

Request for Proposals
Design-Build Services for the Development of a Multi Storey Carpark
Edward Street and St. Vincent Street, Port-of-Spain

SCOPE REQUIREMENTS

The Design-Build Contractor shall provide all of the material, labor, equipment, and services necessary for the construction and fitting-out of the Project in accordance to the requirements of UDeCOTT. All aspects of the proponent's design are to be submitted for evaluation and acceptance by the client and approval by UDeCOTT.

The scope of works for the Five Hundred and Two (502) capacity Multistory Car Park on the corner of St. Vincent and Edwards Street Port-of-Spain and a minimum number of two (2) elevators for vertical movement and to cater for the physically challenged. An expanded list of the works which are required and proposed for completion of the Project is provided below:

1.1 Pre-Construction/Design Phase:

- Complete designs/drawings.
- Features to be incorporated into the design include but are not limited to the following:
 - Access for the differently abled.
 - Easy entry and egress to the car park and the parking stalls.
 - Uncomplicated and logical traffic flow around the car park.
 - Unimpeded movement.
 - Light and airy.
 - Low maintenance.
 - Safe and secure.
 - Minimal columns.
 - Washroom facilities.
 - Installation of fixed wheel stops, proper lighting, directional & warning signage and drainage
 - Elevators and Staircases to traverse from floor to floor
 - Connection with "on grade" car park.
 - Use of relevant guidelines for parking angles, stall width, length and bin width and its recommended dimensions should be used in the design of the car park structure.
 - The proponent is also responsible for obtaining a dedicated electrical connection if required from the Authority.
 - Installation of relevant plumbing/piping works for the car park. If the design requires or it expected per statutory approval for a sprinkler/hose reel system then the proponent is also responsible for procurement and installation inclusive of water supply connections for the system from the nearby water line or existing water storage tanks.
 - Any demolition for any undertaking would require remedial works to the satisfaction of the client.
 - Consideration for water storage and relevant ancillary works required to enable functionality of this system.

In respect of the above general scope requirement, the particular Project Requirements and Description of Services envisaged are provided as follows

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To deliver the scope items, it is envisaged that the following activities will be conducted by the Contractor by is not limited to this list.

- Undertake, Topographic and Geotechnical Surveys and verification of any other Data that may be necessary for Design of the Multi-storey Car Park on the corner of St. Vincent and Edwards Street Port-of-Spain shall be the responsibility of the Contractor.
- Review of project requirements in the context of established project constraints and applicable international and local standards with a view to produce an informed design and aid in management of stakeholder expectation.
- Prepare and present detailed designs for Construction of a Multi-storey Car Park on the corner of St. Vincent and Edwards Street Port-of-Spain inclusive of entrance features, site security facilities, road and parking facilities, perimeter lighting and proposed drainage and flood mitigation measures.
- Construction of Multi-storey Car Park on the corner of St. Vincent and Edwards Street Port-of-Spain including all associated MEP services.
- Initiate and secure of all necessary Statutory Approvals.
- Manage community relations and implement security measures with a view to ensuring the security of Project Site and safety of all parties thereon.
- Design, supply, construction, hoarding, security and maintenance of enabling works and site accommodation facilities for the duration of construction. Completion of the permanent fence for the Construction of a Multi-storey Car Park on the corner of St. Vincent and Edwards Street Port-of-Spain, inclusive of gates, shall also be included.
- Given the location for the proposed car park is in the heart of Port-of-Spain the proponent is required to provide a detailed traffic management plan clearly identifying how they intend to treat with everyday construction works on the project whilst having to interact with traffic in the vicinity.
- Facilitate community and stakeholder consultations prior to commencement of the works and during the design and construction of the works with a view to ascertain stakeholder requirements and manage their expectation.
- The Contractor shall satisfy himself that the design presented for the Multistory Car Park is currently adequate and render the design safe for its intended use.
- The Contractor shall inspect the previously constructed foundation and all associated services, elements and infrastructure and shall propose and undertake remediation works as necessary.
- UDeCOTT is also desirous of implementing a parking management system. As such, the proponent would be required to install the infrastructure only i.e. conduits etc, paid for via a provisional sum to cater for future installation of the system chosen.

1.2 General Design Guidelines:

Functional, modern, economically and environmentally sustainable design is mandatory requirements for the Construction of a Multi-storey Car Park on the corner of St. Vincent and Edwards Street Port-of-Spain.

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The security challenges shall be creatively addressed and inherent in the design solutions in terms of building layout and envelope. The building shall also incorporate amenities for physically challenged people and secured area for derelict vehicles.

Innovative design and method of construction is encouraged and the proposed program should not be perceived as constraining, within reason.

1.3 Sustainable Design:

The building should incorporate sustainable design features in all aspects of construction and eventual operation. The building should be **energy efficient**.

1.4 Finishes:

Exterior finishes and materials need to be able to withstand the demands of the climate (heat, humidity, rainfall). Maintenance requirements should be minimal to ensure that the building is attractive for 15 years without extensive upgrading and maintenance. Interior finishes are required to be attractive, durable and easy to maintain yet be of good aesthetic value. It is expected that the car park will be intensively used and finishes need to be durable easily cleaned and vandal resistant.

1.5 Engineering Criteria

The engineering concepts and technical design criteria for each discipline, as well as relevant codes and standards (both local and international) are detailed the - General Design Codes & Standards under the User Brief. **At Minimum IBC 2009 should be utilized and further guidance provided below.**

1.6 Civil Engineering Requirements

Basic codes and standards plus specific performance requirements for infrastructure and services such as 1) earthwork, 2) roadways and pedestrian areas, 3) water supply, 4) sanitary sewers, 5) storm sewers and drains and all 6) enabling works.

1.7 Structural Requirements

Efficiency and economy measures might include: no basement, parallel offsite fabrication of structural elements or prefabricated elements. Loading requirements, lateral loads, and superimposed design loads are indicated for each scenario. General material specifications are to be provided for foundations, concrete, masonry, structural and light steel. New technology is encouraged. Apart from IBC 2009 the following requirements are to be used as guidelines.

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1.8 Foundations

- Geotechnical Surveys are to be produced, duly paid by the contractor shall NOT be depended upon for the proponents' design, structural or other.
- Pile Driving: If piles are used, keep records in a form stated in the Civil Engineering Code of Practice No. 4 published by the Institution of Civil Engineers, U.K. or equivalent codes;
- Pile testing: "Quick Load Test Method for Individual Piles" as specified in Clause 5.6 of ASTM specification D1143-81 modified so that the maximum test load is maintained for a 24 hour period;
- Concrete testing of Piles: Cylinders shall be made for each test and if the concrete tested is below minimum strength, the Design-Builder, at his own expense.
- Materials:
 - Steel to meet AISC 341-10 and AISC 360-10

Condition Survey of the surrounding buildings is to be submitted to UDeCOTT prior to commence any works. The report is to include photographs of any existing defects.

1.9 Concrete

- Minimum compressive strength at 28 days: 28N/mm² (4000 psi.)
- Reinforcing steel: ASTM A615 Grade 60
- Precast and cast in place concrete: plants to be certified under appropriate ASTM standards and American Concrete (ACI) Institute codes of practice.

1.10 Masonry

- Concrete masonry minimum f'm: 10.3 MPa (1500 psi)
- Reinforcing Steel: ASTM A615 Grade 60
- Below grade walls and retaining walls grouted solid

1.11 Steel

- Steel fabrication companies to be certified under appropriate ASTM standards.
- Design steel structure, detail and connections in accordance with requirement of appropriate American Institute of Steel Construction (AISC) standards.
- W Shapes: ASTM A992, 345 MPa (50 ksi)
- S, M, HP and Channels: ASTM 44W or A572 Grade 50
- Angles and Plates: ASTM 44W
- T'S or HSS: ASTM A500, Grade B, 317 MPa (46 ksi)

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1.12 Lateral Loads / Seismic design

- Building shall meet seismic codes and standards applicable in Trinidad & Tobago.
- Anchoring of all architectural, electrical and mechanical parts or portions of a building shall be designed to accommodate the deflections and lateral forces produced by seismic activity.
- American Society of Civil Engineer (ASCE) 7-05

1.13 Post Tensioning System

- ACI 423.7-07 Specification for Unbonded Single-Strand Tendon Materials.
- PTI M10.2-00 Specification for Unbonded Single-Strand Tendons.
- PTI M10.4-07 Specification for Seven Wire Prestressing Strand Barrier Cable Applications.
- PTI Specification for Unbonded Single Strand Tendons.

1.14 Mechanical Requirements and Guidelines

- All enclosed parking areas will require mechanical ventilation, exhaust systems, and carbon monoxide/ nitrogen dioxide monitoring and alarm systems. All office and living space areas require cooling, and ventilation air. Washrooms areas shall have exhaust air systems. Water for firefighting and domestic consumption will be stored on site.

1.15 Ventilation and Air Conditioning

The below is for information only and the contractor is expected to use as a guide line for the development of the Ventilation and Air Conditioning.

- All enclosed spaces including, but not limited to: offices, kitchen, security, ticket booths and lift shafts are to be air conditioned.
- All washrooms are to be mechanically ventilated

1.16 Plumbing

- The building shall be connected to the WASA water main in the area. The contractor is responsible for all costs related to attaining the WASA connection. Regardless of the size of the municipal water supply line, water storage water storage facilities to allow for three (3) days of normal operation without external water supply shall be provided in secure tankage.
- The water pumping system shall be duplex (with each pump rated for 100% of the load) and housed in a secure room.
- Plumbing Fixtures: All plumbing fixtures and fittings shall be low-flow water conserving types, conforming to the Energy Policy Act or local Energy Policy requirements.
- Water Treatment: Incoming municipal water supply to be filtered on-site.

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- Backflow Prevention: At a minimum, provide double check valve assemblies for water service connections that may produce objectionable backflow.
- Metering: All domestic water service to the facility shall be metered in accordance with Water and Sewerage Authority (WASA) directives. The water meter specification and installation shall conform to WASA guidelines.
- The Modified Design-Builder is responsible to pay all fees and costs relating to the supply, connection and installation of all required meters.
- Water Pressure: Pressure reducing valves shall be provided as necessary to limit water pressure.
- The building shall be connected to the WASA sewer main in the area, where available. Where there is no public sewer system, a treatment and disposal system acceptable to the WASA and Health Authorities shall be provided. This system shall discharge an acceptable level of effluent (normally 20BOD/20TSS) into the storm drainage system.
- Sanitary fixtures at below grade level to be connected to sumps fitted with submersible duplex sewage pump sets where gravity drainage is not possible. Pumps to be connected to emergency power supply.

1.17 Drainage

- Storm drainage system to collect rainwater from roofs and other flat collection areas, and drain by gravity as much as possible. The re-use of storm water is encouraged except for human use.
- The Design-Build-Equip is responsible to pay all fees and costs relating to the connection of these services.

1.18 Fire Protection

- Fire protection shall be provided in accordance with the requirement of the
 - Trinidad and Tobago Fire Services
 - NFPA standards
- Occupancy Hazards: Occupancy hazards for fire sprinkler system design shall be in accordance with NFPA 13 if applicable and required based on design.
- Piping: Piping for fire sprinkler systems shall be ASTM A-53 Schedule 40 steel pipe. Schedule 10, thin wall, or thread able thin wall piping will not be acceptable. Pipe and fittings for dry pipe systems shall be hot-dip galvanized, Schedule 40, ASTM A-53. All sprinkler piping must be painted in FEDERAL SAFETY RED with directional arrow.
- A proven, dedicated fire water storage shall be provided with a suitable standpipe and hose reel system as stipulated by the Trinidad and Tobago Fire Services and NFPA 14. Minimum fire reserve shall be 2000 gallons.
- Fire pumps and/or pressure tanks shall be provided as necessary and where applicable based on the design.
- Where applicable Fire pumps will be provided with emergency power supply and transfer switches.

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- Fire hose stations and fire extinguishers to be placed in accordance with codes and standards.

1.19 Electrical Requirements and Guidelines

- If necessary, incoming high voltage will be stepped down using transformers. All incoming power will be underground.
- The building shall be connected to the electrical infrastructure (T&TEC) in the area. Where applicable a three phase supply should be sought in most areas but there may be certain areas where only a two phase supply is available. Incoming supply shall be metered by the Utility. Standard Voltage of 230V, 3phase, 60 hertz or alternatively 230 V2 phase, 60 hertz
- Systems for Transient Voltage Surge Suppression (TVSS) and lightning protection will also be installed.
- Aircraft warning lights are to be installed in accordance with the requirements of the Trinidad and Tobago Civil Authority.

1.20 Materials and Equipment

- To the extent possible, provide equipment and system components of a single manufacturer who has distribution channels and effective and efficient servicing available in Trinidad and Tobago.

1.21 Power Supply

- Coordinate utility service with the Trinidad and Tobago Electricity Commission (T&TEC)
- Co-ordinate with the Commission and UDeCOTT to determine related requirements, responsibilities and costs.
- Underground incoming services only.
- Provide transformer, services and metering as required.
- The Design-Build is responsible for all costs for the supply and installation of connections and metering units inclusive of metering house.
- The main panel shall feed sub panels within the building as necessary. There shall be at least one panel at each level of the building serving circuits at that level.
- Electrical panel boards shall be located in a secure location with sufficient ventilation to prevent overheating.
- Small power distribution shall allow for 3 duplex power outlets per room except prisoner areas.

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1.22 Load Requirements:

- Calculated in accordance with NEC 2002 or Bureau of Standards of Trinidad and Tobago whichever is the most stringent.
- Allow 30% in all equipment and feeder ratings for future expansion.

1.23 Emergency Power Systems

- Emergency generator power for 100% of the loads.
- Generator size to be based on the following criteria:
- Sized to take into account all connected loads especially the UPS factor and the starting of mechanical equipment.
 - Stand-by generator shall be installed in a secure location and provided with adequate natural / mechanical ventilation for the engine and external discharge for engine exhaust gases.
 - Stand-by generator shall be equipped with sufficient fuel/LPG Gas supply for a minimum of two (2) days fuel storage.
 - Only one manufacturer will be permitted for generator components by each.

1.24 Uninterruptible Power Supply Systems

- UPS shall be installed to provide clean electrical power (120V) outlets for all essential loads. These outlets would be a different colour to “normal” outlets.
 - Security System
 - Communication Systems
 - Critical operations areas
 - Fire Alarm and building safety systems
 - Computer systems.

1.25 Wiring Methods

- Conduit and duct materials to NEC
 - Generally EMT (electrical metallic tubing)
 - Rigid PVC for direct buried underground or under slabs
 - Rigid galvanized steel in hazardous locations
 - Conduit systems for communications providers minimum ¾” diameter
 - Insulated ground conductor through all power system conduits

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1.26 Lighting

- Standards:
 - ASHRAE/IES 90.1.
 - Lighting handbook of the Illumination Engineering Society of North America
 - Or alternative lighting source (LED)
- Interior Lighting:
 - Design lighting systems to meet functional criteria of each specific lighting task.
 - Design lighting systems so that illumination required is primarily directed to the location of the task and in such a way that direct glare and veiling reflections on the task are minimised.
 - General ambient illumination shall not be lower than a third of the luminance required for the task.
 - Base lighting design on the mid-range of the IESNA recommended illumination levels.
 - Energy consumption to meet or exceed ASHRAE/IES 90.1.
 - Fluorescent lamps or LED's shall be warm white or cool white. The entire building shall be one or the other and NOT mixed.
 - Incandescent lighting or LED lighting can be used.
 - Each room shall have its individual switching device
- Exterior illumination levels equal to the high range of LED lighting.

1.27 Telecommunication Spaces and Pathways

- The building shall be connected to the communications infrastructure in the area. This would be to the public providers such as TSTT or FLOW. This shall be for the provision of telephones connected to the national (land line) system and cable television.
- Installation of structured cabling (Minimum of CAT 6) and relevant server rooms inclusive of racks.
- Provide duct bank for cable pathway to the building.
- DATA Room (ER) shall be the terminus of all communications backbone and located as close as possible to the Entrance.
- Internal and external telephone communications shall be provided in selected rooms throughout the building
- Telephone distribution shall allow for two-(2) outlets per work station
- Data communications shall be provided in selected rooms throughout the car park with a LAN connected from the computer room at the station.
- Data distribution shall allow for two-(2) outlets per station.

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- Grounding in accordance with ANSI/J-STD--607-A-2002; Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications, Latest version.
- CISCO IP Phone System shall be the stand allow system for the car park for all internal and external communications. This system would also be in direct connection with the PS system for internal broadcasting.

1.28 Fire Alarm and Emergency Voice Communications Systems

- Design and install system in accordance with the requirements of all applicable NFPA/UL standards.
- System to be modular in design to allow for minimum of 25% future expansion. Each circuit shall not be loaded to more than 80% capacity.
- System verified and commissioned in accordance with NFPA.

1.29 Security Requirements and Guidelines

1.29.1 Integrated Security System

- Passive Alarm System, Closed Circuit Television System (CCTV with camera quality no less than 5 MP), Intrusion Detection System.
- Security Design shall use the latest technology available in the industry.
- Security of the users of the Car Park is of great concern.

1.29.2 Security Management System

- Security and surveillance controlled by a centralized security management system.
- System to integrate and control inputs from video surveillance, access control and intrusion detection systems. Video surveillance system shall include recording and archiving functions.
- Video surveillance, access control and intrusion detection systems to functional program.
- Installation of barrier arms and ticketing machine to control access and egress of occupiers of the Car Park structure.
- Procurement and installation of external gates for entrances. These are to be automatically controlled from the security booth and Command Centre or Main office.

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FREQUENTLY ASKED QUESTIONS (FAQs)

What is the purpose of this Request for Proposal?

The purpose of this Request for Proposal is to identify and contract a suitably qualified and experienced Contractor with the specialised expertise necessary to undertake the Project.

I am interested in this project. Can I view the RFP before purchasing to confirm the requirements prior to purchasing?

The RFP will be available for viewing at UDeCOTT's office from May 07, 2021. Due to Covid-19 protocols, proponents are requested to forward an email to the Secretary of the Tenders Committee indicating the date and time that they would like to come in to view the RFP. A confirmatory email will be sent accompanied by UDeCOTT's Covid-19 Visitor Screening Questionnaire. Proponents will be required to complete and return the questionnaire via e-mail prior to the appointment date.

What is the Location of the site?

The site of the proposed Multi Storey carpark is located at:

- 26, 28, 30 and 32 Edward Street, Port-of-Spain
- 35 and 37 St. Vincent Street, Port-of-Spain

Are there any eligibility requirements for this Procurement Process?

In order to be eligible for evaluation and/or consideration to provide the Works, Proponents must be able to demonstrate the following:

- Submission of Annual Return –2020 (2021 if applicable) (for companies incorporated/registered in Trinidad and Tobago)
- Incorporation or otherwise registered to do business in Trinidad and Tobago as evidenced by the Certificate of Incorporation or Registration (as applicable); **OR** Evidence of registration in the country of registration for international companies
- Submission of valid Statutory Clearance/Compliance Certificates, (for companies incorporated/registered in Trinidad and Tobago) namely;
 - Copy of VAT Clearance Certificate
 - Copy of BIR Clearance Certificate
 - Copy of NIS Certificate of Compliance

Are Proponents required to submit a Bid Bond with their Proposals?

Yes. A Bid Bond to the value of \$500,000.00 is required for the Project.

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Would proposals submitted by Joint Ventures be acceptable?

Proposals submitted by Joint Venture (JV) entities would be acceptable providing that the following is included in their Proposals:

1. Joint Venture Guarantee
2. Joint Venture Agreement (executed)
3. Audited Financial Statements, Litigation History and Experience of each member
4. Other related documents identified in the RFP.

What is the recommended team composition?

At a minimum, the proposed team should comprise the following:

1. Project Manager (1 No.)
2. Mechanical Engineer (1 No.)
3. Electrical Engineer (1 No.)
4. Civil/ Structural Engineer (1 No.)
5. Civil Engineer – Infrastructure (Drainage, Roads, Grading) (1 No.)
6. HSSE Manager (1 No.)
7. QA/QC Manager (1 No.)
8. Construction Manager
9. Architect

Proponents are to note that the responses provided as guidance to these Frequently Asked Questions does not relieve the Proponent of its obligation and responsibility to fulfil and comply with all requirements of the Request for Proposals.