2000D Pieter Kramer R.A.
10/12/00

SPECIFIC REQUIREMENTS

FOR

THE SERVICES OF A CONSULTANT
FOR PRE-PRELIMINARY, PRELIMINARY
AND FINAL DESIGN DOCUMENTS,
AND SERVICES DURING CONSTRUCTION

IN CONNECTION WITH

THE BROOKLYN CHILDREN'S MUSEUM
CAPITAL PROJECT PV262-N

FOR

THE CITY OF NEW YORK
THE DEPARTMENT OF
DESIGN AND CONSTRUCTION

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I. INTENT

The City of New York needs to provide for the expansion, modernization and associated work of the Brooklyn Children's Museum, 145 Brooklyn Avenue, Brooklyn, New York 11213. It is the intent of this Agreement to provide for the preparation by the Consultant of Pre-Preliminary, Preliminary and Final Design Documents, and Services during Construction. The Consultant may be required to prepare multiple bid packages beyond those required by the Wicks Law, to expedite construction, at no extra cost to the City. The Consultant shall upon request, make such recommendations and prepare such material as may become necessary to supplement the requirements herein to achieve the optimum design for this facility and further the stated objectives of these Specific Requirements.

II. SCOPE OF WORK

A. OBJECTIVE

The Brooklyn Children's Museum was at the time of its founding in 1899, the worlds' first museum for children. It is a world class institution with community roots. The Museum currently serves over 250,000 children annually and reaches 500,000 more through traveling exhibitions. Its goal is to double the attendance and increase sources for earned income. This Museum is one of the few of its kind in the country to be accredited by the American Association of Museums.

In order to establish itself as a premier children's education resource for the new century in the City of New York and the region, and to serve a growing number of children and adult visitors in the most stimulating and satisfying way possible, the Brooklyn Children's Museum (BCM) is undertaking a significant expansion and modernization of its facilities.

The objective of this project is to improve the Brooklyn Children's Museum's image and visibility, to provide more inviting and useable visitor service areas, including food service and parking, and to create larger and more flexible spaces for exhibitions, programs and events. The Museum wants to encourage the public to get involved in the programs designed to augment regular education and visit often if not on a regular basis. The Master Plan c.1999, states that in order to meet these goals an expanded facility of approximately 100,000 square feet for exhibits, education and support facilities, doubling the present space of about 50,000 square feet will be required. The design objectives of the Brooklyn Children's Museum are as follows:

1. Community

To strengthen the relationship to the neighborhood and surrounding community the Museum intends to become a neighborhood focus, both as an educational resource and as a catalyst for the generation of other community improvements, including streetscape, potential housing and commercial improvements. Facilities shall be provided for a variety of cultural

activities and Museum-sponsored programs that will make BCM a community focus and a stimulus for other neighborhood improvements and collaboration. BCM aims to strengthen and activate the adjacent Brower Park as a place for outdoor learning and family enjoyment, while redefining BCM as the Museum in the Park.

2. Street Presence

The existing building was designed as a unique underground building within a landscaped berm, which was connected by a bridge to the adjacent Brower Park. However over time these connections were removed. When this building was originally designed about 25 years ago, the Community Board insisted for this facility to have a low profile and relate to the park landscaping. The public has found it difficult to find the Brooklyn Children's Museum; the entrance, a salvaged kiosk from the 59th Street bridge, (without an apparent building attached to it) in spite of the sign announcing BCM, it is sometimes confused for an active entrance to the subway. The neighborhood has changed considerably since the building was completed and BCM wants greater visibility in the surrounding neighborhood, through an inviting external appearance and a direct relationship with the adjacent public streets.

3. Image

The planned expansion and the present facilities of BCM shall function as one whole. The new facility shall integrate the unique features of the existing building and its "Alice in Wonderland" character into the expanded facilities. This museum is intended to be fun and playful; children and their families should be able to understand that it has been designed especially for them.

4. Economic Management

BCM is planning to increase the opportunity for earned income by realizing revenue from operating the new Kids' Café, the Gift Shop, the Theater, etc., and reducing expenses by minimizing maintenance and operating cost.

5. Sustainability and High Performance

The Museum's interest in sustainable design shall be integrated and made visible in the design of the selected scheme and in the children's experience of the Museum as a special learning environment. The Consultant shall provide a design that meets selected performance goals, as delineated in the High Performance Plan (to be developed at the outset of the project). A summary of the goals that define a high performance building design are listed below:

- **Energy Use**

  Reduce energy use and demand through passive solar techniques and integrated building design. This process looks at optimum siting/orientation and maximizes the thermal efficiency of the building envelope (windows, walls, roof) while considering the interaction of the HVAC, lighting, and control systems. Integrated design uses daylight to reduce electrical demand and incorporates energy efficient lighting, motors, and

equipment. It encourages 'right-sizing' of mechanical systems to avoid higher first costs. Where feasible, renewable energy sources such as photovoltaic cells, solar hot water, and geothermal exchange are used in tandem with other low-emission technologies, such as fuel cells.

- **Comfort and Health**
  Improve indoor air quality by eliminating unhealthy emissions such as volatile organic compounds (or VOCs) from building materials, products, and furnishings, and through outside filtering and distribution techniques, that control pollutants. Improve the thermal qualities and comfort levels of all occupied spaces. Maximize the use of controlled day lighting, which can then be augmented by high quality artificial lighting. Provide good acoustic control. Wherever possible, offer the occupant the ability to regulate his or her personal comfort.
- **Building Materials**
  Where equivalent in quality, cost, and performance, use green building materials and interior furnishings that are made from recycled or renewable resources, are themselves recyclable, and/or have been manufactured in a manner least damaging to the environment.
- **Salvage, Recycling, and Disposal**
  Implement construction and demolition (C&D) waste prevention/management strategies and selective site sorting of materials for salvage, recycling, or disposal.
- **Building Operations**
  Design in ways that promote good and efficient building operation practices: conserve water using site- and facility-wide measures, create space for everyday waste recycling, and improve housekeeping practices through use of benign cleaning products and more efficient cleaning and maintenance protocols.
- **Educational Opportunities**
  Identify and integrate educational opportunities in the design that are related to the theme of sustainable living.

6. Visitor Services

Although BCM is situated in a populous metropolitan area, it has not been able to maximize attendance due to insufficient visitor services, a lack of nearby secure parking and minimal direct access by public transportation. Present space conditions do not allow for school groups to visit while the facilities are open to the general public. More parking, a Kids' Café, larger lobby, gift shop, coatroom and public toilets are necessary to serve children from a wider area and to ensure that visitors are comfortably accommodated. Return visits are crucial to the Museum as a programmatic necessity and to sustain intended goals.

7. Circulation and Orientation

The existing public circulation forces visitors to retrace their steps. The Master Plan recommends that design alternatives provide a public circulation loop. Because there is no public vertical circulation core to complete a gallery loop, visitors overcrowd the metal tube, which is the primary horizontal and vertical public circulation. The expanded facility shall be

flexible and logically organized, smoothly integrating existing and new spaces. Clear, self-evident circulation flow and easy orientation requiring a minimum of signage is desired. Provide public access for all people by making the entire building including the rooftop ADA compliant.

B. PROGRAM REQUIREMENTS – Provide for the following

1. **Adequate Parking Space and Improved Visitor Drop Off and Waiting**
2. **Expanded Entry Lobby and Coatroom**
3. **ADA Compliant Public Elevator Access**
4. **Dedicated Ticket, Information and Membership Area**
5. **Canopy, and Ancillary Structure for the Rooftop Performance Area**
6. **Eating Facility, Kitchen and Food Service Center**
7. **Dedicated Workshop Space for Museum Team After-School Program**
8. **Additional Flexible Exhibition Space**
9. **Expanded Education Center Facilities, Classroom/Workshop and Collections**
10. **Improvements to existing Galleries including acoustics, flooring, lighting, and electrical and plumbing access.**
11. **Remedial work to existing areas after implementation of new work**
12. **Repair and maximize use of the Existing Courtyard**
13. **Media/Technology Center**
14. **Gift Shop**
15. **Additional Office, Reception Area and Conference Space**
16. **Additional Public Toilets**
17. **Staff/Volunteer Lounge**
18. **Service Access and New Loading Dock and Receiving Area**
19. **New State-of-the-art 300 Seat Theater**
20. **Storage for Oversize Collection Items and Exhibition Components**
21. **Rooftop Stage and AV System**
22. **Overall Lighting Controls centrally located**
23. **Meet the requirements of the High Performance Building Plan**
24. **Technology Infrastructure for Computers and Internet Access**

C. BACKGROUND INFORMATION

The Brooklyn Children's Museum, founded in 1899 by the Brooklyn Institute of Arts and Sciences, is the world's first museum designed expressly for children. BCM's first home was the Adams Mansion in Bedford Park, (renamed Brower Park in 1923) in Crown Heights. In 1923 the City bought the derelict Smith House; renovation was completed in 1929. In 1958, P.S. 289, the George V. Brower School, was built on City-owned land adjacent to the Museum. A later addition to the school required the closing of Prospect Place as a street. In 1967 the Smith building was condemned; demolition followed in 1969.

Plans for a new building were started in 1968, while the institution moved temporarily to the Muse building at Bedford Avenue and Lincoln Place in Crown Heights. This building had been designed by Hardy Holtzman and Pfeiffer and was formerly a pool hall and auto showroom. Between 1972 and 1975 the present museum building was built on the site of the Smith House. The approximately 47,000 square-foot underground structure, designed by Hardy, Holtzman an Pfeiffer Associates, cost $3.5 million, with most of the funds provided by the City of New York. The facility opened in May of 1977, featuring the Participatory Learning Environment designed by Edwin Schlossberg, and the Curved Space designed by Peter Piece of Synestructics. The exhibition included industrial, transportation and agricultural components.

In 1997 a $7M renovation to improve the acoustics and upgrade the lighting was completed, and in 1999 a Master Plan Report, including three alternative design schemes, was completed by Sarantitis/Wilday Joint Venture and Susana Torre (TEAM); one scheme was selected for further development.

Now as BCM is planning a larger museum facility, the institution has also begun a "Kids' Zone" project with the goal of working with community partners to increase access to educational resources for children and families. The new facilities will be an important component of the "Kids' Zone" plan.

DDC will provide the construction documents used to construct the existing building, including borings, etc. along with the three volumes comprising the Master Plan Report to the Consultant who will be awarded the design contract. Additional documents including a recent Parking Study, a Business Plan for Expansion, a High Performance Work plan and an Educational Program Plan will be provided. Though the Consultant is expected to build upon existing studies and plans they are expected to perform their own investigations and execute the work items with independent professional judgment.

This information is provided as background only. The Consultant is expected to perform all investigations and work items with independent professional judgment.

D. APPROACH

The Master Plan Report consists of
Volume 1 - Main Report
Volume 2 - Appendices
Volume 3 - Phase One Program
BCM has chosen Scheme 3 as the preferred approach, illustrated in the attached Programmatic Diagrams.
Scheme 3 was further explored, resulting in scheme 3.1 and 3.2, of these the Museum's preference is for scheme 3.1.

Scheme 3.1 addresses itself to:

- Projecting the existing building onto the street.
- Integrating the People Tube into a clear path of circulation.
- Connecting the new and existing building through a space as memorable and unique as the People Tube.

1. Programmatic Diagrams

The attached Programmatic Diagrams attempt to illustrate the organization of Scheme 3.1 as follows:

a. Entry Court

The basic design premise of Scheme 3 is the elimination of the existing berm and the creation of an Entry Court along Brooklyn Avenue defined by two pavilions, e.g.: The "Corner Pavilion" and the "Brower Park Pavilion".

b. Corner Pavilion

The "Corner Pavilion," is proposed to be two stories high, and located at the corner of Brooklyn and St. Marks Avenues. It should be entered at sidewalk level from the new Entry Court to the South of this pavilion. It will enhance the Museum's street presence from all directions.

c. Brower Park Pavilion

The Brower Park Pavilion is proposed to be three stories high and located on the SW corner of the site; it establishes a presence facing Brower Park. The existing circulation, by way of the People Tube in this scheme, will be cut short, down to sidewalk level, and be enhanced by a new vertical circulation core. This pavilion may serve also as a secondary, controlled entrance for school groups to access the Exhibit Area on the First Floor, the Kid's Café on the Second Floor, and the Theater on the Lower Level with direct access from the Theater/Elevator Lobby to the Courtyard. The Administrative Offices would move to the Third Floor of this pavilion.

d. Connecting Gallery

The Gift Shop, Coatroom, Public Toilets and exhibits would be located along the Gallery connecting these two pavilions.

e. St. Marks Avenue Extension

The "St. Marks Avenue Extension," with a two-story exhibition gallery, would be located along St. Marks Avenue. The Loading Area and a two story Exhibition-Space would be accommodated on the First Floor; the Collections, Collections Storage, Studios and Office Workstations on Lower Level One, and the Exhibit Storage and Mechanical Room on Lower Level Two of the St. Marks Extension.

f. Existing Mezzanine

The Computer Club, Library, and/or Public Program Area are proposed to occupy the Mezzanine, which would be accessible from the Brower Park Pavilion via a bridge. Currently this area is used for office space.

g. Courtyard, Rooftop and Outdoor Areas

The Courtyard needs to be rehabilitated. The Rooftop use needs to be optimized; a Canopy is planned for the Rooftop Theater.

This scheme includes removing the existing Tank Theater, possibly relocating the Greenhouse, and locating the Design Studios in an area off the Courtyard.

2. Program Area Descriptions

PUBLIC AREAS

a. Entry

1) **Entry**
Existing: 200 NSF

2) **Main Lobby**
Existing 2,400 NSF Additional 1,600 NSF

3) **Coat/Stroller Room**
Existing 192 NSF Additional 408 NSF

4) **Ticket, Information, Membership Area**
Existing 70 NSF Additional 130 NSF

b. Exhibits

1) **Exhibit Galleries**
Existing 12,385 NSF Additional 7,300 NSF

2) **Collection Central Gallery/Workshop**
Proposed 2,000 NSF

3) **Greenhouse**
Existing 729 NSF

c. Theaters

1) **Commons Theater**
Existing 1,845 NSF

2) **Tank Theater**
Existing 896 NSF

3) **New Theater/Auditorium**
Proposed 3,500 NSF

4) **Rooftop Theater**
Additional 1,000 NSF

5) **Ancillary Spaces**
Existing 270 NSF Additional 600 NSF

d. EducatIon

1) **Media/Technology**
Proposed 1,200 NSF

2) **Museum Team Workshop**
Existing 50 NSF Additional 1,950 NSF

3) **Children's Library**
Existing 997 NSF

4) **Education Resource Center**
Existing 419 NSF Additional 300 NSF

5) **Classroom/Workshop Rooms**
Existing 496 NSF Additional 1,000 NSF

e. Food Service

1) **Kid's Café**
Proposed 2,000 NSF

2) **Kitchen**
Existing 180 NSF Additional 300 NSF

3) **Kitchen Storage**
Proposed 80 NSF

4) **Snack Area**
Existing 112 NSF

f. Shop

1) **Museum Shop**
Existing 140 NSF Additional 560 NSF

2) **Shop Storage**
Proposed 200 NSF

g. Service

1) **First Aid**
Proposed 100 NSF

2) **Public Toilets**
Existing 534 NSF Additional 1,266 NSF

STAFF AREAS

h. Administration and Staff

1) **Reception Area**
Existing 150 NSF Additional 50 NSF

2) **Offices**
Existing 1,203 NSF Additional 1,047 NSF

3) **Workstations and Work Group Areas**
Existing 4,630 NSF Additional 2,170 NSF

4) **Conference Rooms**
Existing. 188 NSF Additional 600 NSF

5) **Floor Managers' and Volunteers' Rooms**
Proposed 400 NSF

6) **File Storage**
Existing 96 NSF Additional 200 NSF

7) **Administrative Support e.g. Copying, Mail etc.**
Existing 158 NSF Additional 300 NSF

i. Program Support, Exhibits Education

1) **Exhibit Preparation Area**
Proposed 1,000 NSF

2) Workshop
Existing 2,041 NSF
3) Exhibit Storage
Existing 333 NSF Additional 2,500 NSF
4) Receiving Area with Loading Dock
Proposed 1,500 NSF
5) Animal Room
Existing 294 NSF Additional 206
6) Animal Room Storage
Existing 60 NSF Additional 100 NSF
7) Program Storage
Existing: 280 NSF Additional 720 NSF

j. Collections Support
1) Collections Preparation Area
Existing 496 NSF. Additional 604 NSF
2) Collections Storage
Existing 2,834 NSF. Additional 800 NSF
3) Collections Oversize Storage
Proposed 450 NSF
4) Archives
Existing 135 NSF Additional 135 NSF
5) Records/Documentation Room
Existing 100 NSF Additional 150 NSF
6) Photography Room
Proposed 200 NSF
7) Collections Repair Area
Existing 496 NSF

k. Staff Support
1) Lounge/Lunch Room
Existing 244 NSF Additional 300 NSF

SERVICE AREAS

l. Security and First Aid
1) Security Command Center
Existing 168 NSF Additional 132 NSF

m. Service
1) Locker Rooms
Existing 138 NSF Additional 112 NSF
2) Staff Toilets
Existing 284 NSF Additional 66 NSF
3) Janitors Closet
Existing 12 NSF Additional 20 NSF
4) Technology Equipment Room (TER)
Proposed 120 NSF
5) Mechanical/Maintenance Rooms
Existing 2,186 NSF Additional 2,000 NSF
6) Building Storage
Existing 670 NSF Additional 800 NSF
7) Service/Receiving Area Tunnel
Existing 904 NSF

j. Circulation
1) Tunnels, Stairs, Elevators and Corridors
For planning purposes, a target gross/net ratio of 1.25 will be assigned for the expansion.

OUTDOOR AREAS

o. Vehicular Circulation
1) Drop-off Area
Proposed Area: 100 linear feet of curb space. Waiting Area: Proposed 500 NSF
Occupancy: 2 busses
2) Service Drives
Existing 4,500 NSF Proposed as required.

p. Pedestrian Circulation
1) Entry Ramps/Stairs
Existing 1,650 NSF
2) Walkways
Existing 1,700 NSF

q. Program
1) Courtyard
Existing 3,000 NSF Additional 3,000 NSF
2) Rooftop Workshop Area
Existing 650 NSF Additional 650 NSF
3) Children's Gardens
Existing 3,000 NSF
4) Exhibition Roof Area
Existing 2,000 NSF
5) Play Space/Exhibition Area
Proposed 800 NSF

r. Building Support
1) Exterior Mechanical Areas
Existing 750 NSF. Additional as required.

s. Miscellaneous
1) Planted Buffer Areas
Existing 22,000 NSF

Detailed information regarding the above program areas is fully described in the Brooklyn Children's Museum Master Plan Report 2000, Volumes 1, 2 and 3 as produced by

Sarantitis/Wilday Joint Venture and Susana Torre (TEAM), and will be available to the Consultant upon award of the design contract.

Following is the Table of Contents of the Master Plan to inform the Consultant of the extent of the work already accomplished in the Master Plan:

3. Table of Contents of the Master Plan

VOLUME 2 - APPENDICES

Program

Existing Building Area Calculations
Community District Needs
BCM Capital Master Plan for Expansion: "Exploration Center"
BCM FY2000 Capital Budget Request and Ten Year Plan Request
Brooklyn Children's Museum 1998 Focus Group Research
Conceptual Design Study
Brooklyn Children's Museum File Analysis Summary
American Association of Museums Accredited Self Study
The Brooklyn Children's Museum Centennial Vision,
Outline for Preliminary Programming Workshop
Brooklyn Children's Museum: Play a Vital Role in the Learning Lives of Children

Existing Site and Building Analysis and Recommendations

Brooklyn Children's Museum Parking Needs Study
BCM Way-finding Study
Tables 3-4, 4-2, 6-2 and Article 22, NYC Building Code

Conceptual Design Alternatives

The Brower Park Scope of Work Study

Cost Estimate

Cost Estimate Worksheets

VOLUME 3 - PHASE ONE PROGRAM

Methodology

Phase One Program and Space Standards

First Priority Spaces and Improvements
Second Priority Spaces and Improvements

4. Sub-Consultants and Specialty-Sub-Consultants

The following disciplines will require Sub-Consultants and Specialty-Sub-Consultants to be in the service of the Prime Consultant.

a. Landscaping
b. Cost estimating
c. General Lighting
d. Theater Design
e. Collections/Conservation
f. Exhibit Design
g. Interactive Children's Educational Environment
h. Kitchen Design
i. Retail and Food Service
j. Graphics
k. Acoustics
l. Media and Information Technology
m. High Performance of Building Systems and Materials
n. Parking

5. Milestones

Please use the "Design Consultants' Guide" to meet the required Deliverables at every milestone of the project; incomplete submissions at the Pre-Preliminary, Schematic Design, Design Development and the Final Design milestones can substantially delay the project.

6. Phasing

The Consultant shall approach the design of the expansion of the museum together with the rehabilitated existing building as one whole project regardless of the moneys available. The

Pre-Preliminary Report shall state the phasing of the entire proposed expansion; the first phase shall meet the funds available at that time. Volume 3 of the Master Plan lists the First and Second Priorities, which will have to be reviewed at that time.

7. Staging

This project needs to be carefully staged during construction, in coordination with BCM and the Contractor, so that the Museum can remain in operation while the work is being done. Safety of visiting children and their families is of the utmost importance. The Consultant shall design a temporary entrance and walls, signage and all items related to the temporary rerouting of the public and the security of the site while BCM is under construction.

8. Sustainable Design

The Consultant shall prepare and implement the High Performance Plan described on pages 37-41 of the High Performance Building Guidelines, April 1999, as follows: Following preparation of the Plan, the Consultant shall thoroughly investigate all implications of the measures proposed therein; following this investigation and analysis, the Consultant shall implement those measures deemed to be appropriate and feasible by the City.

E. PRE-PRELIMINARY REPORT - A Pre-Preliminary Report is required to define more precisely the scope and cost of work to be designed in the Preliminary and Final Design phases of the project. Most importantly the funds presently available do not match the entire programmed extension. The Report shall show the quantity of this planned extension that will match the funds available at this time.

1. Interview Users

At the outset of the project, the Consultant shall interview the users of the facility, study the building, site, and all systems, review all available program information, and establish and document a clear statement of project objectives. These objectives shall provide a common understanding of the goals of the project, define design evaluation criteria, and give clear direction to all work that follows.

2. Existing Conditions

The Consultant shall study and document existing conditions of the building, site, and all systems, including but not limited to the structural, mechanical, electrical, plumbing, fire protection, security systems. They shall be studied in relation to the proposed use of the building, site, etc. for BCM.

3. Architectural Scope for the Pre-Preliminary Report

The Consultant shall thoroughly investigate the functional needs and the building scope to reflect all Project Requirements, including:

a. Zoning

b. Spatial needs of each area in square feet
c. Work flow
d. Adjacencies, overall layout
e. Circulation, access, egress, servicing
f. Ancillary facilities such as toilets, lunchroom, shower
g. Interface with existing facilities/equipment/ personnel
h. Furniture and equipment requirements
i. Building systems requirements
j. Special requirements
k. Sustainable design requirements
l. Relationship to Community

4. Alternative Concepts

Based on existing conditions and program requirements, the Consultant shall prepare all reasonable alternative conceptual designs/layouts/massing diagrams/etc. The Consultant shall evaluate alternatives and prepare recommended solutions, scopes of work, and cost estimates.

5. The Scope of Work shall clearly define and include:

a. Design standards
b. Correction of any existing deficiencies
c. Complete description of all existing and required systems (Structural, Plumbing, HVAC, Electrical, Special, etc.)
d. Phasing of the work; coordination with existing occupants
e. Access for the handicapped
f. Energy conservation
g. Site/landscape work
h. Special work

The quantity of work required shall be sufficiently defined so as to enable the Consultant to make an accurate estimate of construction costs.

6. The High Performance Plan

The High Performance Plan for the project shall be developed during the Pre-Preliminary phase. To develop this plan, the entire team consisting of all Consultants and Sub-consultants, building users, client representatives, DDC project management and other appropriate parties shall meet at the outset for one or a series of goal-setting workshops to decide on the high performance goals and technical strategies appropriate to the building design, as well as on key submittals deliverables drawn from the High Performance Building Guidelines. Following the working sessions, the Consultant shall prepare a "High Performance Plan" in accordance with pages 37-41 of the High Performance Building Guidelines, and include it in the Pre-Preliminary Report. Note that a related workshop was recently attended by the Museum and DDC. A High Performance Plan subsequently was developed; this document will be made available to the Consultant for reference.

7. Graphic Material

The Consultant shall illustrate the Pre-Preliminary Study and Report with such sketches, plans, details, photos, flowcharts, models and other graphic material as necessary to fully develop and describe the program, scope and proposed design. The Report, properly titled, summarized and indexed, shall include, but not be limited to**:**

a. Introduction - defining the goals of the project, description of facility, design evaluation criteria, participants, approach to achieving the goals, and organization of the Report.

b. Contents - listing Report sections, tables, and figures with page numbers.

c. Summary - providing an overview of the entire project emphasizing conclusions and recommendations as to short and long-term requirements, existing conditions, design response, costs and staging.

d. Program - detailing facility functional activities and their requirements including building systems, presented in qualitative (narrative) and quantitative (tabular and/or graphic) form.

e. Building and Site Conditions - discussing existing conditions and limitations and opportunities of the existing facility, including the site and adjacent area including all building systems. Along with the program, this will be the basis for conceptual design alternatives.

f. Conceptual Design - presenting the conceptual design and Scope of Work for the entire facility including all building systems, priorities in the program requirements, impact on building and site systems, and a discussion of the impact of any unfulfilled requirements. Alternatives shall be fully documented, illustrated, and evaluated. The recommended Scope of Work shall be clearly stated.

g. Scheduling – provide a schedule of the entire design and construction processes in the form of a bar chart.

h. Cost Summary - presented by area, trade materials and labor, and stage of construction, including general conditions, overhead, contingency, and escalation.

i. Appendices - as necessary to include interview documentation, space planning standards, detailed description of existing building and site systems, detailed cost estimates, rejected alternative proposals and why they were rejected, and summaries of previous reports.

F. PRELIMINARY AND FINAL DESIGN WORK ITEMS

The Consultant shall prepare Preliminary and Final Design documents for this project based on the approved Pre-Preliminary Report, Scope of Work and Design Requirements.

1. General and Architectural

a. Preliminary Design

The Preliminary Design phase consists of the Schematic Design and the Design Development stages.

1) Schematic Design

a) Intent

The intent of the Schematic Design stage is to fully define the design of the project in its entirety before the start of the Design Development phase. The work consists of developing a building layout as per program and guidelines, coordinating major building systems, properly establishing formal and spacial relationships, identifying the type and quality of materials, the ideal circulation system and developing the cost estimate.

b) Alternatives

Based on the existing conditions and program requirements, the Consultant shall provide a schematic design with alternatives, including the architectural, interior design, landscaping, and all the engineering disciplines. The Consultant shall make recommendations and show the pros and cons of all schemes or parts

thereof. The Consultant shall thoroughly investigate the functional needs and building systems requirements.

c) Design Objectives

The Consultants shall study the site and program to establish and document a clear statement of design objectives for the project. These objectives shall provide a point of reference, and design evaluation criteria, and give clear direction to all planning and design work to follow. All of the following should be documented for Design Review and for use of the Project Team:

- Interview museum staff and observe operations, use of spaces, movement of staff, children and parents.
- Note operations at drop-off or pick-up of children.
- Use these site visits to confirm actual adjacencies and how they work.

d) Review Program Requirements

The Consultant shall review the architectural programming work-to-date, all space requirements and standards provided by BCM, and all pertinent regulatory agency compliance requirements.

e) Traffic, Parking and Transportation Analysis

The Consultant shall provide a traffic and transportation analyses for the safety of the children coming to, and departing from, the museum. This will include streets, parking, public transportation, pedestrian movement, etc.

f) Utilities

The Consultant shall provide an analysis of the utilities, including existing on-site and off-site utilities.

g) Security

The Consultant shall coordinate all security considerations with the sponsor agency and propose alternative security systems in response to needs defined, before finalizing the Schematic Design phase.

2) Design Development

Following the approval of the Schematic Design submission by the Brooklyn Children's Museum, the Department of Design and Construction and the Arts Commission, the Consultant shall proceed with the Design Development phase of the Preliminary Design. The intent of the Design Development Phase is to refine and fully develop the approved Schematic Design and to completely resolve all detailed design and cost issues before the start of the preparation of Final Design documents.

a) Approvals/Variances

The Consultant shall recommend and provide services, as required, to aid the City in obtaining Community Board, City Planning or Board of Standards and Appeals approvals or variances.

b) Graphics

The Consultant shall prepare a graphic design system for the building closely coordinated with BCM's requirements. Although the circulation of this facility should be designed to be self-evident, the graphics system shall enhance the layout of the building and

provide user information. The materials and graphics used shall be consistent with, and part of, the overall design of the center. A sign-lettering kit shall be provided for the building occupants that will enable them to alter or add to the building graphics at their discretion.

c) Furniture and Contract Items

The Consultant shall prepare a furniture package, including specification and layout of all items, see Interior Space Design, and Furniture Planning and Acquisition. See the Guide for Design Consultants (II F 2).

d) Millwork

The Consultant shall confer with BCM in the preparation of the millwork package. This package is to include the design and detailing of all required built-in items, such as shelving, display areas, lobby desks, etc., and mist indicate their location.

e) Presentation Model

A finished presentation model of the building interior shall be prepared that displays the approved Preliminary Design for the entire facility. The model shall be at a minimum scale of 3/8"=1'-0" and show the materials and colors approved by the Commissioner. In addition to a depiction of the proposed facility, the work for the presentation model shall include the following:

- 48" high, painted, finished table base with title plate for display.
- Clear plastic vitrine, adequate for visibility and protection.
- Moving crates suitable to protect the model and shell during moves.
- Modeling of adjacent buildings.

A series of 3D CAD consecutive interior views presented in a movie walk-through style will be acceptable in lieu of a model.

b. Final Design

Following the approval of the Preliminary Design by the Commissioner, the Consultant shall proceed with the Final Design documents.

1) Intent

The intent of the Final Design phase is to prepare construction documents for bidding purposes that completely describe and define the work to be performed in every detail. This will the specific location and nature of the work, the exact type and quality of materials and workmanship, required phasing, and all other requirements to be performed by the Contractor. During this stage, the Consultant shall take extra care to maintain design continuity so as not to deviate from the design intent approved during the Preliminary Design phase.

2) Completeness

It is the Consultant's responsibility to completely coordinate the material submitted and to insure that the information given is complete and appropriate and that the drawings have been checked and

corrected prior to submission for approval to DDC. The Construction Documents must be ready for public bidding at the 100% Final Design submission. To avoid change orders all details must be resolved by this time.

2. Structural

All structural work shall conform to the latest NYC Building Code. Steel and concrete design shall conform to the latest structural steel and concrete codes, respectively AISC and ACI Codes. The Consultant shall provide structural design and contract documents for the new building addition's superstructure and foundation, as well as for any structural modifications or repairs to the existing building. They shall be compatible with the following requirements:

a. General Criteria

1) Both foundation and superstructure systems shall be designed to meet all structural integrity, serviceability and appearance criteria as defined by the building codes or by DDC. Serviceability criteria include floor or roof vibrations, deflections, floor to floor drift and water tightness. The structural design shall provide for crack control and resistance to corrosion.

   The design shall correct for, or eliminate, any detrimental effects of anticipated settlement.
2) The Consultant shall coordinate his or her work with that of all Sub-consultants, to accurately show all major openings through structural walls, roofs, floors, etc., with the necessary dimensions and framing on the contract drawings. No openings shall be determined in the field except for minor openings that shall be defined by the Consultant and may be drilled by the respective contractor.
3) While meeting all strength and serviceability criteria, the design is expected to be economical.
4) Structural items required for site development, such as retaining walls, exterior steps, pits, support for fuel oil tanks and similar items, shall be designed and detailed by the Structural Engineer.
5) The Consultant shall comply with the new earthquake provision of the Building Code, Local Law #17/95, if applicable.
6) The structural design shall provide for the proper fire protection of all structural materials specified.
7) All structural materials and construction shall conform to the High Performance Building Guidelines specified elsewhere. Fly ash may be specified for the concrete.
8) For the concrete specifications, conform to the CSI format providing separate specification sections for Concrete Reinforcement, Concrete Form-work, Cast-In-Place Concrete and Concrete Curing.

9) The Consultant shall investigate and determine the necessity of any repair, reinforcing, or replacement of existing structural elements in the modification of the existing building.

b. Foundation Design

1) The Consultant shall evaluate the boring data to determine the most suitable and economical type of foundation. This type of foundation shall then be properly designed, detailed and specified on the final structural drawings and specifications.
2) If the soil condition requires it, a geotechnical consultant shall be retained to prepare a Report with recommendations for earthquake foundation design. In this Geotechnical Report the potential for liquefaction and other data to be used in earthquake design shall be discussed and recommendations made. The Report shall be made available at the Preliminary Design stage.
3) The Consultant shall evaluate the boring data to determine ground water conditions. The design shall minimize or avoid excavation below the high ground water table. If the Consultant recommends waterproofing, all pertinent waterproofing details shall be shown on the structural drawings. The guarantee period and testing method for waterproofing shall be specified.
4) All site structures and utility lines where settlement could have detrimental effects on facility operations, health and safety shall have adequate foundation support.
5) Where soils are unsuitable for supporting slab on grade, such floor systems shall be structurally framed and supported on foundations or on compacted controlled fill of sufficient depth to eliminate detrimental settlement.
6) When they are necessary, piles shall be designed for any negative skin friction from actively consolidating soil.

c. Structural Design

1) The structural design drawings shall indicate clearly the live loads and equipment loads for which each floor area is designed and shall also indicate such stress information as may be required for the proper development of all members and for the detailing of all connections. Total cumulative loads at the base of each column shall be indicated on the column schedule.
2) The Schematic Design submission shall include an analysis of alternate structural systems with technical and economic evaluations and comparisons. The Consultant will recommend one scheme, enumerating the reasons why it is the best, most suitable and economical for this project. Alternate systems investigation shall focus on structural material type, framing configuration and compatibility with architectural and other engineering discipline schemes.
3) Use a minimum compressive strength for structural concrete of 4000 psi. All concrete exposed to weather or soil shall be air-entrained.
4) The concrete specifications shall indicate the optimal level for slump, water cement ratio, admixture, etc. and shall comply at a minimum with the latest ACI publication on Durability of Concrete.

5) The LRFD method for structural steel design is preferred.
6) Use stainless steel lintels at exterior walls.
7) Use pipe posts for supporting rooftop mechanical-equipment dunnage to facilitate flashing and waterproofing at the roof.
8) Parapets and other masonry structural elements shall be designed and detailed by the Structural Engineer.
9) The Consultant shall submit a comprehensive set of structural design calculations, including any working drawings that may be required to support the findings. These drawings shall show detailed stress analysis of component parts of the foundation and superstructure members. The design notes shall be arranged in a logical sequence, with sheets numbered and properly indexed. The set shall consist of the original design notes, or a suitable reproduction thereof, made by the Structural Engineer.

3. Plumbing

a. General

The Consultant is to investigate the adequacy of all existing systems with their components. If any of the existing systems is lacking, the Consultant is to provide a design based on efficiency, performance and economy. Any extension of the existing system or addition of a new one shall be in harmony with the other design disciplines, taking advantage of available energy and reflecting principles of good water management. The Consultant shall investigate and implement, as required by the City, all strategies related to plumbing, which are identified in the High Performance Plan.

1) The Consultant shall closely study the changes in architectural and landscaping layout and evaluate the extent of the plumbing modification and new work.
2) The Consultant shall provide a description of all necessary modifications to existing systems and new added systems and service lines required to accommodate the new construction. The Consultant shall coordinate with the new architectural layout and provide for the required number and types of fixtures as mandated by the latest edition of the New York City Building Code. Handicap accessible fixtures shall be provided in right amount. Drinking fountains, hydrants and hose bibs shall be strategically located throughout site.

b. Water supply system

1) The Consultant shall determine the age and serviceability of existing mains, consider retaining existing distribution and service system where suitable, and provide new internal distribution system and services to each individual building.
2) The Consultant shall provide for a new irrigation system for any location requiring same and provide addition to existing system where required.
3) In all new building or extension, plumbing fixtures unless otherwise specified, shall be vitreous china of the water saving type, as approved by the NYC building code.

Plumbing fixtures whether standard or handicapped accessible shall be connected to new waste, vent and water piping.

4) The Consultant shall check the requirement of DEP concerning RPZ or backflow prevention in general.

c. Hot water system

1) The Consultant shall make provision for a new hot water system. The system shall include hot water generation equipment with all controls and fittings to provide for a complete system, including risers, branch lines and connections to fixtures and equipment requiring hot water services.
2) In designing the hot water generation system, the Consultant shall determine the more efficient and economical solution. Provide a new upgraded or specify point of use water heater.

d. Sanitary system

1) The Consultant shall develop and describe methods of modifying existing system if inadequate to handle new load, and of disposing waste from new buildings. Description shall address staging of implementation in consideration of the following:
   a) Short term implementation to include immediate attention to upgrade and/or service in existing system.
   b) Long term implementation to include full development of the site.

e. Storm drainage

The Consultant shall survey the existing service to ascertain the capability of taking additional loads as may be required by new extension or addition of new building. The Consultant shall describe alternative designs addressing staging of short term and long term implementation. The Consultant shall consider relocation of existing inlets, catch basins, drains and storm sewer if necessary. Drainage calculations shall be provided indicating amount of flow to be disposed of via public sewer, or to be detained.

1) Gas system
2) The Consultant shall evaluate the existing gas system. If any new main or branch line is required, the new piping shall be connected to the existing line if it is adequate in size. If not, a new service line shall be installed with all necessary meters, valves, fittings and connection to fixtures.

If any of the new design work shall include obtaining permits or approvals, it shall be the responsibility of the Consultant.

4. HVAC and Fire Protection Requirements

a. General Criteria

1) The Pre-Preliminary design shall propose design criteria for heating, air conditioning, ventilation, indoor air quality, noise control, automatic controls, fire protection and any other pertaining factors related to the architectural solutions proposed. The design criteria shall reflect an understanding of the building 's use, occupancy patterns, density, humidity control, lighting levels, comfort levels and other specific needs of a Museum environment and the rest of additional spaces. The Consultant is advised that the HVAC and Fire Protection sections of the referenced Pre-Preliminary Report, developed by Sarantitis-Wilday, are cursory in scope and completeness. This Consultant is expected to fully evaluate the existing equipment and submit recommendations to reutilize it as is, modify it or repair it for a complete functional building. The present equipment generated noise levels are high; the Consultant shall investigate the possibility of noise reduction in conjunction with any necessary architectural changes.
2) The Pre-Preliminary Report shall contain a full description of the existing buildings' HVAC systems, including the age, condition, life expectancy, areas served, capacity and capability of expending the existing systems. The location and size of Utility Companies entrance service, for water, gas, electricity, and the location of mechanical rooms in the present building, available areas for additional fresh air intakes and exhaust, etc. shall be presented. Specific indoor temperature/humidity requirements and ventilation rates shall be developed for all program spaces and accepted by the Sponsor during the Schematic Design phase. Select equipment that remains efficient over a wide range of load conditions, thus able to achieve a high overall efficiency.
3) The design shall be in accordance with all applicable Codes, including the latest edition of NYC Building Code, New York State Energy Conservation Construction Code, ASHRAE Standards, New York City Fire Department requirements, DDC Design Consultant Guide, Sponsor's requirements and all other requirements and rules in effect at design time or known to become mandatory in the near future.
4) The Consultant shall provide a Pre-Preliminary analysis of the future building expansions' heating and cooling loads. The location of additional mechanical equipment for the building and the possibility of replacing the equipment in the future without major disturbance to the building shall be analyzed.
5) The Consultant shall submit an analysis presenting at least three suitable schemes for heating and air conditioning for the new building expansion and correct all existing HVAC system deficiencies. The feasibility, advantages, disadvantages, first cost and annual and operating cost for all the proposed alternatives. Analyze each HVAC scheme separately and in conjunction with the applicable architectural and lighting scheme. The Consultant shall recommend one scheme. DDC and the Sponsor will review the Report and will make the final selection for design including any recommended modifications to be incorporated by the Consultant.
6) The Consultant is responsible for all services required including coordination with Utility Companies, submittal of load data and request to obtain their approval and service layout.

7) Design temperatures:
   - Summer (air conditioned areas) Indoor 72 deg. DB
     Outdoor 89 deg. DB, 73deg. WB
   - Winter (Occupied areas) Indoor 72 deg. DB ;
     Outdoor 5 deg. DB, 15MPH wind
   - Relative humidity 45 to 50 % acceptable range
8) The HVAC contract drawings shall include single line diagrams for all heating and air conditioning control wiring. The Preliminary documents shall contain a description of the intended state of the art control system for the renovated building.
9) The Consultant shall ensure that control system features include the following:
   - Comfort control (temperature and humidity)
   - Zoning based on space use, occupancy and exposure.
   - Scheduled operation (time of day, holiday, seasonal changes)
   - Sequenced mode of operation
   - Alarms and system reporting
   - Indoor air quality reporting, temperature and humidity.
   - Remote monitoring and adjustment
   - Special occupancies such as galleries and art storage should have closed humidity control.

   The proposed controls will be discussed with the Sponsor during design; the controls shall be simple to operate with local and central status indication and possibility of start/stop.
10) Equipment location - HVAC equipment should be thoroughly and aesthetically integrated into the architectural rehabilitation. The Consultant shall locate all equipment, air intakes/ exhaust, terminal distribution diffusers, grilles, louvers etc. with security in mind.
11) Interior equipment shall be designed with ample space for routing piping and ductwork, access for maintenance, removal and replacement, non-interruption of building services and availability of replacement parts. ***Noise and vibration control shall be considered when sizing and locating equipment***.
12) Any outdoor equipment shall not be visible from the Main Entrance access and/or the surrounding streets. Outdoor equipment, if any, shall be well integrated into the grounds renovation and shall be vandal proof.
13) Equipment generating noise shall be kept to a minimum, e.g. well under the acceptable New York City Code and ASHRAE recommended levels for Museums. An acoustical Sub-Consultant shall participate in the design, review the ductwork distribution and equipment selection, and certify that the recommended scheme will insure the minimum generated noise within the acceptable levels.
14) For all systems, the Consultant shall provide stand-by pumps, disposable filters, concrete house keeping pads and vibration isolators for all equipment.
15) The Consultant shall file applications with the New York City Building Department and any other agency having jurisdiction and make all necessary provisions to obtain

the required permits and approvals before the completion of the 100% Final Design Phase.

b. Heating

1) The heating system shall be suitable for the building and capable of maintaining the minimum specified temperature for all areas.
2) The Consultant shall provide computerized heating load calculations for the existing building and the proposed building expansion.
3) The Consultant shall perform an analysis of different heating/cooling systems. The existing hot water boiler has reached its life expectancy. The new boilers shall be two (2), sized @ 75% of the building load to permit redundancy if one boiler is being repaired or replaced.
4) The Consultant's design shall provide for all associated equipment such as fuel distribution, piping, pumps, air handling units, distribution system, controls and instrumentation, etc. The Consultant shall include in this design, all rehabilitation work required for the existing heating system distribution.
5) The operation of the heating system shall be fully automatic. Zone control shall be provided based on exposure, occupancy, variations of load, etc.
6) Provide for temporary heat during construction if required.

c. Air Conditioning.

1) All areas of the building shall be air-conditioned except toilets, locker rooms, service closets, janitor rooms, mechanical rooms, etc. Those spaces shall be provided with exhaust.
2) Provide cooling load calculations for all architectural alternatives. Analyze the life cycle cost of equipment and air conditioning distribution system for all proposed alternatives outlining all the advantages and disadvantages.
3) Provide system zoning with consideration for:
   - Comfort
   - Energy conservation
   - Areas with independent cooling and humidity requirements
   - Exposures
   - Occupancy and hours of operation
   - Systems shall be able to accommodate large changes in occupancy.
   - Fresh air shall be provided for all seasons.
4) Provide a distribution system for the conditioned air with consideration for the building use and occupancy. All mechanical equipment including ductwork distribution, and control devices shall be designed to have minimum impact on the air-conditioned spaces. The design shall be carefully coordinated with the Architect.
5) The air conditioning design shall attempt to minimize excessive ductwork by the use of multiple air conditioning units. Provide multiple refrigeration machines/ compressors in order to avoid the need for a refrigeration mechanic. Provide condensate drain piping for all cooling coils. Provide reheat coils, if required.

6) Provide for economizer cycle for the air conditioning units in accordance with New York State Energy Conservation Construction Code, including capability for smoke evacuation.
7) The Consultant shall specify all rehabilitation required for the existing air-conditioning system and controls. Connecting air distribution systems supplied by independent existing units shall be considered in order to provide equipment redundancy.

d. Ventilation and Exhaust

1) Provide year-round mechanical ventilation for all areas not air-conditioned, such as toilets, service closets, janitor rooms, mechanical rooms. Include freeze proof heating coils for tempering the outside air.
2) Fresh air for building use shall be taken from locations with minimum of dust, dirt or other contaminants. Different rates of ventilation shall be considered for different areas, for example Code required ventilation rates shall be exceeded in high occupancy areas.
3) Exhaust systems serving toilets, janitor closets, locker rooms, animal holding areas, painting areas, etc. shall not be combined with any other exhaust systems.
4) Provide door louvers or door undercuts for small areas served by exhaust systems.
5) Provide exhaust and tempered make up air for the kitchen hood exhaust and provide "Ansul" system for fire protection.

b. Fire Protection

1) The Consultant shall provide in the Pre-Preliminary Design, the proposed types of fire protection systems compatible with each architectural and air conditioning design schemes, each with the particular cost estimate for Sponsor and DDC review and approval.
2) The Consultant shall provide for all new fire protection devices new zoning and alarms to the existing alarm system.
3) The Consultant shall provide for fire dampers, combination fire/smoke dampers, duct smoke detectors, automatic fan shutdown and smoke evacuation for all areas in accordance with the Building and Fire Department requirements. Any deficiencies of the existing system shall be corrected through this project in order to obtain a permanent certificate of occupancy.
4) For special occupancies such as galleries or art storage areas, special types of sprinkler systems, such as pre-action system, on/off heads, etc. shall be investigated and presented for review.
5) If an emergency generator is provided, the Consultant should provide a design for fuel storage and fuel supply, engine room ventilation, combustion air and engine exhaust system.
6) The present and future cost of installing and operating different systems shall be part of the Schematic Report.

7) The Consultant is responsible for filing applications with all regulatory agencies and obtaining their approval for design before the completion of the Final Design.

2. Electrical

a. General

The work of this project shall provide for a complete and economical design for the electrical systems necessary and required for the building. The Consultant shall investigate and implement, as required by the City, all strategies related to lighting and power, which are identified in the High Performance Plan.

b. Schematic Design

The Schematic Design phase of work shall consist of studies of the electrical systems for the project such as lighting, power, local area network, theatrical lighting, sound system, fire alarm, security, equipment and any other work to establish the basic design. Information technology for the media center and throughout exhibit and educational work areas. Clear documentation such as study worksheets, background data, calculations, drawings, specifications, catalog data, etc. shall be presented with all reports, drawings and analysis.

c. Summary

The work shall include as a minimum the following items, which are described herein:

1) Electric service and equipment
2) Building power distribution.
3) Indoor lighting
4) Outdoor lighting
5) Emergency lighting and exit light system where required by the New York City Building Code.
6) Centralized control panel for all lighting and exhibits.
7) Power to equipment provided by other trades.
8) Theatrical lighting
9) Sound system
10) Electric wiring devices
11) Public Address System
12) Demolition work and relocation of existing equipment.
13) Provide fire alarm devices and integrate with the existing fire alarm system. Verify code compliance of the fire alarm system and fire department approval of the system.
14) Temporary lighting and security lighting system during construction.
15) Remove all NYC Code Violations in areas where electrical work is to be done.
16) Provide all special receptacles such as isolated ground, and ground fault interruption types for computers, kitchen equipment floor outlets.

d. Lighting

1) Provide metal halide lighting system with quartz lamps for stand by lighting in public areas. Remove indirect fluorescent lighting fixtures.
2) Replace the neon tubing in the tunnel with a side emitting fiber optic system, which would give a similar look, but could be programmed and controlled to emit different colors for special events.
4) Remove stored material from the switchboard room.
5) Provide weatherproof power supply, or theatrical plug boxes in weather proof housing at various points. Also provide control points in weatherproof housing so that a portable theater control board can be plugged in.
6) Replace parabolic fixtures with more appropriate lighting in areas such as the corridors, staff lounge or luncheon.
7) Provide fluorescent lighting with T-8 lamps and electronic ballasts in back of the house.
8) In the Commons provide a raceway system, which would decrease the clutter of cords over the stage and provide theatrical lighting control board.
9) The type of lighting will be the most suitable and efficient for the areas involved and tasks performed. In general, fluorescent and metal halide lighting fixtures will be used. Fluorescent lamps shall be energy efficient and have a color rendering index (CRI) of 85. Lamps shall be 32 watt, T-8, TL-80 series and a maximum temperature of 3000 degrees Kelvin.
10) Provide exit and emergency battery fixtures in essential location for proper egress. Exit lighting fixtures shall contain light emitting diodes (LED). In the selection lighting fixtures provide an emergency lighting option e.g. an integral power pack operates a lamp in an emergency mode until all power is restored, then automatically returns to charging mode. Ballasts shall be electronic type.
11) Exterior Lighting - Provide separate combination photocell and time clock equipped with high power factor-low temperature ballasts, which will provide manual and automatic control for security lighting.

e. Audio, Visual and Security Systems

1) Provide a permanent sound system in the commons.
2) Upgrade the sound and video system in the tank theater.
3) Provide a dedicated control room for sound and audiovisual for the Roof Top Theater.
4) Provide a permanent audiovisual system for the Theater, Exhibit Areas and Outdoor Roof Sessions in the summer.
5) Store additional portable units of audiovisual equipment in each performance space.
6) Replace the current office-based telephone system with a State-of the Art digital PBX.
7) Locate museum's voice, data and audiovisual resources in a common technology equipment room.

8) Mount LAN servers and hubs on easily maintainable racks with stand alone un-interruptible power supplies, patch panels and wire managers.
9) Install new cable distribution pathways and new cable system, both designed to be compliant with the current ANSI/EIA/TIA standards.
10) Provide for the installation of a new upgraded security system.

f. Electrical Engineer

The electrical work required for this project shall be performed by a competent Electrical Engineer, who shall formally attest that the electrical design is in conformance with the New York City Electrical Code. The Electrical Engineer shall, upon request, attend meetings with the Consultant and the professional representatives of the Department of Design and Construction.

g. Standards

The electrical work shall conform to the standards of the Department of Design and Construction and the New York City Electrical Code.

h. Electrical Service and Equipment

1) Survey the existing condition of the service entrance equipment, emergency generator, electric feeders and conduits, switches, panels and other equipment and provide detailed report and make recommendation for the reuse, replacement or modification.
2) Survey the existing service to ascertain the capability of taking on additional loads as may be required by the renovation and addition. Send a letter to Con Edison summarizing the load in K.W. of the new and existing equipment, include the size of the largest motor. Send a request for determination of the adequacy of the existing service and possibility of upgrading new service, if existing service is not adequate. Obtain from Con Edison available short circuit current and electric service layout if change is needed. Service equipment and circuit breakers in main distribution panel shall withstand the available short circuit current. Copies of all correspondence to and from Con Edison shall be submitted not later than in the Preliminary Design stage.
3) Survey the existing service from the emergency generator to determine the capability of taking on additional loads as may be required by the renovation and addition. If needed, provide new larger size emergency generator.

i. Building Power Distribution

1) Provide all necessary service and distribution equipment and utilize existing.
2) Provide a panel board for computers with double size neutral and isolated ground. Isolated ground shall come from line side of water meter.

6. Landscaping

a. Landscape Objectives

The Consultant shall provide a landscape design solution that will have a favorable impact on the surrounding neighborhood, increase Museum's visibility and to improve the appearance of the building and the site. The landscape design shall respond to the Museum's security, maintenance and functional needs.

1) Chosen Scheme

The Consultant shall provide a site design solution that responds to the chosen scheme as follows:

a) Improve the environmental conditions on the rooftop and maximize its educational use and to increase the Museum's earned-revenue potential.

b) The Courtyard and Gardens shall be spaces suitable for educational activities, performances and exhibits. The Courtyard shall be used for gross motor activities rather than contemplative.

c) Improve street sidewalks around the site. Improvements must meet on–street parking requirements for the facility.

2) Museum in the Park

Integrate the museum, school, and park into a more unified educational and recreational precinct. Support a museum-park-school collaboration to develop the concept "Museum in the Park".

3) High Performance Plan.

Investigate and implement where appropriate, landscape related strategies identified in the High Performance Plan.

b. Major Design Considerations

1) Outdoor Site Features

The Consultant shall provide a design solution for the following potential outdoor site features:

a) Rooftop

- Provide an enclosure or cover at the Rooftop to include Theater area and other spaces. The use of a light steel canopy has been recommended. Additional spaces such as a storage, changing room and backstage area will be required. The canopy shall incorporate a photovoltaic panel design as described under "Sustainable Design".
- Integrate the Kids' Café to the Rooftop open area through covered pedestrian paths and providing adequate space for its expansion.

- Provide a planting solution for roof planters: revise and/or replace planting material on existing roof planters. Planting material shall be low maintenance.
- The Consultant shall also investigate the possibility of eliminating or replacing the existing roof planters.
- Consider the feasibility and location of a rooftop wind turbine in conjunction with NYSERDA Flex-Tech Contractor and implement if requested.

b) Courtyard and Gardens

- The Consultant shall request and work with the museum's staff to define what type of specific activities the museum intents to exercise in this space. The design shall respond to this selection.
- Provide a design solution for the deteriorated stepped wooden walls and its present state of disrepair. The Courtyard walls shall be modified to facilitate the installation of exhibits near the lower level.
- Site improvements shall maintain access to light from the Courtyard.
- Inlet grates could be improved. Integrate the grates with the design of the surrounding area or with an exhibit.
- Courtyard and garden spaces may include:
  - Interactive, multilevel water exhibit.
  - Low amphitheater steps for seating around the Courtyard's perimeter.
  - Upper level children's gardens with themes related to BCM plants, animals and collections.

2) Berms

Remove berms to increase visibility from St. Marks Avenue and Brooklyn Avenue and to accommodate building expansion. The Consultant shall investigate the nature of the space under the berms (to be removed) and quantify its removal implications, and the relocation of mechanical equipment and trees as well.

3) Exterior Lighting

The Consultant shall investigate the Museum's needs for adequate site and egress lighting and present solutions, as required. Museum's plans shall produce defensible spaces that can be easily monitored.

4) Accessibility

The Consultant shall provide a site work solution to improve the Museum's accessibility. The site work shall improve access to the Museum's main entrance, service entrance (loading and deliveries), and between the public park and the Museum's site. Eliminate the western service drive. The Consultant shall investigate the possibility of relocating the main entrance at grade, provide for adequate grading, paving, planting, drainage, seeding, and other measures for site improvement as required.

5) Sidewalks

The Consultant shall investigate existing conditions of the Museum's surrounding sidewalk to comply with City standards and regulations, investigate the possibility of providing an upgraded or new streetscape design that will improve the Museum's image and impact the neighborhood in a positive manner. It shall respond to the Museum's on-street parking requirements and incorporate suitable street tree planting, adequate curb, special scoring and distinctive sidewalk materials if required. The Consultant shall provide along the sidewalk drop-off zones for trolley, bus and private cars.

6) **Brower Park**
   The Consultant shall address the Brower Park vehicular access, south of the Museum, which separates the Museum from the park if integration must take place.
7) **Fencing**
   Upgrade or replace existing fencing with new fencing to meet aesthetic, accessibility, security and other functional requirements. The Museum's design shall minimize the need for security screening and fencing.
8) **Signage**
   Provide for site informational and directional signage. The Consultant shall investigate the use of banners, flagpoles, murals, topiary figures special lighting, and other measures as a way of increasing the Museum's visibility and presence.
9) **Planting**
   Provide for a tree planting inventory. Provide for a planting design for the site and planting replacement.
10) **ADA requirements** The Consultant's site design, and modifications to the existing site must comply with ADA requirements for access to the building and around the site.
11) **Demolition, etc.**
    Provide for site protection, demolition and removals.
12) **Approvals**
    Coordination and/or approvals from the following jurisdictions will likely be required:
    a) NYC Department of Transportation
    b) NYC Department of Parks and Recreation
    c) The Community Board

7. Sustainable Design

a. High Performance Plan Development and Implementation

The Consultant will be required to provide any or all services required to investigate and implement all tasks and activities listed in the High Performance Plan. The Plan may include items #1-9 as described on pages 37-41 of the High Performance Building Guidelines except for those to be provided by the NYSERDA Flex-Tech Contractors. The NYSERDA Flex-Tech Contractors' work scopes are entitled "Energy Efficiency", "Environmentally Preferable Materials", and "A Feasibility Study of Small Wind Turbine Applications at the Brooklyn Children's Museum" and are attached to this contract.

b. NYSERDA Flex-Tech Services

The New York State Research and Development Authority (NYSERDA), through its Flexible Technical Assistance (Flex-Tech) program, is providing technical assistance to this project. One of NYSERDA's primary goals is facilitating New York State demonstration projects that improve the environmental performance of buildings by using environmentally responsible materials and energy-efficient technologies. The City has entered into a separate cost share agreement with NYSERDA to co-fund Flex-Tech services.

1) Coordination

The Consultant will be required to work in parallel and confer frequently with the energy and Flex-Tech consultant(s) retained under separate contract by NYSERDA and to evaluate energy- and resource-efficient proposed alternatives. Where it is deemed operationally and economically feasible from the City's perspective, the Consultant will be required to incorporate the Flex-Tech consultant(s) recommendations into its design.

2) First Cost and Maintenance Cost

Further the Consultant shall be required to develop first costs and maintenance costs for a series of building envelopes, lighting and HVAC alternatives to be proposed and analyzed by the Flex-Tech contractor. The Consultant shall attend all related meetings and prepare minutes as well as be responsible for the coordination of the work of the Flex-Tech contractor with the design schedule.

3) Reimbursement

The City has provided an allowance to reimburse NYSERDA for the services of the Flex Tech Consultant. The Consultant shall, as directed by the City, process payments to NYSERDA. The Consultant shall not be entitled to any mark-up on these technical services.

c. Photovoltaic Grant

This project will be one recipient of a $300,000 grant from New York State Energy and Research Development Authority (NYSERDA) for building integrated photovoltaic (PV) systems. This grant is intended to fund an array of approximately 6500 SF PV panels on the planned canopy at the roof terrace. The Consultant will be required to

work with both NYSERDA and their Contractor, the New York Power Authority (NYPA), to integrate these panels into the design in accordance with the requirements of NYPA and NYSERDA. In addition the Consultant will be required to coordinate the work described in their bid documents with a separate PV bid package that will be prepared and bid out by NYPA. The Consultant shall be responsible for coordinating the project schedule with all activities related to the PV design and installation, and shall prepare minutes of all related meetings.

d. Energy Cost Reduction Program (ENCORE)

The New York Power Authority (NYPA), a state public-benefit corporation, which provides electricity at a fixed rate to New York City facilities, offers through the ENCORE program the potential to finance implementation of energy cost reduction measures.

1) Financing Terms.

Under the ENCORE agreement between NYPA and the City, administered by the Department of Citywide Administrative Services (DCAS) Office of Energy Conservation (OEC), NYPA will provide funding for installations, which generate energy cost savings, with a pay-back of seven years or less. In new construction NYPA offers 100% financing for the difference in cost between standard efficiency equipment and high efficiency equipment. In renovation projects, they offer financing for the difference between the existing equipment and the new.

2) Related Consultant Scope.

The Consultant shall, to the extent operationally and economically feasible, design building systems and specify equipment, which qualify for financing under the provisions of the ENCORE program. The Consultant shall facilitate as required the application process. This shall include but not be limited to participation in meetings, preparation of meeting minutes and applications, development of the necessary specifications, first cost estimates, maintenance cost estimates, and life cycle analyses.

III. GENERAL

A. BUILDING OCCUPANCY DURING CONSTRUCTION

The building and site will be occupied during the entire project. The Consultant shall prepare a construction phasing and protection plan, to minimize interruptions to the operation of the building and the occupants.

B. DEMOLITION

The Consultant's work shall include provisions for all necessary demolition within the building as required for this project, including site clearing and grubbing.

C. ACCESS FOR PEOPLE WITH DISABILITIES

The Consultant's design shall be in compliance with code requirements concerning access and use by the physically disabled as per the most recent New York City, State and Federal codes including the Americans With Disabilities Act.

D. ASBESTOS CONTAINING MATERIAL (ACM)

The Consultant shall locate and describe all locations, areas, components, and materials in the existing building fabric or component which will be subject to disturbance, alteration, demolition or affected in any way as a result of the design it is preparing pursuant to this Contract. It shall supply this information to the City on annotated project plans or annotated sketches acceptable to the City. The Consultant shall prepare an asbestos survey, performed by a New York City Department of Environmental Protection Certified Asbestos Investigator, of the work proposed to be disturbed, altered, demolished or affected, to locate any potentially Asbestos Containing Material, and arrange for exploratory probes and tests to determine whether ACM is present within the Scope of Work. The Certified Asbestos Investigator shall be retained by the Consultant as a Sub-consultant, acceptable to the Department of Design and Construction, and paid by the Consultant as part of the Basic Services under the contract.

Prior to the fee negotiation of a requirement contract task order or the opening of a fee proposal of a Request for Proposals response, DDC will make a determination if asbestos containing material is likely to be present. If DDC does not make such a determination in advance, DDC will pay for probes and sampling as part of reimbursable additional services. If ACM is present, the Consultant shall coordinate with DDC regarding material required to be abated in order to allow the project to proceed. The Consultant and/or the approved Sub-consultant will prepare plans and specifications as required to perform needed asbestos abatement work (removal, repair, encapsulation or enclosure) as well as temporary insulation, which may be indicated. The Consultant and/or the approved Sub-consultant will also prepare ACP-5, ACP-7 or ACP-9 filings as required by the Rules and Regulations of the New York City Department of Environmental Protection Asbestos Control Program, and assist the City in preparing these filings by supplying non-asbestos specific project information.

The Consultant shall, when required by the City, insert drawings and specification sections prepared by the Consultant and/or the approved Sub-consultant (clearly marked as such) for abatement of Asbestos Containing Material into bid documents prepared by it under this contract. The consultant is responsible for coordinating its final contract documents to incorporate all related work required by the treatment of Asbestos Containing Material. If the Consultant fails to accurately notify the City of locations, areas and components or materials, which are to be disturbed, altered, demolished or affected as part of the project it is designing, and such items are subsequently disturbed, altered, demolished or affected in any way and are found to be Asbestos Containing Material, the Consultant shall, at its own cost and expense, prepare separate contract documents for the abatement thereof and any additional work required. In addition, the Consultant shall be responsible for any damages sustained by the City as a result thereof.

If Asbestos Containing Material is encountered by reason of performance of work related to or arising out of the Scope of Work of this contract, where notification of disturbance, alteration, demolition or affect could not have reasonably been expected or where it was not reported by

the Certified Asbestos Investigator, the City will prepare separate contract documents for its abatement and for any additional work required due to its modification and the Consultant shall not be responsible for any damages sustained by the City as a result thereof.

E. ART COMMISSION

It shall be the responsibility of the Consultant to secure approvals, when applicable, of the NYC Art Commission, including attending meetings with the staff or members of the commission, sponsor, and the Department of Design and Construction. Such application is part of the Consultant's responsibility under the base contract fee. However, should the convened Art Commission not accept the initial formal preliminary and/or initial final submission, the Consultant will be compensated for the additional submissions necessary to obtain such approval. (See "Additional Services of Consultant" in this Specific Requirements for the method of compensation.)

F. COST LIMITATION

The Consultant shall insure that the cost limitation is not exceeded. The Scope of the project shall be reduced as necessary to keep the project within the budget. The Commissioner shall approve the selection of Scope items to be deleted when budget cost excess requires such scope reduction.

G. SUB-CONSULTANTS

The Consultant shall retain qualified Sub-Consultants as necessary, in order to properly complete all required project tasks requested by the Commissioner, unless the Commissioner specifically approves a Consultant's capability to perform such tasks in-house. This requirement includes, but is not limited to, work involving architecture, landscape architecture, engineering, geotechnical engineering, preservation and restoration, cost estimating. Further requirements for the retaining of specific specialty Sub-consultants may be identified in the scope of work in these Specific Requirements. All Sub-Consultants' fees are part of the Consultant's basic fee and responsibility, unless otherwise stipulated in the contract. The Consultant shall obtain the Commissioner's approval for each proposed Sub-consultant.

H. PRESERVATION/SALVAGE

The Consultant shall provide for the salvage of architecturally noteworthy and reusable building elements, which will have to be removed in the course of this renovation. In preparing demolition plans, the Consultant shall pay special attention to items such as fixtures, decorative elements, finishes and original details, which are of high quality materials or craftsmanship, or are historically significant.

Items to be salvaged shall be identified by the Consultant together with the Project Manager and approved by a representative of the Landmarks Preservation Commission. The approved items shall be listed on the contract drawings and in the Specifications. Photographs of these items shall be taken by the Consultant and kept by the Project Manager as part of the contract file. The Contractor for the project shall be responsible for transmitting all such objects to the

Landmarks Salvage Warehouse, Berry St., Brooklyn, New York. In case of disagreement between the Consultant and any of the participants in the project as to whether any particular items should be salvaged, a binding determination will be made by the Director of Architecture, of the Bureau of Architecture and Engineering.

I. SPACE PLANNING/FURNITURE ACQUISITION

1. **General**:
   For projects involving Furniture and Equipment, general requirements for basic Consultant services are delineated in the Design Consultants Guide. See Section III.B.17, Section IV.B.14, Section V.B.11, Section VI.C, and Section VII.A.12.

2. **Inventory**:
   The Consultant shall prepare an inventory report, which identifies all loose furniture, furniture systems, and built-in furniture and its corresponding condition. The Consultant shall determine with the Client Agency, and identify in the report, items, which are to be re-furbished or sent to salvage. The Consultant shall also identify items, which will be used during phased construction and then sent to salvage. All furniture and equipment to be salvaged shall be written up on the appropriate NYC forms.

3. **Phased Construction**:
   When the Client Agency must remain in a facility during construction, the Consultant shall be responsible for furniture and equipment layouts as well as the moving schedule for any temporary office locations needed by the Client Agency during phased construction.

4. **Client Agency Interior Design/Acquisition**:
   When the Client Agency has in-house Interior Design and/or Acquisition capabilities, Consultant services will be limited to the tasks listed in the Design Consultants Guide under Pre-Preliminary and Preliminary Phases.

J. CADD DRAWING REQUIREMENTS
   Project drawings shall be developed on a CADD drawing system. See the Design Consultants Guide for CADD drawing requirements (Section IX.C.2.).

IV. PREPARATION OF PRE-PRELIMINARY WORK

Pre-Preliminary documents covering work for the contract and based on the attached Scope of Work and Cost Estimate, shall be prepared by the Consultant. The Consultant shall within ninety (90) consecutive calendar days after the award of this contract and registration by the Comptroller submit to the Commissioner for approval. Twenty (20) copies of the Scope of Work and estimate of construction costs. The said Pre-Preliminary work shall be approved, rejected or ordered to be

modified by the Commissioner. No work on the next phase shall proceed until such approval has been received.

The Consultant shall refer to Section II, SCOPE OF WORK for Pre-Preliminary project requirements.

V. PREPARATION OF PRELIMINARY AND FINAL DESIGN DOCUMENTS, CONSTRUCTION SERVICES

A. PRELIMINARY DESIGN

The Preliminary Design phase has two sub-phases: Schematic Design and Design Development.

1. Schematic Design

Schematic Design documents covering work for the contract and based on attached Scope of Work and Cost Estimate shall be prepared by the Consultant.

The Consultant shall within ninety (90) consecutive calendar days from notice to proceed on Preliminaries submit copies of schematics, and estimate of costs. The Schematic work will be approved, rejected or ordered modified by the Commissioner. The Consultant shall not proceed with submissions to the Art Commission or with the preparation of Design Development documents for the project until the Commissioner has approved the Schematic submission.

2. Design Development

Design development documents covering work for the contract and based on the approved Schematic Design and Cost Estimate shall be prepared by the Consultant.

The Consultant shall within one hundred and twenty (120) consecutive calendar days from notice to proceed on Design Development, submit copies of design development plans, outline specifications and estimate of costs. The Design Development work will be approved, rejected or ordered modified by the Commissioner.

The Consultant shall not proceed with the preparation of the Final Design contract documents for the project until the Commissioner has approved the Design Development submission.

B. Final Design

Final Design documents covering the work for each contract and based on the approved Preliminary Design, shall be prepared by the Consultant.

Within one hundred and twenty (120) consecutive calendar days of the notice to proceed on Final Design documents by the Commissioner, the Consultant shall deliver to the Commissioner complete Final Design contract documents.

1. **75% Final Design**
   During this period, 75% Final Design submittals, in addition to the Final Design submittal, shall be made in accordance with the requirements of the Design Consultants Guide. The documents shall include drawings and complete specifications and final estimates of construction costs, as required to enable prospective bidders and contractors to make accurate and reliable estimates of quantities, quality and character of labor and material required to complete the contracts of the project. All work shall be properly coordinated so as to prevent changes, adjustments, or extra work orders during construction.

2. **100% Final Design**
   The Final Design documents will be approved, rejected, or ordered modified by the Commissioner. Upon approval of the Final Design documents, the Consultant shall submit Bid documents consisting of original drawings and specifications ready to be reproduced as printed documents to be used by contractors to prepare their bids.

C. BID, AWARD AND REGISTRATION

During the Bid, Award and Registration phase of the project, the Consultant shall provide services as described in the Design Consultants Guide, Section VI.

D. SERVICES FOR CONSTRUCTION

The basic services of the Consultant during construction, shall be in accordance with the Design Consultants Guide, Section VII as revised, 2000, and include among other things,

(i) bi-weekly site visits and field inspection reports;
(ii) job meeting attendance and preparation of meeting minutes;
(iii) review and approval of shop drawings, samples, etc.;
(iv) review of contractor's detailed estimates, coordination documents and adherence to construction schedule;
(v) identification, review and verification of construction change orders and preparation of design change orders;
(vi) preparation for and approval of furniture and equipment installation; and (vii) punch list participation.

On this project, the Consultant is required to provide Project Representation as a basic service in accordance with the Design Consultants Guide, Section VI.A. These services commence with the award of the construction contract and last for a period of two (2) years.

VI. ADDITIONAL SERVICES OF CONSULTANT

A. CONSTRUCTION RELATED ADDITIONAL SERVICES

1. Construction Technical Services

The Consultant or Sub-consultant shall provide additional field review and design services during construction beyond those basic services described in the Design Consultants Guide, Section VII.B. These additional services may be similar to items 1-13 in the Guide, Section VII.A.7, but shall cover those construction-related issues arising as a result of unanticipated field conditions and not as a result of any design error or omission. [These services shall be billed against the appropriate allowance in Section VII of this SR. The work of this section shall be authorized in writing in advance by the Project Manager.]

For billing purposes, the Consultant shall submit on an hourly basis and is not limited to billing a minimum of eight (8) hours nor in eight (8) hour increments.

2. Project Representation

The Consultant or Sub-Consultant shall provide on-site Project Representation during the construction stage in accordance with the Design Consultants Guide, Section VII.B. [These services shall be billed against the appropriate allowance in Section VII of the SR. The work of this section shall be authorized in writing in advance by the Project Manager.] These services commence with the award of the construction contract and last for a period of two (2) years.

For billing purposes, the Consultant shall submit on an hourly basis and is not limited to billing a minimum of eight hours nor in eight hour increments.

3. Controlled Inspections

Controlled Inspections during the construction stage will be done through a separate Requirements Contract.

4. Plant Tagging and Field Services

The Consultant shall provide Plant Tagging and Field Services in accordance with the Design Consultants Guide, Section VII.B.4.

B. SERVICES REQUIRED IF ORDERED BY THE COMMISSIONER

1. **Probes and Testing**
   The Consultant may, with the written direction of the Commissioner, have exploratory probes and/or tests performed for the purpose of investigating concealed construction. The Consultant shall solicit a minimum of three (3) written proposals on all probes. Such probes shall be reimbursed at cost to the Consultant plus ten percent (10%) for the Consultant's overhead costs. All technical services provided by the Consultant in connection with investigations and determining the need for and evaluating probes shall be considered as work under the base contract and not subject to further compensation under this section.

2. **Landmarks Preservation and Art Commission Changes**
   Where additional compensation is indicated because of Art Commission or Landmarks Preservation Commission re-submissions, the Consultant will be reimbursed at the rate of up to 1.5 times the direct technical salary costs of the Consultant engaged to do the work, subject to an overall limit (or upset amount).

3. **Printing Of Bid Documents**
   The Consultant may be directed by the Commissioner to print copies of reports, prints, and/or specifications of the Contract Documents for bid purposes.

   The Consultant may also be directed by the Commissioner to furnish an additional set of mylars at ½ size, in addition to the standard set of wash-off full-size mylar documents. The purpose of this ½ size set of documents is to print for bid and construction purposes. The original full size documents shall therefore be drawn and lettered in such a way as to be perfectly clear and legible once reduced (minimum original lettering size 5/32".) All scales shall be shown graphically rather than written out.

   Any written scale descriptions shall be deleted from ½ size mylars. Bid specifications shall advise bidders that original drawings have been reduced and that only graphical scales are valid. The Consultant will be reimbursed on a direct cost basis for all such expenses plus ten percent (10%) for the Consultant's overhead.

4. **Filing Fees**
   An allowance is provided for reimbursement to the Consultant for expenditures to the New York City Departments for filing and permit fees, hydrant flow test fees, sewer approval and all such other fees (when not otherwise waived by the regulatory agency) as are approved by the Commissioner in writing before payment is made. The consultant will be reimbursed on a direct cost basis for all such expenses plus ten percent (10%) for the Consultant's overhead.

C. PAYMENT FOR SERVICES

Payment for services under this Section VI shall be according to the schedule of upset allowances in Section VII below. Each sub-task requested within each allowance below is further subject to an upset limit, and all payments shall conform to the requirements of Article 3, PAYMENT FOR SERVICES-BASIC COMPENSATION of the Agreement (If time card provisions are not stated in Article 3, then as per the provisions of Article 4, Payment for Additional Services-Additional Services Compensation.): unless otherwise specified in this Section VI: ADDITIONAL SERVICES OF CONSULTANT.

VII. SCHEDULE OF ALLOWANCES

The following allowances refer to the tasks defined in the paragraphs of these Specific Requirements indicated in the left hand column.

VI A.1.	Construction Technical Services		$ 50,000
VI A.2	Project Representation		$124,800
VI A.3	Sustainable Architectural Consultant		$ 30,000
VI A.4.	Plant Tagging & Field Services		$ 10,000
VI B.1.	Probes/Testing		$ 50,000
VI B.2.	Art/Landmarks Comm.		$ 4,000
VI B.3.	Printing	$ 5,000	
VI B.4.	Filing Fees		$ 4,000
		Total:	$277,800

VIII. DOCUMENTS REQUIRED

All documents indicated in the Guide shall be provided except as modified hereinafter.

A. PRELIMINARY DESIGN DOCUMENTS

1.	Art Work:	Required
2.	Renderings:	Required
3.	Presentation Model:	Required
4.	Presentation Documents:	Required
5.	Exterior Materials Board:	Required
6.	Interior Materials Board:	Required

B. FINAL DESIGN DOCUMENTS

1. Wicks Law

The Consultant shall prepare the construction documents as multiple contracts as required by DDC in accordance with all applicable laws such as the New York State "Wicks Law".

2. Design Consultants Guide

The attention of the Consultant is called to the applicable section of the Design Consultants Guide relating to preparation of drawings for separate contracts.

C. PRINTS AND COPIES

1. Schedule of Deliverables:

CONTRACT STAGE	REPORTS	DRAWINGS	SPECS	ESTIMATES
Pre-Preliminary Report	20	20	-	20
Schematic Design	20	20	20	20
Design Development	-	20	20	20
75% Final Design	-	20	20	20
100% Final Design	-	20	20	20
Bid Documents	-	10	10	10

2. Reproductions

Upon approval of the Final Design documents by the Commissioner, the Consultant shall submit Bid Documents including mechanically reproduced tracing of drawings on wash-off mylar film, manuscript of specifications and estimates for the project, all as defined in the "Consultant's Guide." In lieu of wash-off mylar drawings, Consultant may submit mylar pencil on mylar film originals. Consultant may then retain a sepia or a wash off mylar set. The process of reproduction must meet with the approval of the Commissioner.

D. MICROFICHE REQUIREMENTS

The Consultant shall submit microfiche copies as required to the Building Department with an additional approved copy to the Department of Design and Construction - Permit and Approvals Section. In addition, the consultant shall submit copies of the Building Department approved plans and applications. The Consultant shall also submit one (1) original and one (1) duplicate microfiche set of all contract drawings to the Department of Design and Construction - Plan and Microfilm Unit.

IX. CERTIFICATION OF COMPLETENESS

The Consultant's final submission shall include drawings, specifications, cost estimates, and certification that the completed work meets the requirements of the design contract and all applicable regulatory agencies. The certification shall be in the form of a letter attached to the submission. The Consultant shall transmit to the Commissioner copies of regulatory agency approval letters, without which final payment to the Consultant will not be made.

X. RESPONSIBILITY OF CONSULTANT FOR EXTRA COSTS

The Consultant shall be held responsible for all costs incurred by the City for design errors and omissions. These costs shall include but not be limited to expenses for re-bidding, corrective construction work, and cost escalation.

XI. ATTACHMENTS

A. PROPOSAL TO PROVIDE EFFICIENCY AND SUSTAINABLE TECHNIQUES ASSISTANCE FOR THE BROOKLYN CHILDREN'S MUSEUM.

B. FEASIBILITY STUDY OF SMALL WIND TURBINE APPLICATIONS AT THE BROOKLYN CHILDREN'S MUSEUM.

END OF SPECIFIC REQUIREMENTS