

RFQ: 15 C-00052
Solid Waste Department Compressed Natural Gas Permanent Fueling Station
Design Criteria Package



RFQ: 15-C-000052 DESIGN-BUILD SERVICES
FOR THE
SOLID WASTE DEPARTMENT CNG FUELING STATION

DESIGN CRITERIA PACKAGE



PREPARED BY:

KEVIN L. HENIKA, AIA – PROJECT ARCHITECT
CONTRACT ADMINISTRATION DEPARTMENT

CITY OF TAMPA

AUGUST 10, 2015

RFQ: 15 C-00052

**Solid Waste Department Compressed Natural Gas Permanent Fueling Station
Design Criteria Package**

DESIGN CRITERIA:

The City of Tampa has prepared the Design Criteria Package for RFQ: 15-C-000052 Design-Build Services related to Solid Waste Department Compressed Natural Gas Fueling (CNG) Station. The scope shall include, but not be limited to the following:

- Scope Programming
- Comprehensive design services
- Construction of new permanent CNG fuel filling facility
- Planning and coordination of an initial permanent CNG fuel filling facility for 50 trucks with the potential overall CNG fuel filling facility to accommodate 143 refuse trucks
- Regulatory permitting
- Development of Guaranteed Maximum Price for construction
- Scheduling of all logistics

Initial Project Budget for initial design and pre construction services is \$150,000
Total Project Budget to be determined as part of the design and pre construction effort.

In addition, the following pages contain the project overview and description of requirements.

1. Purpose

1.1 This document provides the criteria for the design and construction of facilities to time fill CNG for City of Tampa Solid Waste Department refuse trucks. The intent is to list the minimum design criteria necessary for achieving this relocation.

1.2 This package is not a specification or prescriptive checklist and is not intended to replace the professional judgment by a competent licensed professional engineer after coordination with the end-user and stakeholders of the City of Tampa.

1.3 Additionally, nothing in this document should preclude consideration and use of emerging technologies and commercially available products if they can be proven to result in a successful and satisfactory design of facilities to time fill CNG for the City of Tampa Solid Waste Department refuse trucks.

RFQ: 15 C-00052

**Solid Waste Department Compressed Natural Gas Permanent Fueling Station
Design Criteria Package**

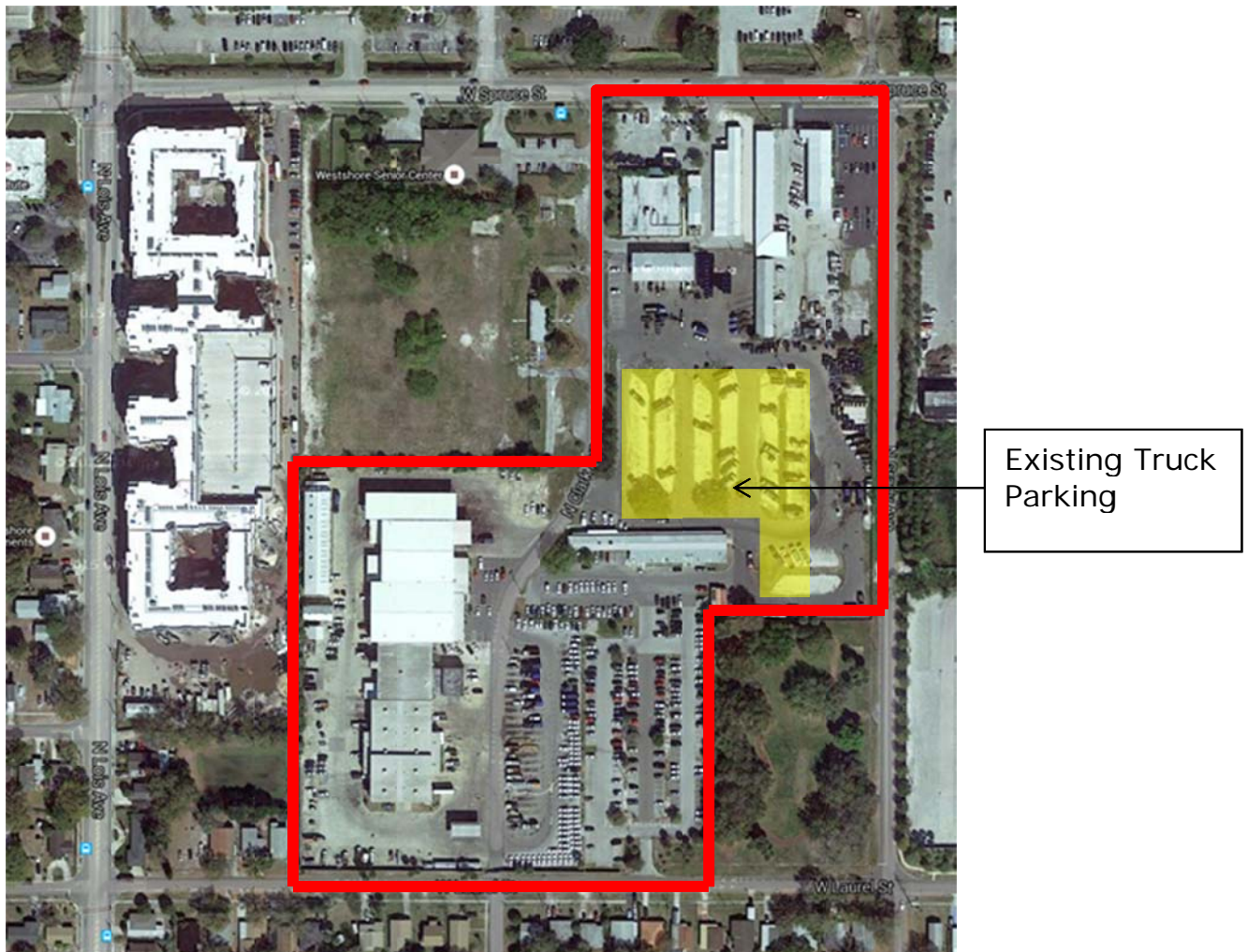
2. Design Criteria

2.1 The design is based on providing facilities that will meet the needs of the Solid Waste Department to time fill CNG refuse trucks, as identified. These needs are based on mission and operation requirements. The design should consider existing conditions and the current and future needs of the departments. It is imperative that the final designer and preparer of construction documents fully understand the operational requirements, permitting, site logistics and all related requirements to design this facility accordingly.

2.2 Design build services shall include but not be limited to survey and verification of all existing conditions, development of full programming design to all program requirements necessary site design (including traffic flow), engineering, utility coordination, regulatory permitting, logistics, development of Guaranteed Maximum Price and ultimate construct all site amenities and facilities necessary to provide fueling operations.

3. Site Development Criteria

(Pictured below is the existing Solid Waste Department, Facilities Management and Fleet yard within the red border. Proposed CNG filling area is highlighted in yellow.)



RFQ: 15 C-00052**Solid Waste Department Compressed Natural Gas Permanent Fueling Station****Design Criteria Package****3. Site Development Criteria (continued)**

The proposed site street address is 4010 West Spruce Street, Tampa Florida, 33607. The entire existing site consist of 20.6 acres and is currently zoned RS-50. The site is boarded by Spruce Street to the North, North Clark Avenue to the West, West Laurel Street to the South, and North Grady Avenue to the East. The proposed area for the fuel station facilities to time fill CNG for City of Tampa Solid Waste Department refuse trucks will be on the East side of the site.

A portion of the North Grady Avenue right of way (R.O.W.) is also located within the fence line on the East side of the site. This area is to remain as a bona-fide right of way and no site development will be performed in this area.

The existing Administration Building is directly to the Northwest of the proposed area for the fuel station facilities and the existing Facilities Maintenance building is directly Northeast. The Solid Waste Operations Building #4 is directly South of the proposed area for the fuel station facilities.

The West and South/South West area of North Clark Avenue is currently the existing City of Tampa Fleet Maintenance Division.

Electric, water and sewer utilities are provided to the site, but only feed existing facilities.

Development of the parking area for the most efficient use of the existing layout is required. In order to maximize the potential of this site, the proposed permanent fueling station shall be built and sited to best accommodate the needs of the department.

Adjacent to this property are commercial developments to the north and east, with residential developments to the south and west.

Parking is currently an issue at this location and will need to be evaluated thoroughly. Currently the proposed parking area can park 72 existing refuse trucks. Strategize to increase parking for trucks has been requested by the department and should be explored.

The parking circulation area is paved. The actual parking spaces and parking median areas are not paved. The parking median area contains stormwater drains and is the stormwater collection area. The stormwater system is currently an issue at this location and will need to be evaluated thoroughly. There is currently no area for stormwater ponds.

The site is an historic landfill as defined by the Environmental Protection Commission

4. Facilities Development Criteria

Provide a property Survey including all existing site utilities, in the work area.

Develop full program that will confirm short term and long term growth along with ultimate layout and fueling requirements.

Define gas line and power entry points with related and defined easement, including required surveys and legal descriptions

RFQ: 15 C-00052**Solid Waste Department Compressed Natural Gas Permanent Fueling Station****Design Criteria Package****4. Facilities Development Criteria (continued)**

Fueling Needs: Determine the dispensing capability, compressor performance capacity, flow rate, and the buffer storage needed to optimize out-put to fill simultaneously a fleet of CNG refuse trucks over a 10-hour period. Work with private utility companies to assess current gas line pressures, electrical power, and capacity to establish provisions for immediate and future CNG requirements. Given a per vehicle on-board storage capacity of 70 Diesel Gallon Equivalents (DGE) and a daily fuel consumption average of 50 DGE per day per vehicle, the proposed Time Fill CNG station must be scalable, capable of time-filling upwards of 143 CNG refuse trucks simultaneously or in some defined format within a 10-hour time period. Provide real-time management tools/software that affords the ability to retrieve station statistics and activity reports that detail (per vehicle) number of vehicles fueled, fuel time, duration, fuel consumption, station conditions, maintenance logs, etc.

Create a draft plan for the station design: Provide Auto CAD drawings for the conceptual site layout, and overall design that includes details pertaining to electrical, mechanical, environmental and civil requirements for permitting purposes. Provide list of recommended Time-Fill CNG Station equipment with enclosed/secure placement and emergency shutdown capabilities (*Equipment selection not to exceed local requirements for noise and emissions*), including performance specifications, and develop overall comprehensive critical path schedule.

Create a final plan for the station design: Finalized Auto CAD drawings, technical specification for the design and development of the Time-Fill CNG Station and provide pricing proposals developed to a GMP document with all associated exhibits (scope, pricing, qualifications). Present final design; site plan evaluation to include parking and traffic flow requirements, site preparation, build schedule, fueling plan, equipment purchases and placement, utility agreements, building permits and all required approvals from regulatory agencies and local authorities.

5. Environmental Criteria

Site is currently a landfill site that will need to be evaluated thoroughly.

Initial EPC Submittal for long lead permit schedule should be anticipated and develop as an early activity as soon as practical.

The plan must provide strategies for working with authorities as it relates to the property being designated as a "Historical Landfill" such that the final plan will achieve a Director's Authorization Permit issued by the Environmental Protection Commission (EPC) of Hillsborough County as specified in EPC Rules Chapter 1-7.

6. Operations/Training

RFQ: 15 C-00052

**Solid Waste Department Compressed Natural Gas Permanent Fueling Station
Design Criteria Package**

Provide onsite technical instructions and classroom training of personnel for Administrative staff (Reporting/Billing), CNG vehicle operators (Safety & Fueling), Mechanics (Preventative Maintenance), First Responders (Fire Department – CNG verses Diesel fuel)

See below for site location of existing portable CNG time fill station and proposed permanent CNG time fill stations.

