

ANNEX C – SCOPE OF WORKS

DPT2021-02 Electric Bus Charging Facility RFP

INTRODUCTION

The Department of Public Transportation currently operates and maintains 89 Public Diesel Transit buses to service the Public and School Bus Schedule. The department is transitioning to the electrification of the existing bus fleet with the initial purchase of 30 Electric buses in the first phase following by an additional 30 Electric buses in the second phase.

The Government is looking for a qualified engineering firm to design and implement a turnkey project for an Electric Bus Charging Facility and Infrastructure at its Fort Langton facility to support operating a fleet of sixty (60) Electric buses. In particular, the Department of Transportation (“DPT”) requires the installation of fifteen bus manufacturer-supplied charging pedestals with civil, mechanical, and electrical infrastructure to support the charging pedestals for the first phase with design consideration given to accommodate the second phase which will entail an additional 30 Buses and associated 15 Charging pedestals.

PRICING

The Government seeks a pricing scheme from Respondents which will be mutually beneficial and sustainable for both parties. The pricing scheme will provide costing for phase one (1) and phase two (2) of the project. See Annex B, Pricing Form, for additional information. The Government would request a fixed cost r on the civil, mechanical, and electrical construction works.

WORKER QUALIFICATIONS

All personnel engaged in the execution of this contract(s) shall be in the possession of a current license or certificate of competence applicable to the particular function being performed. The Successful Proponent shall provide a competent representative to be constantly on site during the delivery of materials. The Successful Proponent’s representative shall, at all times, be in full control and be responsible for all activities and all phases of work, including those portions of the work performed by sub-contractors, as/if applicable.

INSURANCE REQUIREMENTS

The Successful Proponent, and each of their subcontractors carrying out activities under the Contract, shall provide and maintain during the term of the Contract: Commercial General Liability insurance subject to limits of not less than Three Million (\$3,000,000) inclusive per occurrence. To achieve the desired limit, umbrella or excess liability insurance may be used.

Coverage shall include but not limited to bodily injury including death, personal injury, damage to property including loss of use thereof, premises and completed operations, contractual liability, contingent employers liability, owner’s protective coverage, non-owned automobile and contain a cross liability, severability of the insured clause. The Government of Bermuda is to be added as an additional insured but only concerning liability arising out of the operations of the Named Insured.

The Success Proponent must provide a copy of their Policy (not Certificate) and that of each of their subcontractors carrying out activities under the Contract as a pre-condition of contract award. On an annual basis, the Successful Proponent must furnish a copy (ies) of the Insurance Certificate(s).

DESIGN, ENGINEERING, AND PERMITTING

Electric Bus Charging Facility and Infrastructure

To support Government's fleet electrification plan, the department requires a turnkey solution to design and install a civil, mechanical, and electrical infrastructure to support the Electric Bus Charging Pedestal facility for phase 1 and phase 2 at the Devonshire Fort Langton Bus Depot. The second phase of the project will also require a Battery Storage solution to take advantage of the future integrated Solar PV Development solution.

Electric Bus Charging Facility

The Department of Public Transportation is seeking proposals from qualified engineering firms to manage to design and construct an Electric Bus Charging Facility at the Fort Langton Bus Depot. The proposed solution shall consist of engineering design, project management, civil, mechanical, and electrical works.

When designing the first phase, the Electric Bus Charging Facility is expected to support the initial thirty (30) XML6805 8-meter electric buses and fifteen (15) 60kW charging pedestals with consideration taken to be able to support an additional 30 Electric Buses. Information on the Bus and Pedestal Specifications are provided in Annex F. Proponents are required to estimate load requirements for the Bus Charging Facility.

When designing the first and second phases of the project, the design and equipment within the proposal must take into account the ability to safely operate with the future 400KW Rooftop Solar PV Development anticipated to commence in June 2020.

When designing the Electric Bus Charging Facility, proponents should also take into consideration that the electrification plan is transitional which means that the Fort Langton Depot will have a mixture of Internal Combustion Engine Buses and Electric Buses during the phases. The proposed design, layout using, and traffic flow need to consider this transitional plan. The site layout drawings in "Annex E" are provided for illustrative purposes only. RFP Respondents are to develop their design solutions.

The Manufacturer supplied charging pedestals to design their Bus Charging Facility noting that:

- Each Bus has an 180kWh CATL battery storage
- Each Bus has a European CCS2 Charging port
- Each Pedestal has two (2) 60kW DC quick charge guns, which can either charge one bus in three (3) hours or two buses in six (6) hours.
- Each Manufacturer Supplied Charging Pedestal will require a 380V 60HZ input voltage with a DC output voltage range of 200V DC to 750V DC 60kW.

The design must also recommend an "Electrical Distribution Infrastructure" to support the Bus Charging Facility.

Electrical Distribution Infrastructure

The proponent must provide:

Design layouts for high voltage and low voltage cabling, the distribution system, and proposed pedestal locations taking into consideration the following:

- The High Voltage Distribution Network is 4160V 60Hz
- The assumption is that the Electric Bus Charging Facility will require a dedicated supply from National Stadium Substation
- The assumption is that the HV connection point will be located onsite in a BELCO Vault from a step down transformer 4160V/480V.
- The proponent will contact BELCO to discuss load requirements and any potential requirements to upgrade the grid.
- The proponent will take advantage of existing trenching works from the National Stadium Substation to the Fort Langton.
- The Charging pedestals will be provided by the Bus Manufacturer and specifications are provided in Annex G.
- The proposal will provide a design to integrate a Battery Storage Solution in phase two (2) of the Bus Electric Charging Infrastructure Project to interconnect with the Rooftop Solar PV Development.

Civil Work Requirements

The proponents must propose the required civil works required to support both the “Electric Bus Charging Facility” and the “Electrical Distribution infrastructure”.

Construction Management Plan (RFP submission requirement)

Throughout the Contract(s), the Successful Proponent shall provide ongoing project management to ensure that a comprehensive Project Plan is developed, executed, monitored, reported on, and maintained. The Vendor(s) shall provide overall project management for all Project Components, including day-to-day management of Vendor(s) staff and production of required deliverables. Respondents are required to provide a Construction Management Plan with their submission and must include the following, at a minimum:

- Health Safety and Environment, Risk Management Plan including suggested traffic flow organization to manage the project understanding that the Fort Langton Depot is an operational site that includes bus operations and maintenance activities during the day and evening as described in Appendix D of the RFP under Material Disclosures. The Risk Management Plan should also take into account other ongoing projects on the site which include the Fuel Station and Tanks Renovations and the 400kW Rooftop Solar PV Development as described in Appendix D of the RFP under Material Disclosures.
- Gap Analysis to include detailed site assessment of all existing underground utilities and utilization of existing transformer vaults and Substations
- For the Electric Bus Charging Stations and Infrastructure, an implementation plan, including procurement of materials and equipment, civil works required for housing and installation of

Electric Bus Charging infrastructure, of installation of cabling, switchgear, and transformers, the connection of charging pedestals and system commissioning

- Detailed Project Plan that outlines all tasks needed to complete the Scope of Services.
- Construction timeframes including milestones and critical path items. In terms of priorities of the various sites.
- Respondents are to consult with BELCO and develop a plan to delineate what work is required and equipment to replace.
- A site safety plan showing work areas and how those areas are separated from other operational areas during the project reflecting the phased nature of the work and clearly indicating the phases proposed.
- The Respondent's Health and Safety Practice document was adapted to the sites specifically. These include method statements on incident and accident reporting noting that OSHA regulations require a logbook to be kept as well the Department of Health OSH Officer to be informed within 24 hours of any incident.
- Statement showing understanding of permits and licenses required.
- Contact list indicating name, phone number, and email address for Contract Manager, Site Supervisor, etc...
- Construction access routes, on-site parking, and Palmetto Road traffic management plan,
- Construction methodology and mitigation measures to be employed where relevant
- Permits, Regulations, and Related Matters
- The successful Proponent shall obtain all permits, licenses, and approvals required in connection with services and works according to this RFP. The costs of obtaining permits, licenses, and approvals shall be the responsibility of and shall be paid for by the successful Proponent.
- Where the Successful Proponent is required by Applicable Laws to hold or obtain any such permit, license, and approval to carry on an activity contemplated in its Proposal or the Agreement, neither acceptance of the Proposal nor execution of the Agreement by the Government shall be considered an approval by the Government for the Successful Proponent to carry on such activity without the requisite permit, license or approval.

Permits, regulations, and codes required to be followed by the Successful Proponent include, but are not limited to, the following:

- Bermuda (Commercial) Building Code 2012
- Bermuda Mechanical Code 2014
- Bermuda Fire Code 2014
- National Fire Protection Agency Standards (NFPA)
- Bermuda Electrical Code 2014
- The National Electrical Code (NEC 2011), also known as NFPA 70
- Planning Permission
- DAP 1 application if required DAP 1 application fee if required
- DAP 1 Planning application requires a mandated two-week public notification period. In total, a maximum of ten (10) weeks should be anticipated to achieve Planning permission
- Building Permit
- Commercial Building Permit is required

- As this is a Government Project for Government use, there are no Building Permit fees payable (ref: Building Act 1988, Government is exempt)
- Compliance with the Bermuda (Commercial) Building Code 2012
- Compliance with the Bermuda Mechanical Code 2014
- Stamped certified/registered Engineering drawings are required to be submitted for the Building permit application.

Notes

In terms of design documentation, the Successful Proponent is expected to produce the drawings and specifications required that will meet the Code, Standards, and Legislative requirements.