangements in August 1961.

27. With the integration of the Departments of Public Works and of Drainage and Irrigation into the Ministry of Works and Hydraulics as now proposed it appears logical to create an Administration Division embracing all the functions enumerated in paragraph 26 not only for the Public Works Department but also for the Drainage and Irrigation Department and the present Ministerial Secretariat, each individual function being brought together from the three existing entities into a unified Branch within the Administration Division. The Head of this Division would be a Chief Administrative Officer of Principal Assistant Secretary level, responsible direct to the Permanent Secretary.

28. We shall now examine the various functions to be performed within the Administration Division, applying the criteria for establishment and grading set out at paragraph 4 of this Report. Personnel services in the Public Works Department are provided by a Personnel Officer on the scale A 11: \$4008 - \$4512 and an Assistant Personnel Officer. The Drainage and Irrigation Department has a Personnel Officer on the same scale as that of the Public Works Department. Establishment and Personnel matters relating to the established staff in the two Departments form part of the duties of the Executive Officer (A 4: \$4560 - \$5760) in each Department. No special provision is made for personnel matters in the small staff of the ministerial secretariat. Are the personnel services of the three entities

¹Organization and Methods Report P.W.D. March 1958, page 4.

adequately staffed and are the staff properly graded in relation to their responsibilities? The Public Works Department has the largest body of open-vote employees in the public service with all the problems attendant upon unionization; experience has shown that the personnel establishment is inadequate in numbers to deal with the problems confronting them and that the grading of the personnel staff precludes the recruitment to these posts of much needed specialists in personnel administration; by comparison the Personnel Officer of the Post Office is on the scale A 4: \$4560 - \$5760. It is apparent then that the personnel services before integration are inadequately staffed and graded too low. Their responsibilities will be increased with integration because it is proposed that matters relating to established staff as well as to open-vote employees shall be handled by the Personnel Branch. One post must be placed on a higher level than the others to ensure unity of command. Finally, the head of the Branch must be an officer of sufficient status to deal on a proper footing with the professional staff and he must be of a calibre that will enable him to assume as much responsibility as possible to ensure that the Chief Administrative Officer, for whom very wide responsibilities are envisaged, is not unduly involved in the time-consuming details of personnel administration. The following is accordingly proposed as the minimum establishment and grading of an integrated Personnel Branch -

- 1 Senior Personnel Officer - A 2: \$4560 - \$6720
- 2 Personnel Officers - A 11: \$4008 - \$4512
- 2 Assistant Personnel Officers - A 12: \$3048 - \$3840

29. Both the Public Works and Drainage and Irrigation Departments are self-accounting. The former has an Accounts Branch headed by a Chief Accountant on the scale A 4: \$4560 - \$5760, with two Accountants on A 11: \$4008 - \$4512; the latter Department has a smaller Accounts Branch under an Accountant. The Ministry has a Class I Clerk who handles its modest accounts but it is very much involved in financial matters at all levels, examining in detail the Estimates of the two Departments and requests for supplementary provision, submitting recommendations for expenditure which requires the authority of the Minister, checking replies to Audit Queries, among other matters. These functions are exercised by the administrative officers charged with matters relating to the particular Department concerned.

30. It will be assumed that the accounts staff of the two Departments is adequate for the duties they are now required to perform. There is already an officer of a rank higher than that of his colleagues, the Chief Accountant of the Public Works Department, so integration will present no problem from the point of view of unity of command. Integration would however be facilitated and efficiency improved if the "administrative" function of critical examination of estimates and proposals for expenditure were located within the branch which handles the Ministry's other financial responsibilities and it is accordingly recommended that a post of Administrative Assistant be created within the Finance Branch. In recognition of his increased responsibility, not only for an enlarged Branch but also for a Branch in which will be centralized all duties, executive and administrative, connected with finance, the Chief Accountant should be redesignated Senior Finance Officer and his post up-graded to the scale A 2: \$4560 - \$6720.

31. The Public Works Department Central Stores and the Stationery Store already provide a common service for the Drainage and Irrigation Department and indeed for all Government Departments. No change in their responsibilities and establishment is envisaged as a result of integration but they

will be included as a branch within the Administration Division. As suggested in the Report of the Structural Review Committee the designation "Supplies Officer" would more accurately describe the functions of the Chief Storekeeper; the change in designation is accordingly recommended, the branch being called the Supplies Branch.

32. The importance of efficient arrangements for handling correspondence and for keeping records in appropriate and easily accessible form cannot be over-emphasized. An integrated Ministry lends itself to a simplification of paper-work processes and to the reduction of duplicate record-keeping to a minimum and the simplified arrangements should in time be reflected in a marked increase in efficiency and economy.

33. The first requirement is the setting up of a Central Registry; this does not necessarily require that all files shall be brought together into a single place and indeed there are disadvantages to such an arrangement if files are placed at too great a distance from the division or branch where they are most used. The provision of a number of sub-registries located at strategic points in the various headquarters buildings is therefore recommended. The Central Registry, in addition to being the repository for the files pertaining to the branches in its immediate locality, will be the place where all confidential files are kept, together with files of general interest which cannot conveniently be stored in one or other of the sub-registries.

34. But the real significance of the Central Registry lies in its function as the sole place of receipt and despatch of official correspondence between the Ministry and persons and offices outside. All outside mail will be received in the Central Registry, recorded, and then sent to the appropriate sub-registry for filing. Similarly all mail will be despatched through the Central Registry. This would not, however, apply to demi-official correspondence or to correspondence received from or sent to District offices, which could be handled in the appropriate sub-registry. Correspondence between various parts of the Ministry headquarters would normally be by minute on file and not by memorandum.

35. The senior registry officer in the present ministerial secretariat is of the grade of a Senior Clerical Assistant while each of the Departments of Public Works and Drainage and Irrigation has a Secretary. As it is proposed to make sub-registries subordinate to the Central Registry and to centralize overall responsibility for registry matters in the head of the Central Registry, it will be necessary to have one officer of higher rank than the others. It is accordingly proposed that a post of Senior Woman Secretary level, with the specific title of Registry Officer, be created to head an Office Services Branch, with subsidiary functions such as the supervision of typing pools and messengers, and the supply of stationery and office requisites to the various Divisions. This post could be in substitution for the post of Senior Clerical Assistant in the existing ministerial registry.

36. There remains to be considered the General Branch which would inherit from the present ministerial secretariat all the functions not specifically assigned to other branches. Such functions include -

- (a) examining proposals put forward by technical officers, carrying out any research into the background of the subject matter, consulting other authorities that may be concerned, obtaining legal or financial advice, and preparing the matter for decision by higher authority;

- (b) drafting Council of Ministers memoranda, replies to parliamentary questions, notes for use by the Minister in parliamentary debate, letters and memoranda for signature by senior officers etc.;
- (c) taking notes and preparing minutes of the many meetings through which the Ministry conducts so large a part of its business.

37. Integration, and the abolition of the posts of Executive Officer in the two Departments, will confer additional functions on this Branch. It is envisaged that a single Annual Report will be prepared for the Ministry as a whole in the place of separate departmental reports and the Branch will be responsible for seeing that the various Divisions submit the material on which their sections will be based, and for drafting and collating the sections. The Branch will also be charged with collecting and compiling the information required for the territory's Annual Report and the many other publications put out from time to time by the Government, e.g. brochures on trade and tourism. Another important new function which will arise is liaison with the Planning Unit. The Unit will need to get from the various Ministries economic and other data and this should be collected at a central point in each Ministry, preferably by an officer who has had training in economics. One member of the staff of the General Branch should therefore be charged with the liaison function and he should preferably hold a degree in economics.

38. The present administrative staff of the Ministry, below the Principal Assistant Secretary, consists of one Assistant Secretary and one Administrative Assistant working in parallel, responsible respectively for matters pertaining to the Public Works Department and the Drainage and Irrigation Department. There are also on the establishment a Class I and a Class II Clerk. This staff is quite inadequate for the volume of work to be done and it has been necessary for the Principal Assistant Secretary to function to a large extent as a charge officer spending most of his time initiating matters, drafting, and undertaking other duties more usually assigned to an Administrative Assistant. Under the proposed organization the Chief Administrative Officer as Head of the Administration Division will need to spend most of his time supervising, guiding and co-ordinating the branches under him and assisting and advising the Permanent Secretary. It will therefore be essential, in order to afford him a manageable span of control, that all general administrative matters shall be submitted to him through a single officer, the head of the General Branch. The establishment proposed for the General Branch is one Assistant Secretary with two Administrative Assistants working to him; as stated at paragraph 37, one of the Administrative Assistants should preferably have a degree in economics. It is realised that it will be a new departure to have Administrative Assistants working to an Assistant Secretary, but the circumstances set out above justify this and the fact that the maximum of the scale of the lower grade is the same as the minimum of the higher grade makes such an arrangement not inappropriate.

DIRECTORATE OF WORKS

39. The Directorate of Works would comprise the Roads Division, under a Chief Engineer, the Buildings Division under a Chief Architect and the Mechanical Division under a Chief Engineer. The three Heads of Division would be of the level of the present Deputy Director of Public Works.

40. The role of Director of Works will not be an easy one to fulfil since this officer will have to supervise three Divisions exercising quite distinct specialized skills, civil engineering, architecture and mechanical engineering. Indeed it is arguable whether there is need at all for a post of Director of Works since it may be urged that such supervision and co-ordination as the three Divisions may require can be provided by the Director-General. On balance, however, the inclusion of a post of Director is recommended for two principal reasons - first, to relieve the Director-General of as much routine supervision and day-to-day administration as possible, so that he may be free to carry out his important planning and policy functions for the technical operations of the Ministry as a whole; and second, to provide a balance between the other technical Divisions and the Hydraulics unit which because of its size and the peculiar importance of its present role in the context of British Guiana would tend to overshadow the other Divisions if they did not have one voice to speak for them. A third justification for the post of Director of Works, though not strictly on grounds relevant to organization, is the chance which it offers to ambitious young civil engineers who do not wish to specialize in hydraulic engineering of attaining the post of Director-General by way of the Roads Division, since, if there is no post of Director of Works and the post of Chief Engineer, Roads Division, is graded in keeping with its present responsibilities at Deputy Director level, it will be virtually impossible for its holder to compete with the higher-graded head of the Hydraulics unit for the post of Director-General.

41. The post of Deputy Director of Public Works, which is at present vacant, should be abolished. With the existence of a Director General a third supervisory level cannot be justified. In addition, the posts of Chief Architect and Chief Engineer, Mechanical Division, are to be upgraded to Deputy level and all Heads of Divisions should take greater responsibility for the work of their Divisions.

Roads Division

42. The Roads Division has suffered in the past not from a faulty organization pattern but from the fact that posts have not been filled or that the staff theoretically on the establishment of the Division has frequently been required to serve outside the Division.

43. The present organization of the Division provides for a Chief Engineer and four branches, Materials, Location and Design, Construction, and Maintenance, the heads of the first two being of Executive Engineer level and the latter two of Engineer status. As the pace of road building in British Guiana quickens it will become necessary to up-grade the heads of the Construction and Maintenance Branches to Executive Engineer level. Meanwhile, it is proposed for the time being that these two branches should be consolidated into a Construction and Maintenance Branch under an Executive Engineer.

44. The Materials Engineer is at present graded at Executive level and rightly so because of the need for specialized qualities and training for the holder of this post and of the vital importance of his work in the context of British Guiana where materials need to be tested in local conditions of soil and climate to determine their suitability. An important part of his function will be research into the use of local materials, particularly with regard to the structural design of roads. No change is envisaged in the establishment of this branch except that Assistant Engineers should be posted to it for a time as part of their training to give an opportunity to observe their aptitude for future specialization in the field of materials research; there

should at all times be an understudy to the Executive Engineer, Materials Branch. The services of this Branch should be available to all Divisions needing them.

45. The Location and Design Branch is at present responsible for carrying out surveys to determine the proper location of a road and for designing the alignment which the road should have. There is at present no provision in the Roads Division for an engineer specialised in structural design to design bridges and culverts; this is a very serious deficiency and it is proposed that a Structural Engineer's section, with its own drawing office staff, be created within the Location and Design Branch. The present Designs Engineer, who under these proposals will be concerned only with alignments, should have his own drawing office staff since the skills required of a draughtsman in this section are different from those exercised by draughtsmen in the structural design section; any economies which might result from having a common drawing office staff could therefore only be achieved at the expense of the benefits which specialization brings.

46. The Executive Engineer, Construction and Maintenance Branch, would be responsible to the Chief Engineer for the administrative control and field inspection of all road construction projects and road maintenance works. He would supervise new construction work, whether put out to contract or done by direct labour, through Project or Resident Engineers posted to the construction site. Maintenance work would be the direct responsibility of the District Engineers but would be supervised and co-ordinated by the Construction and Maintenance Branch. The workload of the head of this Branch will be considerable and if he is to function satisfactorily he will need the help of at least one Engineer.

47. The functions of the Chief Engineer, Roads Division, will be to advise on road policy and to carry into effect the road policies and programmes adopted by the Government, and to supervise and co-ordinate the work of the branches within his Division. It should also be his responsibility to look ahead and to plan for the future but in practice it will be difficult for the busy Head of a Division to take time off from his day to day duties to perform this function effectively. It is accordingly recommended that there should be a Planning Engineer attached to the Chief Engineer whose duties would include planning and programming of work, traffic studies to determine the width and carrying capacity a road should have and compiling and collating economic data on which could be based a decision whether to build a particular road and along which route it should be built. The services of the Planning Engineer should also be available to the town-planning authorities to advise them on the most suitable layout for the roads in a proposed new housing development.

Buildings Division

48. On the control of a Buildings Division, Sir Reginald Taylor has this to say -

"The Head of the Buildings Branch [Division] is as a rule an Architect, of proved administrative competence, and his responsibilities include all new building construction and the maintenance of all government buildings. His status is equal to that of other Heads of Branches, and his authority over work done at Divisional [District] level is the same."¹

¹ loc. cit., page 27

The recommendations of the Organization and Methods Report on the Public Works Department, (March 1958) included the following -

"Buildings Division - under a Chief Architect - responsible for all buildings and jointly with the Deputy Director, responsible for the work of District Engineers."¹

The Graham Morgan Report also recommended that the control of buildings should be vested in the Chief Architect.²

49. In the face of the great body of opinion, of which the three studies quoted above are but examples, that buildings are the business of Architects, it might seem unnecessary to labour the point, but in British Guiana the traditional responsibility of the Engineer for Government buildings is still with us. The engineers have had a long and creditable association with Government building activities and indeed it is scarcely a decade since the architect first made his appearance in the Public Works Department of British Guiana. The time has now come, however, when the civil engineer should withdraw from this field and leave it to the architect. All phases of building and related activity should come under the control of the Chief Architect - the design and construction of new buildings and of alterations and extensions to existing ones, whether by tender or by direct labour, the programming and execution of maintenance works for all Government buildings throughout the country, the keeping of registers of occupancy and the provision of furniture both for Government offices and for public officers' quarters.

50. The greatly increased responsibilities of the Chief Architect in his proposed new role as Head of the Buildings Division make it appropriate to regrade this post to the scale F 6: \$7920. The need to maintain an adequate salary differential between the Chief Architect and his Branch Heads, whose status is discussed below, should also be borne in mind.

51. The work of a Buildings Division such as is envisaged may be divided mainly into the following functions -

- (a) the design of new buildings and of alterations and extensions to existing buildings;
- (b) the structural design of buildings;
- (c) the supervision of the carrying out of the work based on these designs;
- (d) the preparation of bills of quantities for work which is to be put out to tender and the assessment of the accuracy of tenders submitted;
- (e) the accurate estimating of costs of work to be done by direct labour;
- (f) the programming of maintenance works;
- (g) the execution and supervision of maintenance and minor construction works;

¹Page 3

²Organization chart, page 21

- (h) the preparation and keeping up-to-date of registers of occupance and other particulars relating to Government buildings;
- (i) the design, procurement, provision and maintenance of furniture for Government offices and public officers' quarters.

52. the functions at (a) and (c) of the previous paragraph are now generally regarded as inseparable; the architect who prepares the design supervises the execution of the work to completion. These functions may therefore be grouped together into an Architectural Branch, headed by a Senior Architect of Executive Engineer status, with a staff of Architects, Architectural Assistants and Architectural Draughtsmen. The establishment of this Branch will vary in accordance with the amount of building work to be done, but a close assessment of the staffing needs of the Branch can only be made after it has been functioning for a reasonable period to time. No change in the present establishment is therefore proposed, except for the creation of the post of Senior Architect. Since a significant increase is envisaged in the work both of the Chief Architect and of the individual Architects it will not be feasible for the Chief Architect to continue to exercise direct supervision of the architectural and drawing staff and a Senior Architect will be required to perform the duties of assigning specific tasks to the staff of his Branch, and of supervising and co-ordinating their activities.

53. With regard to (b) of paragraph 51, if unusual structural problems are encountered in the design of a building the Architect will wish to have a Structural Engineer brought into consultation. The time may come when a greatly expanded building programme may require the services of a full-time Structural Engineer within the Buildings Division, but in present circumstances the needs of the Buildings Division for services in the field of structural design should be adequately met by sharing the services of the Structural Engineer in the Roads Division.

54. The functions at (d) and (e) of paragraph 51 come within the sphere of the quantity surveyor. We have seen that the quantity surveyors can be called upon to assist other Divisions but their main work and training are in connexion with buildings. The existing quantity surveyor establishment is inadequate in numbers and anomalously graded. There is one post of Quantity Surveyor on the professional scale A 3: \$3696 - \$6720, one of Senior Assistant Quantity Surveyor on the scale A 4: \$4560 - \$5760, the minimum of whose scale is significantly higher than the minimum of the scale of the higher post, and three posts of Assistant Quantity Surveyor on the scale A 10: \$2400 - \$4560. The quantity surveying staff should be organized as a separate Quantity Surveyors' Branch within the Buildings Division with the following grading and establishment, in line with that recommended in the Graham Morgan Report ¹ -

- 1 Senior Quantity Surveyor - P 13: \$7200
- 2 Quantity Surveyors - A 2 : \$4560 - \$6720
- 3 Assistant Quantity Surveyors - A 10: \$2400 - \$4560

The Senior Quantity Surveyor should possess the full professional qualification, but since the post of Senior Assistant Quantity Surveyor disappears the present holder of this post should be appointed to one of the posts of Quantity Surveyor, with the proviso that he will not be eligible to pass the point \$5760 in the scale unless he acquires the full professional qualification.

¹Organization chart, page 21

55. The reasons justifying the creation of the post of Senior Quantity Surveyor are first, the need to have one senior officer to be responsible to the Head of the Buildings Division for the work of the quantity surveying staff; the alternative, diffused responsibility among a number of officers of the same level, would result in lack of co-ordination and unevenness of standards and would increase the burden on the Chief Architect who would himself have to undertake direct supervision of their activities. Secondly, this seems necessary to iron out the anomalous grading of the present quantity surveyors' posts. The third reason is to provide a sufficiently attractive career to induce persons to undertake the five-year training required for this specialization.

56. The programming of maintenance works, noted at (f) of paragraph 51, would be the direct responsibility of the Chief Architect. The District Engineers would advise him on the works to be carried out in their Districts and he would prepare his maintenance programme in the light of the information supplied by them. The District Engineers would then be responsible to him for the execution of the works in their Districts set out in the programme. Georgetown is however in a special case by reason of its proximity to headquarters, the great concentration of Government-owned buildings in the area and the fact that so many of the functions other than those connected with buildings carried out in the rural districts by District Engineers, e.g. roads, sea defences, or by the engineers of the Drainage and Irrigation Department, are either not necessary in Georgetown or fall to a large extent within the province of the local authorities. It is accordingly recommended that the post of District Engineer, Georgetown, be abolished and that the urban area be included in one of the adjacent rural Districts for the purposes of all works except those in connexion with buildings. A post of Senior Superintendent of Buildings should be created on the scale A 4: \$4540 - \$5760, the qualification for which should be the Ordinary National Certificate, the City and Guilds Full Technological Certificate in building subjects, membership of the Clerk of Works Institute of Great Britain, or equivalent qualifications. The Senior Superintendent of Buildings would be responsible to the Chief Architect for the execution of all maintenance works, and for the day-to-day supervision of minor construction works done by direct labour, in the Georgetown area.

57. The functions set out at (h) of paragraph 51, the preparation and keeping up-to-date of registers, are not exacting but are none the less important. The Ministry of Works and Hydraulics is charged with the responsibility for the allocation of quarters to public officers and it cannot perform this function efficiently unless it has complete particulars in readily accessible form of quarters which are unoccupied and of the officers who are occupying quarters that have been allocated. The allocation function will of course reside in the Minister assisted by the senior administrative officers of the Ministry, but it would be convenient to locate the indexing functions in the Buildings Division since the registers recording particulars of Government Buildings for maintenance and other purposes could also include particulars relating to occupancy. To assist the Chief Architect in the compiling and keeping of registers and handling of financial matters a post of Class I Clerk should be included in the establishment of the Buildings Division.

58. The last of the functions enumerated in paragraph 51, those in relation to furniture, would also be the direct responsibility of the Chief Architect, although in practice it could be delegated largely to the Superintendent of Buildings and to the District Engineers. Policy questions and decisions as to priorities among competing claims to have quarters furnished would remain the responsibility of the senior administrative officers of the Ministry.

59. A word should be said about the arrangements for the supervision of new construction works. As has been said above, the Architect who designs a building supervises its construction to completion. No difficulty will arise in the case of construction in the Georgetown area since the supervising Architect will be able to visit the construction site as often as he wishes. In the case of construction works at distances from Georgetown which make it impracticable for the architect to visit the site whenever he wishes, the arrangements to be made may be of four kinds, depending on the size of the project, as follows -

- (a) Very large projects - It is conceivable that a very large building project may be undertaken which would require the services of a Resident Architect who would be employed full-time in the supervision of the project.
- (b) Large buildings - Buildings of a fair size would require the presence of a full-time Clerk of Works with technical qualifications. The Architect would inspect periodically, give his instructions and follow the progress of the work between inspections from progress reports submitted by the Clerk of Works.
- (c) Smaller buildings, e.g. Type Quarters, could be supervised by the District Engineer or by his Building Superintendent if such has been appointed in the District concerned. The Architect would visit periodically and would receive progress reports. It is important to emphasize that there must be no divided responsibility in such cases; the district staff would supervise the work on behalf of the Architect and would see that his instructions were carried out.
- (d) Minor Works - These could be supervised entirely by the district staff, the District Engineer remaining responsible to the Chief Architect for the proper execution of the work.

Mechanical Division

60. The present designation "Chief Mechanical and Electrical Engineer" is inappropriate since the amount of work involving specialized electrical knowledge is negligible and specialist qualifications in electrical engineering, although desirable, have never been regarded as essential for the post. It is therefore proposed that the word "Electrical" shall be dropped from the name of this Division and that its head shall be redesignated "Chief Engineer, Mechanical Division." The post of Chief Engineer should be up-graded to Deputy Director level in line with other Heads of technical Divisions, in recognition of the fact that this will be the limit of the career of a mechanical engineer within the Ministry of Works and Hydraulics and in view of his increased responsibilities as a result of the centralization of all the mechanical functions of the Ministry within his Division.

61. In addition to the present post of Chief Mechanical and Electrical Engineer there is a post of Mechanical Engineer in the Public Works Department and two posts in the Department of Drainage and Irrigation, all of which should now form part of the establishment of the Mechanical Division. Government has accepted in principle the recommendation at paragraph 42 of the Graham Morgan Report that yards should be established at focal points

in the Essequibo and Berbice-Corentyne areas in addition to the Central Workshop at Georgetown, to take care of the maintenance of all Government vehicles in those areas. There is a committee at present considering ways and means of implementing this recommendation and until the committee reports it would not be advisable to lay down firm lines for the organization of the work of the Mechanical Division. It is accordingly proposed that for the time being the posts of mechanical engineer in the Department of Drainage and Irrigation should be transferred to the Mechanical Division and that the duties of the posts should be arranged in a manner satisfactory to the Chief Engineer.

62. One transitional arrangement which appears feasible is for one Mechanical Engineer to be responsible for mechanical services at or near Georgetown while the others will have oversight of all the Ministry's vehicles and fixed mechanical installations in the Districts. If two mechanical engineers available for District supervision are in post they might divide the coastal area between them into a western and an eastern region, the line of division being the Demerara River.

DIRECTORATE OF HYDRAULICS

63. The Directorate of Hydraulics would comprise the present Department of Drainage and Irrigation together with Sea Defences; administrative, mechanical engineering and district services will, as we have seen, be provided on a common service basis for the Ministry as a whole.

64. The present organization of the Department of Drainage and Irrigation provides for a Director and a Deputy Director with eight specialist officers reporting to them, together with the consultants for the Tapakuma and Black Bush Schemes. If this pattern were continued under the present proposals it would extend the span of control of the Director and his Deputy by one as a result of the addition of Sea Defences. Many other factors besides mere numbers must be taken into consideration in determining whether an officer has more subordinates reporting to him than he can effectively supervise and co-ordinate but there can be little doubt that the existing pattern does not make for efficiency. It is accordingly proposed that the post of Deputy be dispensed with and that the functions for which the Director is responsible be broken down into convenient groups of functions each of which would be placed in the charge of an officer of the level of the present Deputy Director, to be known as a Chief Engineer. Three such groups are proposed, an Operations Division, a Development Division and a Research Division.

Operations Division

65. This Division would group the construction and maintenance of drainage and irrigation works, the construction and maintenance of sea and river defences and the functions of the present Assistant Director (Legislative) into four branches. The Construction Branch, under an Executive Engineer, would be responsible for programming and executing, through the District Engineers, and Resident Engineers where appropriate, the construction works required for minor drainage and irrigation schemes. The programming and supervision of maintenance and minor new works in Declared Drainage Areas would be the responsibility of the Declared Areas Branch, headed by

an Executive Engineer. The Executive Engineer, Sea Defences Branch, would have responsibility for new works and maintenance, his representatives in the field being the District Engineers or Site Engineers on the larger works. The Assistant Director (Legislative) would be redesignated Water Law Officer with the same functions as at present, except that it is also proposed that he should undertake the duties of Secretary to the Drainage and Irrigation and Sea Defence Boards. The need for a Secretary with a technical background has been felt in relation to both Boards and it is considered that the knowledge and experience which the Water Law Officer may be expected to have would serve him in good stead in the performance of his duties as Secretary to the Boards. The routine duties in connexion with the position of Secretary to these Boards are very onerous and it is recommended that a Senior Clerk be assigned to this Branch to relieve the Water Law Officer of as much of the routine functions as possible.

Development Division

66. It will probably be necessary for Consultants to continue to be engaged for the planning and design of very large projects for some time to come but it is felt that with the experience gained from projects already completed or under construction it will be possible for the professional and technical staff of the Ministry to undertake more of the preparatory work required in connexion with new schemes to reduce to a minimum the need to use consultants and in some cases to dispense entirely with the need for them. To this end a strengthening of the staff to be devoted to such work is proposed. Co-ordination is of vital importance at the investigation, planning and design stage and the creation of a post of Chief Engineer to head the Development Division is recommended. His Division would comprise an Investigation and Planning Branch under an Engineer, and a Design Branch consisting of an Engineer and drawing staff. There already exists a District Engineer (Designs) and a drawing office and no increase in establishment would be needed to staff this Branch. The Surveys Branch, under a Superintendent of Surveys, would comprise the Superintendent of Surveys and survey staff of the Drainage and Irrigation Department (less the staff transferred to the Research Division) together with the Sea Defences survey staff. The officers at present working as Project Engineer and Assistant on the Mahaica-Mahaicony-Abary Project would come under the Development Division, reporting to the Chief Engineer.

67. The survey staff will be a common service pool and will carry out duties for any Division or Branch of the Directorate requiring their services, but they should be located within the Development Division because it is expected that their services will be required to the largest extent in connexion with preparatory work for new schemes.

Research Division

68. An important recommendation of the Chief Engineer of the Delft Hydraulics Laboratory who carried out an investigation into the General Coastal Phenomena and Sea Defences of British Guiana was that a Hydraulics Research Division should be established. The Chief Engineer's comments were as follows -

"Such research work might be entrusted to one of the existing hydrographic sections. It is our experience, however, that in such cases either the normal routine work or the special research work will be neglected. Amalgamation of two kinds of duties gives no guarantee of proper performance."

The functions of the Hydraulics Research Division would be to collect and collate data on coastal phenomena, (tide, currents, erosion, movement of shoals, waves, wind etc.) on rainfall and on river discharges. The need to provide for research of this nature was strongly endorsed by U.N. Consultants, Messrs. Snethlage and Dorfman, who advised recently on hydro-power development. The Acting Director of Drainage and Irrigation endorsed the proposals of the Delft Hydraulics Laboratory and provision is being sought in 1962 Estimates to establish a Research Division under a Chief Engineer with a Hydrographic Branch under a Senior Hydrographic Surveyor a Hydrological Branch under a Senior Hydrological Surveyor to be transferred from the general survey staff, and an Assistant Engineer.

69. There is at present on the staff of the Department of Drainage and Irrigation an Executive Engineer (Research). In view of the proposal to widen the scope of the research function in the new Research Division the upgrading of this post to Chief Engineer level appears reasonable; it is also most desirable that a frequent turnover of research staff should be avoided and the post of Head of Division should be graded at a level which would reduce the need to call on this officer to act in higher positions. It should also be borne in mind that the research work which this officer will direct will be of international as well as national importance and the Chief Engineer may be required to meet his counterparts in adjoining countries to discuss and plan programmes of research which are common to all. The establishment of the Division as proposed by the Acting Director of Drainage and Irrigation for inclusion in 1962 Estimates seems appropriate, except that the engineering branch should in the interest of continuity be headed by an officer of Engineer status rather than an Assistant Engineer since the latter would normally be appointed an Engineer after completing two years' service in the Assistant grade and would have to be posted out of the Division if no provision were made on its establishment for a full Engineer.

APPENDIX I

APPROXIMATE COMPARISON OF COSTS

In the attached table an approximate comparison is attempted between the cost of Personal Emoluments for the existing Ministry of Works and Hydraulics, the Department of Public Works and the Department of Drainage and Irrigation, on the basis of 1961 Estimates, as against the expected cost of Personal Emoluments in an integrated Ministry in accordance with the proposals made in this Report.

The table sets out for purposes of comparison existing and proposed posts for each salary scale (unrevised) going from the highest scale down to the lowest which would be affected by these proposals, A 17.

The comparison is exact as far as the fixed salary scales are concerned but in the case of the incremental scales an approximation based either on a proportion of the existing total or, in cases of upgrading, on an assessment of the likely point of entry to the new scale, usually one point above the maximum of the existing scale, has been made.

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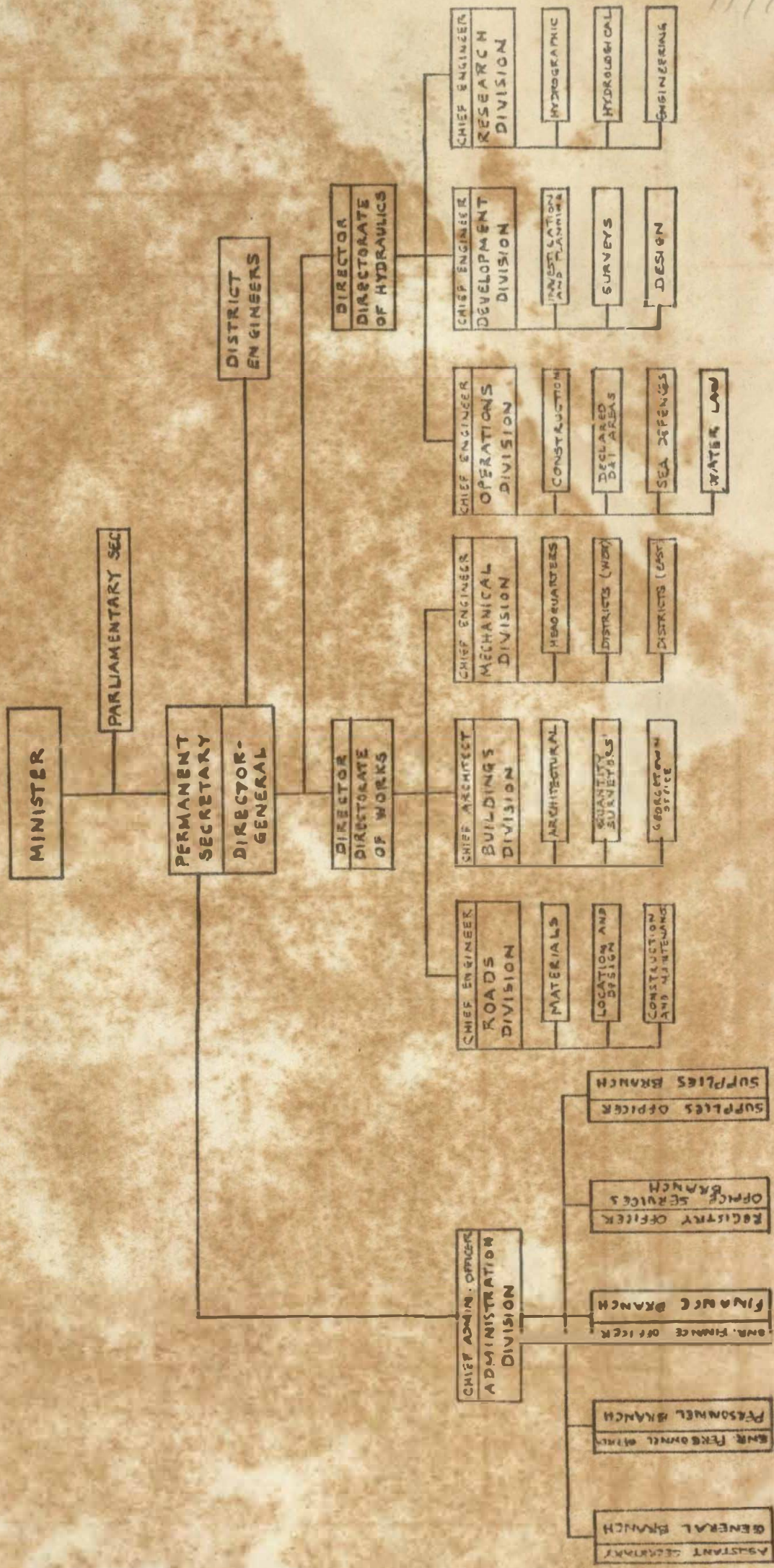
SALARY SCALE (Unrevised)	P R E S E N T				P R O P O S E D				
	Designation	No. of Posts		Amount	Designation	No. of Posts		Amount	
		Per De- signation	Per Sal. scale			Per De- signation	Per Sal. scale		
F 3: \$11,040		-	-	-	Director-General	1	1	11,040	
F 6: \$ 9,600	Director of Public Works	1	)	\$ 19,200	Director of Works	1	)	19,200
	Director of Drainage & Irrigation	1	)		Director of Hydraulics	1)		
F 8: \$ 8,640	Permanent Secretary	1	)	8,640	Permanent Secretary	1	)	8,640
F 11: \$ 7,920	Deputy Director of Public Works	1	)	23,760	Chief Engineer, Roads Division	1	)	47,520
	Chief Engineer, (Roads) P.W.D.	1)		3	Chief Architect, Bldgs. Division	1)
	Deputy Director of Drainage and Irrigation	1)			Chief Engineer, Mechanical Division	1)
						Chief Engineer, Hyd. Ops. Div.	1)
					Chief Engineer, Hyd. Dev. Div.	1)		
					Chief Engineer, Hyd. Research Div.	1)		
F 12: \$ 7,680	Chief Architect, P.W.D.	1)	15,360					
	Chief Mech. & Elec. Engineer, P.W.D.	1)		2				
F 13: \$ 7,200	Principal Assistant Secretary	1	)	64,800	Chief Administrative Officer	1	)	72,000
	Executive Engineers	7)		9	Executive Engineers	6)
	Assistant Director of Drainage and Irrigation	1)			Senior Architect	1)
						Senior Quantity Surveyor	1)
					Water Law Officer	1)		
F 15: \$ 6,720	Superintendent of Surveys, Drainage and Irrigation Department	1	)	6,720	Superintendent of Surveys (Hydraulics)	1	)	6,720
A 2: \$4560-36720	Assistant Secretary	1	)	4,800	Assistant Secretary	1	)	22,800
					Senior Personnel Officer	1)		
					Senior Finance Officer	1)		
					Quantity Surveyors	2)		

A 3:\$3696-\$6720	Civil Engineers	20	)		Civil Engineers	16)	
	Mechanical Engineers	3	)		Mechanical Engineers	3	)	23
	Architects	4	)	28	Architects	4	)	98,796
	Quantity Surveyor	1)					
A 4:\$4560-\$5760	Executive Officers	2	)		Senior Surveyors	5)	
	Senior Assistant Quantity Surveyor	1	)		Senior Hydrographic Surveyors	2)	
	Senior Surveyors	5	)		Senior Superintendent of Buildings	1	)	9
	Senior Hydrographic Surveyor	1	)	13	Supplies Officer	1	)	49,139
	Superintendents, Roads & Buildings	2	)	65,987				
	Chief Accountant	1)					
	Chief Storekeeper	1)					
A 5:\$3696-\$5760	Maintenance Superintendent, Interior	1	)	1	Maintenance Superintendent Interior	1	)	1
				5,760				5,760
A 7:\$3696-\$4560	Administrative Assistant	1	)		Administrative Assistants	3)	
	Assistant Engineers	9	)	13	Assistant Engineers	10	)	16
	Chief Draughtsmen	3	)	34,042	Chief Draughtsmen	3	)	45,150
A 10:\$2400-\$4560	Assistant Quantity Surveyors	3	)		Assistant Quantity Surveyors	3)	
	Surveyors (including probationers)	55	)	58	Surveyors (including probationers)	55	)	58
				129,706				129,706
A 11:\$4008-\$4512	Accountants	2	)		Accountants	2)	
	Personnel Officers	2	)	6	Personnel Officers	2	)	6
	Field Auditors	2	)	26,361	Field Auditors	2	)	26,361
A 12:\$3048-\$3840	Mechanical Superintendents	7	)		Mechanical Superintendents	10)	
	Supt. Stone Crushing Plant	1	)		Supt. Stone Crushing Plant	1)	
	Draughtsmen	4	)		Draughtsmen	4)	
	Assistant Accountants	6	)		Assistant Accountants	6)	
	Assistant Personnel Officer	1	)	30	Assistant Personnel Officers	2	)	36
	Technical Assistant	1	)	102,229	Technical Assistant	1	)	100,639
	Assistant Field Auditors	2	)		Assistant Field Auditors	2)	
	Superintendents of Works	6	)		Senior Clerks	9)	
	Senior Clerks	2	)		Registry Officer	1)	
A 13a:\$2400-\$3840		-	)	-	Superintendents of Works	27	)	27
				-				94,592
	Carried Forward			\$639,920	Carried Forward			738,063

SALARY SCALE (Unrevised)	P R E S E N T				P R O P O S E D			
	Designation	No. of Posts		Amount	Designation	No. of Posts		Amount
		Per De- signation	Per sal. scale			Per De- signation	Per sal. scale	
	Brought Forward			\$639,920	Brought Forward			\$ 738,063
A14:\$2400-\$3192	Senior Assistant Draughtsmen	5	)		Senior Assistant Draughtsmen	5)	
	Senior Overseers	21	)		Stock Verifiers	7)	
	Stock Verifiers	7	)		Storekeeper, Central Stores	1)	
	Assistant Storekeeper P.W.D. Central Stores	1	)		Resident Mechanic	1	) 25	80,000
	Resident Mechanic	1	)	151,909	Technician Atkinson Field	1)	
	Overseer/Technician Atkinson Field	1	)		Technical Assistants	3)	
	Senior P.W.D. Clerks	13	)		Senior Departmental Clerical Officers	7)	
	Technical Assistants	3)					
A15:\$1764-\$2292	Grade II Overseers	40	)		Assistant Superintendents of Works	40)	
	Filing and Recording Officer	1	)	76,260	Filing and Recording Officer	1	) 41	76,260
	Clerical Establishment	75	)	148,000	Clerical Establishment	74	)	145,708
	TOTAL			\$1,016,089	TOTAL			\$1,040,031

APPENDIX II
CHART

PROPOSED ORGANIZATION OF THE MINISTRY
OF WORKS AND HYDRAULICS



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