

TERMS OF REFERENCE

Project : Construction Management Services for the Construction of the National Institutes of Health Building

I. INTRODUCTION

The National Institutes of Health

The National Institutes of Health (NIH) is the home of research and extension units at the University of the Philippines Manila (UPM), the country's leading institution for health research and development and the Health Sciences Center of the UP System. From its creation on 26 January 1996 by the Board of Regents, the breadth and scope of health research that the UPM NIH was envisioned to undertake was evident: "basic, applied, policy, product and operation types, and ...the application and utilization of its research findings and conclusions". (University Charter, 1972). This trust remains consistent with the country's vision of "Health for All."

With the signing into law of the "Health Research and Development Act of 1998" on 13 February of that year, the NIH was established as a national health research center by the Philippine Government. This act made the NIH the "coordinating and integrating body of existing researches in UP Manila. This act also provided for public access to research findings, facilities and other resources of the different institutes. To date, NIH is composed of ten (10) institutes, three (3) reference centers, and twenty four (24) study groups.

The NIH Building

The NIH is housed in a 2-storey reinforced concrete structure that was constructed for the National Institute of Science and Technology (NIST) in 1910. Having a home of its own has been a dream for the UPM-NIH administration and constituents.

With the PhP1B allocation from the General Appropriations Act of 2013, a new 34,400 square meter building to house NIH laboratories and administrative offices, and assembly space is expected to be completed by 2016.

II. PROJECT DESCRIPTION

The University of the Philippines Manila needs the services of a CONSTRUCTION MANAGEMENT CONSULTANT whose on-site presence will ensure that daily construction activities satisfy standards of quality, timeliness and budget specified for the construction of the UPM NIH Building. Additional description of the project:

- A. Location : University of the Philippines Manila Compound
625 Pedro Gil St., Ermita, Manila
- B. Description of the Building : The UPM-NIH Building is a twelve-storey structure with a mechanical penthouse and two basement floors
- C. Approximate Floor Area : 34,400 square meters

- D. End-User : National Institutes of Health, University of the Philippines Manila
- E. Implementing Agency : University of the Philippines through its NIH Building Project Core Committee and Campus Planning Development and Maintenance Office (CPDMO) and the Office of Design and Planning Initiatives (ODPI) UP System
- F. Contract Duration : Nine Hundred Forty (940) calendar days

III. DEFINITION OF TERMS

- A. UNIVERSITY shall mean the University of the Philippines Manila.
- B. END-USER shall mean the University of the Philippines Manila National Institutes of Health (UPM-NIH).
- C. IMPLEMENTING AGENCY shall mean the University of the Philippines Manila through its Campus Planning Development and Maintenance Office with the designated representatives of the NIH Building Project Core Committee.
- D. CONSTRUCTION MANAGEMENT CONSULTANT shall mean the firm / company providing construction management services, duly registered with the Security and Exchange Commission (SEC) and the Department of Trade and Industry (DTI), owned and managed by professionals qualified to undertake work in construction management. The CONSTRUCTION MANAGEMENT CONSULTANT shall be duly engaged by the UNIVERSITY for the PROJECT.
- E. CONSTRUCTION MANAGEMENT TEAM shall mean the group of architects and engineers of the CONSTRUCTION MANAGEMENT CONSULTANT assigned to be responsible for the construction management of the PROJECT.
- F. DESIGN AND BUILD CONTRACTOR shall mean the architectural and engineering design and construction firm / company or the architectural design firm with an affiliated engineering design and construction firm/company duly registered with the Securities and Exchange Commission (SEC) and Department of Trade and Industry (DTI), owned and managed by professionals qualified to undertake work in the fields of architecture, engineering, construction and allied services, duly engaged by the UNIVERSITY to “design and build” the UPM NIH Building.
- G. CONTRACT shall mean the written agreement entered into between the UNIVERSITY and the CONSTRUCTION MANAGEMENT CONSULTANT for the construction management of the PROJECT.
- H. CONTRACT DOCUMENTS shall mean the agreements or CONTRACTs, including General Conditions and Special Conditions, as well as any and all

documents which are referred to in the CONTRACT as CONTRACT DOCUMENTS, or any modifications, revisions or alterations authorized by the UNIVERSITY and agreed to by the CONSTRUCTION MANAGEMENT CONSULTANT during negotiation.

- I. DESIGN AND BUILD CONTRACT shall mean the written agreement entered into between the UNIVERSITY and the DESIGN AND BUILD CONTRACTOR engaged to design and build the PROJECT.
- J. DESIGN AND BUILD CONTRACT DOCUMENTS shall mean the duly-approved plans, specifications, estimates, bill of quantities and other documents that define the technical requirements of the PROJECT, as prepared by the DESIGN and BUILD CONTRACTOR. There will be two phases and submissions to be prepared prior to start of construction, they are 1) Design Development and 2) Construction.
- K. PROJECT or WORK shall mean all the works/activities and/or scope of works to be performed and completed, as well as any revisions, alterations and any extra work ordered to be done by the UNIVERSITY under the CONTRACT.
- L. PROJECT SITE shall mean the place or area where the WORK is or will be carried out.
- M. CONTRACTOR QUALITY CONTROL (CQC) shall pertain to the process wherein the DESIGN AND BUILD CONTRACTOR manages his own, his suppliers' and his subcontractors' activities to comply with contract requirements.
- N. CONTRACTOR QUALITY CONTROL PLAN (CQCP) shall be the documentation of the process of Contractor Quality Control, an outline of the procedures and personnel to be employed by the DESIGN AND BUILD CONTRACTOR to ensure that completed work complies with the DESIGN AND BUILD CONTRACT DOCUMENTS. The CQCP includes, but is not limited to, process control testing, inspection/control procedures, quality records and personnel qualifications. The CQCP shall be coordinated with jobsite safety and health requirements to effect zero defects and zero accidents. During construction, the CONSTRUCTION MANAGEMENT TEAM shall guide and assist the CONSTRUCTOR in developing and executing the CQCP.
- O. PROGRAM shall be the set of documents submitted by the DESIGN AND BUILD CONTRACTOR for approval by the IMPLEMENTING AGENCY which includes, but is not limited to, the schedule of architectural and engineering design as well as construction activities, the resources schedule (i.e. equipment utilization schedule, financial program, construction safety and health program and manpower schedule) and the CONTRACTOR QUALITY CONTROL PLAN.
- P. MASTER PROJECT TIME SCHEDULE shall be a schedule prepared by the CONSTRUCTION MANAGEMENT CONSULTANT which incorporates all activities related to the project including those of the DESIGN AND BUILD CONTRACTOR, other trades and suppliers, the END-USER and other entities.

- Q. BIOSAFETY LEVEL 3 (BSL-3) REQUIREMENTS shall be the special features that facilities are required to provide for safe laboratory work on specific select agents. The key references are provided in “Biosafety in Microbiological and Biological Laboratories, 5th edition” (BMBL, 5th ed.) published by the US Centers for Disease Control. Completed construction shall comply with certification and testing requirements of the US National Institutes of Health, Bethesda, MD for BSL-3 facilities. There are requirements for engineered ventilation, plumbing, electrical, and security systems. BSL-3 room construction shall be tested for room integrity.
- R. ANIMAL BIOSAFETY LEVEL 2 and 3 (ABSL-2 and ABSL-3) REQUIREMENTS shall be the special features that facilities for animal care and use are required to provide for safe laboratory work on specific select agents. In addition to compliance with BMBL, 5th ed., the spaces shall meet or exceed international certification requirements for animal care and use.

IV. DUTIES AND RESPONSIBILITIES OF THE CONSTRUCTION MANAGEMENT CONSULTANT

- A. The CONSTRUCTION MANAGEMENT CONSULTANT shall proactively ensure that the CONSTRUCTION PHASE is executed within quality, cost and time parameters at each phase of the PROJECT, in accordance with the plans, specifications, bill of quantities and other DESIGN AND BUILD CONTRACT DOCUMENTS of the PROJECT.
- B. For the proper execution of each Phase of the PROJECT, the CONSTRUCTION MANAGEMENT CONSULTANT shall:
 - 1. Establish and apply construction management concepts, policies, systems, techniques and procedures, for the review and approval of the IMPLEMENTING AGENCY prior to implementation.
 - 2. Review and have working knowledge of all DESIGN AND BUILD CONTRACT DOCUMENTS, more particularly those pertaining to construction phase, as well as all pertinent codes and policies, including the IRR of RA 9184, and certification requirements for containment and barrier spaces BSL-3, and ABSL-2, and ABSL-3 for the proper and timely implementation of the PROJECT.
 - 3. Call and preside over the initial, regular and special coordination meetings among the END-USER, IMPLEMENTING AGENCY, DESIGN BUILD CONTRACTOR, and other entities directly or indirectly involved in the PROJECT, and record the minutes thereof.
 - 4. Provide professional advice and technical assistance and recommendations, including recommendations on Owner-Supplied Materials and the value engineering evaluation of the PROJECT.
 - 5. Provide all supplies and equipment for the performance of its duties and responsibilities, as outlined in these Terms of Reference, for the construction management of the PROJECT.

- C. Prepare monthly progress reports on the execution of the DESIGN AND BUILD CONTRACT. Such reports shall include, among others, summaries, letters, reports, photos, minutes of meetings and other documents related to the PROJECT.
- D. Render full quantity surveying services, in time for the conduct of a JOINT SURVEY of the site and the joint preparation of the Bill of Quantities between the CONSTRUCTION MANAGEMENT TEAM and the DESIGN AND BUILD CONTRACTOR, as required by the General Conditions of the Contract.
- E. Review, monitor and report deviations to the implementing unit and end-user, and recommend remedial measures.
- F. In case the DESIGN AND BUILD CONTRACTOR shall have an early start in construction, the CONSTRUCTION MANAGEMENT CONSULTANT shall perform all its duties and responsibilities as stipulated in these Terms of Reference at no extra cost to the UNIVERSITY.
- G. In case of gross negligence or willful misconduct on the part of the CONSTRUCTION MANAGEMENT CONSULTANT, or on the part of any person or firm acting in behalf of the CONSTRUCTION MANAGEMENT CONSULTANT, in carrying out Construction Management Services, the CONSTRUCTION MANAGEMENT CONSULTANT shall be liable for any direct and/or indirect loss or damage to the UNIVERSITY.

V. SCOPE OF SERVICES

A. Design Development Phase

1. Review of Design Development Documents

- a. Evaluate and ensure that all plans, specifications, bill of quantities, construction schedule and other documents for the PROJECT, as prepared by the DESIGN CONSULTANT and provided by the IMPLEMENTING AGENCY:
 - i. are clear, coordinated and complete;
 - ii. can be executed within quality, cost and time parameters;
 - iii. can be successfully constructed, operated and maintained.
- b. Evaluate the construction schedule required at various phases by CPM analysis of the project activities.
- c. Submit and discuss with the END-USER and IMPLEMENTING AGENCY the findings and any comments resulting from the evaluation of the various documents for bidding of the PROJECT.
- d. Submit and discuss with the END-USER and IMPLEMENTING AGENCY any recommendations that may contribute to the proper IMPLEMENTATION of the PROJECT.

2. Render Quantity Surveying Services, more specifically:

- a. Undertake a Quantity Take-Off to verify the Bill of Quantities prepared by the DESIGN AND BUILD CONTRACTOR in the documents issued for review.
- b. Cost Planning and Control
 - i. Prepare detailed cost plan to verify cost estimates prepared by the DESIGN AND BUILD CONTRACTOR.
 - ii. Analyze detailed cost plan into elements, based upon approximate quantities and priced at composite rates.
 - iii. Prepare cash flow forecasts based on the cost estimate and project PROGRAM, including regular updating and preparation of a schedule of progress milestone events.
- c. Submit and discuss with the END-USER and IMPLEMENTING AGENCY the findings and any comments resulting from the quantity survey of the PROJECT.

B. Construction Phase

1. Review of Construction Drawings and Specifications

- a. Review all DESIGN AND BUILD CONTRACT DOCUMENTS (drawings and specifications) that are submitted FOR CONSTRUCTION, for the proper and timely implementation of the PROJECT.
- b. Review the PROGRAM submitted by the DESIGN AND BUILD CONTRACTOR, and if found acceptable, recommend for approval to the IMPLEMENTING AGENCY.
- c. Monitor, oversee and supervise the execution of the PROJECT at all times for compliance with plans, specifications and other DESIGN AND BUILD CONTRACT DOCUMENTS.
- d. Set-up the on-site organization, lines of authority, lines of communication and procedural forms and data sheets among the members comprising the CONSTRUCTION MANAGEMENT TEAM, to efficiently and effectively apply construction management concepts, policies, systems, techniques and procedures, as approved by the IMPLEMENTING AGENCY.
- e. Set-up the lines of communication between the CONSTRUCTION MANAGEMENT TEAM, the DESIGN AND BUILD CONTRACTOR, the CONSTRUCTOR, the END-USER and the IMPLEMENTING AGENCY insofar as the implementation of the PROJECT is concerned.
- f. Conduct the initial and regular monthly coordination meetings among the END-USER, IMPLEMENTING AGENCY, DESIGN AND BUILD CONTRACTOR and other entities directly or indirectly involved in the PROJECT, and record the minutes thereof.
- g. Develop and maintain an electronic construction management information system that details schedules, cost controls, quality controls, safety programs, site conditions, warehousing management of Owner-Supplied Materials and other information related to the PROJECT.

- h. Develop and maintain an electronic document control and project records system, consisting of all commercial, contractual, construction inspection, testing reports, shop drawings, samples of materials and other documents and records related to the PROJECT.
- i. Monitor rules and regulations, local, national or as stipulated by the UNIVERSITY through the IMPLEMENTING AGENCY, at the PROJECT SITE, in so far as construction activities are concerned.
- j. Monitor safety programs developed by the DESIGN AND BUILD CONTRACTOR, especially those safety provisions for the overall works as provided by the General Conditions of the DESIGN AND BUILD CONTRACT, which also include on-site security, first aid, fire protection and other safety programs as approved by the IMPLEMENTING AGENCY, including protection of END-USER-furnished materials and equipment. The DESIGN AND BUILD CONTRACTOR shall be made aware that safety provisions do not relieve them of the responsibilities and liabilities for safety and/or property damages.
- k. Clarify technical problems, including those caused by unforeseen contingencies and expediciencies, coordinating their resolution with the END-USER, IMPLEMENTING AGENCY, DESIGN AND BUILD CONTRACTOR as required, such that the implementation of the PROJECT shall not be delayed.
- l. Evaluate, in consultation with the DESIGN AND BUILD CONTRACTOR, the latter's claims, recommendations for field revisions, suggested substitutions and requests for variation order, and accordingly recommend approval or disapproval to the IMPLEMENTING AGENCY, such that the implementation of the PROJECT shall not be delayed.
- m. Through project visits, field tests and analysis of project schedule of values, confirm the validity of DESIGN AND BUILD CONTRACTOR Requests for Payment through detailed evaluation of construction plans versus completed work and actual deliveries of equipment to the site.
- n. Monitor all costs for budget impacts, regularly reporting changes and making projections of cost and time to complete.
- o. Conduct regular acceptance inspections of the PROJECT, prepare a list of variances from the approved CONSTRUCTION contract documents and defects (punch lists) and follow-up on the completion of approved corrective works.
- p. Monitor START-UP AND TESTING OF BUILDING SYSTEM, execute BUILDING COMMISSIONING, and complete CONTRACT close-out with the DESIGN AND BUILD CONTRACTOR.
- q. Monitor the DESIGN AND BUILD CONTRACTOR's production of as-built drawings on printed plans during construction through daily mark-ups and in electronic files of computer aided design document formats.
- r. Review, evaluate and process all applications for billing or payments of the DESIGN AND BUILD CONTRACTOR per approved procedures of the IMPLEMENTING AGENCY.
- s. Recommend and discuss with the END-USER and IMPLEMENTING AGENCY any comments or findings that may contribute to the proper IMPLEMENTATION of the PROJECT.

2. Quality Control during Construction

- a. Coordinate with the DESIGN AND BUILD CONTRACTOR in developing and executing the CQCP to ensure compliance by the DESIGN AND BUILD CONTRACTOR with plans, specifications, bill of quantities and other DESIGN AND BUILD DOCUMENTS.
- b. Guide and assist the IMPLEMENTING AGENCY and the DESIGN AND BUILD CONTRACTOR in the implementation of the PROJECT in accordance with the DESIGN AND BUILD CONTRACT DOCUMENTS.
- c. Check the materials used and workmanship employed in the execution of the PROJECT for compliance with plans, specifications and other DESIGN AND BUILD CONTRACT DOCUMENTS, in the process protecting the interests of the UNIVERSITY in terms of quality, economy and time per requirements of the DESIGN AND BUILD CONTRACT.
- d. Supervise and monitor the inspection, testing and acceptance of all materials (including University-furnished materials) before the materials are utilized in the PROJECT. Evaluation reports and recommendations of the test results shall be submitted to the IMPLEMENTING AGENCY for review.
- e. Physically inspect the execution of the PROJECT, including the installation of equipment and materials by the DESIGN AND BUILD CONTRACTOR, in accordance with the DESIGN AND BUILD CONTRACT DOCUMENTS.
- f. Conduct factory and plant inspections when required, and report findings and prepare recommendations to the IMPLEMENTING AGENCY.
- g. Inspect and audit the DESIGN AND BUILD CONTRACTOR'S execution of the PROJECT at the PROJECT SITE, reporting and initiating rectification of any deviation from the DESIGN AND BUILD CONTRACT DOCUMENTS.
- h. Recommend suspension of work, in whole or in part (per the procedures of the IMPLEMENTING AGENCY), if the work is deemed non-complying with the DESIGN AND BUILD CONTRACT DOCUMENTS, or against accepted construction and/or engineering standards and practices.
- i. Set-up regular on-site inspection visits of the PROJECT with the DESIGN AND BUILD CONTRACTOR and the IMPLEMENTING AGENCY.
- j. Prepare a punch list of all items of the PROJECT which require correction after the PROJECT is substantially completed and before the final joint inspection is conducted.
- k. Ensure that each item in the punch list is corrected before PROJECT completion is recommended to the IMPLEMENTING AGENCY.
- l. Set-up a final on-site inspection visit of the PROJECT with the END-USER, DESIGN AND BUILD CONTRACTOR, and the IMPLEMENTING AGENCY at the completion of the PROJECT.

3. Cost Control

- a. Immediately upon mobilization, conduct a joint Bill of Quantities (BOQ) Review with the DESIGN AND BUILD CONTRACTOR.
- b. Advise and assist the IMPLEMENTING AGENCY in maintaining control of costs from the start of the PROJECT up to its completion and close-out.
- c. Periodically review and prepare estimates as needed, for the approval of the IMPLEMENTING AGENCY, such that neither the Master Project Time Schedule nor the DESIGN AND BUILD CONTRACT amount is exceeded unless necessary, in which case, a variation order shall be recommended.
- d. Review, evaluate and process all applications for progress billing or payments of the DESIGN AND BUILD CONTRACTOR per approved procedures of the IMPLEMENTING AGENCY.
- e. Prepare monthly cash flow forecasts based on the cost estimate and project PROGRAM submitted by the DESIGN AND BUILD CONTRACTOR upon receipt of Notice of Award.

4. Schedule Control

- a. Review the DESIGN AND BUILD CONTRACTOR'S construction schedule by Critical Path Method (CPM) analysis, prepare a MASTER PROJECT TIME SCHEDULE for all activities of the PROJECT and ensure, through regular updating of the CPM analysis, that the CONSTRUCTOR, IMPLEMENTING AGENCY, END-USER and other entities directly or indirectly involved in the execution of the PROJECT are fully and regularly informed of the status of the time schedule of the PROJECT.
- b. Ensure, through adherence of the CONSTRUCTOR to its approved CQCP, that time, labor, materials, and equipment of the DESIGN AND BUILD CONTRACTOR are adequate and available before each construction activity, for timely performance and prevention of delays.
- c. Monitor the respective time schedules of the DESIGN AND BUILD CONTRACTOR and other entities directly or indirectly involved in the PROJECT in accordance with a Master Project Time Schedule, recommending and taking corrective actions when deviations occur.

5. Project Documentation

- a. Prepare and submit monthly progress reports through the course of the DESIGN AND BUILD CONTRACT duration of the PROJECT. The report shall be in accordance with the format approved by the IMPLEMENTING AGENCY. Oral reports may be given when required, followed by a written letter and/or report.

- b. Maintain records of all visits, contracts, shop drawings, samples, purchase documents, materials, equipment, applicable codes, permits, deliveries and other pertinent documents.
- c. Ensure that the DESIGN AND BUILD CONTRACTOR maintains a current set of records, construction drawings and specifications and any other required PROJECT documents at the PROJECT SITE.
- d. Monitor the DESIGN AND BUILD CONTRACTOR'S production of as-built drawings.

C. Post-Construction Phase

1. Completion and Final Acceptance

- a. Certify that the PROJECT is completed in compliance with the provisions stipulated in the DESIGN AND BUILD CONTRACT DOCUMENTS.
- b. Issuance of the Certificate of Completion to be concurred by the END-USER/IMPLEMENTING AGENCY/UNIVERSITY.
- c. A Certificate of Final Acceptance of the PROJECT may be issued by the IMPLEMENTING AGENCY one (1) year after the completion date of the PROJECT if requested by the DESIGN AND BUILD CONTRACTOR

2. Close-out

- a. Coordinate the partial or complete turn-over of the PROJECT to the END-USER.
- b. Review all documentation and test records of the DESIGN AND BUILD CONTRACTOR at the time of turn-over.
- c. Accept and review for completeness and turn-over to the END-USER, through the IMPLEMENTING AGENCY, all operations and maintenance manuals.
- d. Assist the END-USER and IMPLEMENTING AGENCY with the provided warehousing management of surplus stock items, as specified in the DESIGN AND BUILD CONTRACT DOCUMENTS.
- e. Coordinate all activities leading to the final acceptance of the PROJECT by the IMPLEMENTING AGENCY and END-USER.

3. Inventory list preparation and turn-over

- a. Determine and prepare the list of scrap and surplus materials of the PROJECT, including those materials supplied by the END-USER, but excluding all materials covered by the guaranteed quantities of the DESIGN AND BUILD CONTRACTOR.

- b. Submit status, utilization report and inventory list of all properties of the END-USER and UNIVERSITY on the PROJECT SITE.
- c. Report and turn-over materials, equipment and tools, in excess and owned by the END-USER and UNIVERSITY to the IMPLEMENTING AGENCY.
- d. Prepare inventory list of excess supplies and equipment used for the performance of its duties and responsibilities as the CONSTRUCTION MANAGEMENT TEAM of the PROJECT, and turn-over all such excess supplies and equipment to the IMPLEMENTING AGENCY.

4. Final Review of as-built plans

Review and record all approved deviations of the as-built plans prepared by the DESIGN AND BUILD CONTRACTOR prior to finalization for submission to the IMPLEMENTING AGENCY. Review of electronic files shall also be included.

5. Closing of DESIGN AND BUILD CONTRACTOR'S Account

- a. Assist in the settlement of claims between the UNIVERSITY and DESIGN AND BUILD CONTRACTOR, in consultation with the IMPLEMENTING AGENCY.
- b. Assist the IMPLEMENTING AGENCY in closing the accounts of the DESIGN AND BUILD CONTRACTOR in relation to the PROJECT.

6. Preparation of the Final Project Report

Prepare the Final Project Report which will be submitted to the IMPLEMENTING AGENCY, with observations and recommendations on the contractual, technical and DESIGN AND BUILD CONTRACT time performance of the DESIGN AND BUILD CONTRACTOR. The Final Project Report should include, among others, logbooks, test results and the history of the PROJECT.

VI. CONSTRUCTION MANAGEMENT PERSONNEL

For the delivery of Construction Management Services, the CONSTRUCTION MANAGEMENT CONSULTANT shall organize and prepare a manning schedule of personnel for the CONSTRUCTION MANAGEMENT TEAM, and its support staff.

The professionals listed are the required members of the CONSTRUCTION MANAGEMENT TEAM. The CONSTRUCTION MANAGEMENT CONSULTANT may, as needed and at its own expense, may deploy additional professionals to the CONSTRUCTION MANAGEMENT TEAM for the optimal performance of all Construction Management Services, as stipulated in these Terms of Reference, for the PROJECT.

a. THE CONSTRUCTION MANAGER / TEAM LEADER

The Construction Manager shall be a senior architect or engineer with at least 15 years professional experience, including assignments in various locations with at

least 4 years of relevant experience in the proposed positions on similar and comparable projects in different locations. The Construction Manager should have a proven record of managerial capability through the directing/managing of major civil engineering works, including projects of a similar cost, scale and magnitude. The Construction Manager will coordinate the efforts of the CONSTRUCTION MANAGEMENT TEAM, to ensure that technical policies are correctly and consistently implemented in all aspects of the PROJECT.

b. RESIDENT ENGINEER (RE)

The Resident Engineer shall be a senior civil engineer having at least 10 years of professional engineering experience with at least 6 years experience as a Resident Engineer, Assistant Resident Engineer or equivalent on similar and comparable construction works, including assignments in different locations. A thorough understanding and experience with international “best practices”, modern construction technology and contractual arrangements used for the PROJECT is important.

The Resident Engineer shall render full-time services for this PROJECT until its completion and turn-over.

c. QUALITY CONTROL / MATERIALS ENGINEER

The Quality Control/Materials Engineer shall at least have 10 years of professional engineering experience with at least 6 years supervising the testing and evaluation of construction materials used in modern construction techniques on projects of a similar and comparable nature.

d. QUANTITY SURVEYOR (QS)

The Quantity Surveyor shall have at least 10 years of professional engineering experience. This should include quantity surveying supervising experience for at least 4 years on projects of similar and comparable nature.

e. PROJECT ARCHITECT

The Project Architect shall have at least 10 years of professional architectural experience with at least 4 years experience supervising construction projects of a similar and comparable nature. A thorough understanding and experience with international “best practices”, modern construction technology and contractual arrangements used for the PROJECT is important.

f. ELECTRICAL ENGINEER

The Electrical Engineer shall at least have 10 years of professional engineering experience with at least 6 years supervising the evaluation and testing of electrical systems on projects of a similar and comparable nature.

g. PLUMBING / SANITARY ENGINEER

The Plumbing/Sanitary Engineer shall have at least 10 years of professional engineering experience with at least 6 years supervising the evaluation and testing of plumbing and sanitary systems.

h. MECHANICAL ENGINEER

The Mechanical Engineer shall have at least 10 years of professional engineering experience with at least 6 years supervising the evaluation and testing of mechanical systems on projects of a similar and comparable nature.

i. COMMISSIONING AGENT (CxA)

The Commissioning Agent shall have at least 5 years of experience as a certified commissioning professional in addition to professional experience with laboratory buildings containing BSL-3, ABSL-2, and ABSL-3 spaces. The Commissioning Agent (CxA) will have technical background and in depth expertise with the commissioning process including verification techniques, functional performance testing, system equipment and Operations and Maintenance (O&M) knowledge. During the preparation of the Design Development and For Construction contract documents, the Commissioning Agent will submit specification sections to ensure completed construction will perform as expected for the END USER's ABSL-2, BSL-3, and ABSL-3 research and clinical work.

Each member of the CONSTRUCTION MANAGEMENT TEAM may each head their respective support personnel for the efficient conduct of construction management service for the PROJECT. The support personnel shall undertake the required day-to-day site or office-related activities of Construction Management Services.

The following is an indicative list of technical support personnel with their qualifications that may be assigned by the CONSTRUCTION MANAGEMENT CONSULTANT. The CONSTRUCTION MANAGEMENT CONSULTANT may assign other support personnel from those listed, for the optimal performance of all Construction Management Services:

j. SITE QUALITY CONTROL / MATERIALS ENGINEER

The Site Quality Control/Materials Engineer shall be a licensed professional with at least 3 years experience supervising the testing and evaluation of construction materials on research laboratory and/or healthcare projects of a comparable nature.

k. SITE QUANTITY SURVEYOR

The Site Quantity Surveyor shall be a licensed professional with at least 3 years experience in cost estimating and quantity surveying on research laboratory and/or healthcare projects of a comparable nature.

l. SITE ARCHITECT

The Site Architect shall be a licensed professional with at least 3 years experience supervising research laboratory and/or healthcare construction projects.

m. SITE ELECTRICAL ENGINEER

The Site Electrical Engineer shall be a licensed professional with at least 3 years experience supervising the evaluation and testing of electrical systems on research laboratory and/or healthcare projects of a comparable nature.

n. SITE PLUMBING / SANITARY ENGINEER

The Site Plumbing/Sanitary Engineer shall be a licensed professional with at least 3 years experience supervising the evaluation and testing of plumbing and sanitary systems on research laboratory and/or healthcare projects of a comparable nature.

o. SITE MECHANICAL ENGINEER

The Site Mechanical Engineer shall be a licensed professional with at least 3 years supervising the evaluation and testing of mechanical systems on research laboratory and/or healthcare projects of a comparable nature.

VII. SUBMITTALS

The CONSTRUCTION MANAGEMENT TEAM shall submit, among others that may be required, the following submittals at each Phase of the PROJECT:

A. Design Development Documents and Construction Document Phase

1. Inception Report to be submitted within two (2) weeks upon the receipt of the Notice To Proceed, which shall include the final Manning Schedule for approval.
2. Pre-Construction Reports (completion may be extended into Construction Phase, if warranted), signed by the members of the CONSTRUCTION MANAGEMENT TEAM, of their evaluation of the various documents prepared by the DESIGN AND BUILD CONTRACTOR for the PROJECT as well as the evaluation of the documents in the submitted bid of the DESIGN AND BUILD CONTRACTOR for the PROJECT. The Pre-Construction Reports should include:
 - i. review of DESIGN AND BUILD CONTRACTOR'S plans and specifications;
 - ii. review of DESIGN AND BUILD CONTRACTOR'S Bill of Quantities and cost estimates;
 - iii. review of results of joint survey of actual conditions with DESIGN AND BUILD CONTRACTOR, resulting changes in plans, and recommended variation orders, if any;
 - iv. review of the Program submitted by DESIGN AND BUILD CONTRACTOR.

B. Construction Phase

1. Report/Documentation signed by the members of the CONSTRUCTION MANAGEMENT TEAM resulting from the evaluation of the DESIGN AND BUILD CONTRACT DOCUMENTS.
2. Construction Monthly Report that will comprise of the following items:
 - a. Monthly Progress Reports containing reports of regular on-site inspection visits
 - b. Minutes of meetings including regular and other meetings
 - c. Logbook of daily time record of construction management personnel.
 - d. Other reports and communications pertinent to the project
3. Report resulting from special and final on-site inspection visits of the PROJECT with the DESIGN AND BUILD CONTRACTOR, IMPLEMENTING AGENCY AND representatives of the end-users.
4. General punch list of known defects.
5. Report/Certification that each item in the punch list has been corrected before PROJECT completion is recommended to the IMPLEMENTING AGENCY.

C. Post Construction Phase

1. Confidential Performance rating of DESIGN AND BUILD CONTRACTOR and suppliers for owner-supplied equipment and materials.
2. Final Project Report signed by the members of the CONSTRUCTION MANAGEMENT TEAM.
3. All documents collected in the maintenance of the comprehensive construction management information system and the document control and project records system of the PROJECT which includes, but are not necessarily limited to, the following: Certificate of Inspection, permits to operate, construction permits, and clearances from various government agencies.

VIII. FEES AND EXPENSES

The CONSTRUCTION MANAGEMENT CONSULTANT is expected to provide a summary of their fixed fees and expenses for providing construction management services (the "Contract Price"). The maximum cost of this service contract is for TWENTY MILLION PESOS (Php 20,000,000.00).

The UNIVERSITY shall pay the CONSTRUCTION MANAGEMENT CONSULTANT based on the following payment schedule:

| | PHASE | REQUIREMENTS | PORTION OF THE CONTRACT PRICE PER PHASE |
|----------|-------------------------|--|---|
| A | Pre-Construction Phase | Billing and completion, submission and acceptance of all requirements (Inception Report, Pre-Construction Report, etc.) | 10% |
| B | Construction Phase | Billing and completion, submission and acceptance of all requirements (Monthly Progress Report, etc.). If the construction contract duration is modified, the remaining balance of the fees due to the CONSTRUCTION MANAGEMENT CONSULTANT shall be adjusted accordingly. | 80% |
| C | Post-Construction Phase | Billing and completion, submission and acceptance of all requirements (Final Project Report, turn-over of all documents, etc.). | 10% |

Any extension of contract time involving the Pre-Construction and/or Post-Construction Phases shall not involve any additional cost on the part of the UNIVERSITY.

Any extension of contract time involving the Construction Phase shall not involve any additional cost on the part of the UNIVERSITY if the extension is attributable either (a) to *force majeure*, or (b) to the CONSTRUCTION MANAGEMENT CONSULTANT, whether directly or indirectly. In all other cases of extension of contract time involving the Construction Phase, additional compensation for actual services rendered may be granted to the CONSTRUCTION MANAGEMENT CONSULTANT upon submission of a billing request including justifications and supporting documents; and an evaluation of the University of the same. However, in no case shall the total amount of such additional compensation exceed ten percent (10%) of the total Contract Price.

IX. TIMEFRAME

The period for the CONSTRUCTION MANAGEMENT CONSULTANT's services is expected to be 940 calendar days divided in three phases as shown below:

- A. Design Development and for Construction Documents Phase - 180 calendar days

The Pre-Construction Phase shall commence on the date indicated in the Notice to Proceed for the Construction Management Services. Coordination with the Design and Build Contractor's workplan may increase the planned dates and shall not result in a fee increase.

- B. Construction Phase - 730 calendar days

The Construction Phase shall commence on the date indicated in the Notice to Proceed of the Constructor for the Construction Contract and ends on the date indicated in the Certificate of Completion issued to the IMPLEMENTING AGENCY.

The CONSTRUCTION MANAGEMENT TEAM shall perform all its duties and responsibilities for this phase as stipulated in these Terms of Reference for the actual construction duration. This duration includes the period prior to the Notice to Proceed of the Constructor if the Constructor decides to do an early start. The duration shall also include commissioning when the Constructor notifies the CM that certain building systems are ready for inspection and commissioning.

C. Post Construction Phase - 30 calendar days

The Post-Construction Phase shall commence on the date indicated in the Certificate of Completion issued to the Implementing Agency.

The University reserves the right to determine the timing of the award in order that both this Contract and that of the Design and Build Contract coincide in order for the University to optimize the timing and the resources for this NIH Building Project.

X. SELECTION OF CONSTRUCTION MANAGEMENT SERVICES CONSULTANT

The Selection of the Construction Management Services Consultant for the Construction of UP Manila National Institutes of Health Building shall be through public/competitive bidding to be conducted, in accordance with the pertinent provisions of RA 9184, by the Special Bids and Awards Committee to be created by the Head of Procuring Entity (HOPE).

The Special Bids and Awards Committee shall conduct a detailed evaluation of bids using the Quality-Cost Based Evaluation Procedure [60% for Quality and 40% for Cost criteria].

XI. DISCLOSURE OF RELATIONS

All bidding documents shall be accompanied by a sworn affidavit of the bidder that he or she or any officer of their corporation is not related to the Head of the Procuring Entity by consanguinity or affinity up to the third civil degree. Failure to comply with the aforementioned provisions shall be a ground for the automatic disqualification of the bid in consonance with Section 30 of this Act.

In no case shall the winning bidder or any officer of their corporation be related by consanguinity or affinity up to third civil degree, to the winning bidder of the Design and Build Project.

XII. RESERVATION CLAUSE

The Head of the Agency reserves the right to reject any and all Bids, declare a failure of bidding, or not award a contract in the following situations:

- a. If there is *prima facie* evidence of collusion between appropriate public officers or employees of the procuring entity, or between the BAC and any of the bidders, or if the collusion is between or among the bidders themselves, or between a bidder and a third party, including any act which restricts, suppresses or nullifies, or tends to restrict, suppress or nullify competition;
- b. If the BAC is found to have failed in following the prescribed bidding procedures;
or
- c. For any justifiable and reasonable grounds where the award of the contract will not redound to the benefits of the government as defined in the IRR of R.A. 9184.

RECOMMENDING APPROVAL:

CHARLOTTE M. CHIONG, MD, PHD

Chair, NIH Building Project Core Committee
and Vice Chancellor for Planning and Development

VICENTE Y. BELIZARIO, JR., MD

Vice Chancellor for Research and
Executive Director, National Institutes of Health

MANUEL B. AGULTO, MD

Chancellor, UP Manila

APPROVED:

ALFREDO E. PASCUAL

President, University of the Philippines