



NOTE: Reasonable Source Request is strictly for highlighted items only. Total of \$115,500.00 for a 4 year term.

September 1, 2017

Derrick Chan, P.E.
Director of Rail and Capital Programs
Broward County Transportation Department
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WAVE PIGGYBACK OPTION: CHARLOTTE AREA TRANSIT SYSTEM (CATS) - 5 STREETCARS

Dear Mr. Chan:

Siemens Industry, Inc. (Siemens) is pleased to provide this updated ROM pricing for 5 OESS equipped streetcars. We are excited about the opportunity to provide the best value in modern streetcar technology and partnering with Broward County. The original time to exercise this option and provide a Notice to Proceed (NTP) was within 6 months from the Charlotte NTP of Mar 3rd (i.e. by Sep 3rd). Siemens Industry, Inc. (Siemens) is willing to extend the NTP date for the WAVE streetcars until Friday, September, 29th, 2017. Any date after September 29th will result in cost impacts and vehicle schedule adjustments

Siemens is offering a modern streetcar version of our S70 platform that has proven reliability and performance on many existing lines. Our streetcar design is well-suited to facilitate the WAVE's future growth plans for serving additional destinations.

The following price elements are described below in order to provide the team with some additional transparency:

1. Base Vehicle – Charlotte OESS Streetcar

The most advantageous option included in the executed CATS contract, Article 4.3, Options, page 81, SP-11 Options for additional vehicles, indicates that the City may order, one time, up to five (5) additional vehicles at the Base Contract Unit Price (\$4,355,648), plus \$690,000 per vehicle.

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2. WAVE Required Technical Changes

As discussed with the WAVE team during recent meetings the following specific features would also be required for successful operation in Ft. Lauderdale:

Climatic Conditions Sec. 2.2.2	Siemens will demonstrate that the car will provide the specified interior temperature and humidity levels under the Ft. Lauderdale climatic conditions by analysis and make any adjustments necessary	\$50,000
Alignment Sec. 2.2.4	Siemens will perform an alignment analysis and confirm the specified performance.	\$70,000
On-Board Energy Storage (OESS) Sec. 2.2.4	Siemens will provide a performance simulation for the Wave OESS equipment over the entire alignment.	\$100,000
Track Geometry - Minimum curve radius: 20m Sec. 2.2.4.3	Siemens will modify the S70 design to accommodate the two 20 m turns on the alignment and provide the necessary dynamic envelope.	\$550,000
Wheel/Rail Interface Study Sec. 2.5.2	Siemens will perform a wheel/rail interface study for the WAVE alignment.	\$175,000
EMI and EMC Testing Sec. 2.10	Siemens will perform on-site electro-magnetic testing	\$250,000
Vehicle Safety Analysis Sec. 2.11	Siemens will provide a safety design study showing that the vehicle will perform in a safe manner on the WAVE alignment	\$175,000
Door Open Indicators Sec. 6.14.2 C2	Siemens will provide LED light strips in passenger doors indicating the opening and closing of the doors	\$50,000
Receptacle Plug Sec. 9.5.4	Siemens will provide additional receptacle plugs as per input from WAVE	No charge
LED Headlights Sec. 8.7.2	Siemens to provide LED headlights within the current CATS streetcar fixtures	\$40,000



3. Ft. Lauderdale Specific Project Support

In order to provide project support not related to the concurrent City of Charlotte project, the following specific Ft. Lauderdale project elements will be performed:

Project engineering	\$250,000
Drawing updates/As-Built drawing set	\$250,000
Ft. Lauderdale specific travel	\$50,000
Paint, decals, interior and exterior WAVE specific colors	\$45,000
Commissioning site set-up	\$50,000
Training (Pricing based on WAVE required Training per email dated 8/30/2017)	\$650,000
Manuals (Pricing based on WAVE required Manuals per email 8/27/17)	\$345,000

4. Spare Parts

A sufficient supply of spare parts can be mutually agreed upon and the existing price list for the CATS streetcar spare parts will be used as an appropriate cost basis.

SUMMARY

	Per Vehicle	Total Project Cost
1. Base Price CATS Streetcar Option – 5 Streetcars	\$4,355,648	\$21,778,240
CATS Streetcar Option System Support	\$690,000	\$3,450,000
2. WAVE Required Technical Changes		\$1,460,000
3. Ft. Lauderdale Specific Project Support, Inc. Shipping costs to Ft. Lauderdale		\$1,695,000
4. Spare Parts and Special Tools – currently identified		\$1,803,287
Grand Total ROM		\$30,186,527

It is Siemens' intent to provide technical documentation from the CATS Streetcar project for systems that are not changed for the WAVE. We have included pricing for design reviews and CDRLs for changed systems only. All technical documentation developed for CATS Streetcar will be provided.

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There were some additional optional items discussed during technical sessions and in some cases more information is still required from the WAVE team in order to provide indicative pricing. The following is the current status of those items:

OPTIONS:

	Per Vehicle	Total Project Cost
AVL - Installation and provisions for customer furnished equipment. Pricing is based on an AVL system similar to Nextbus. <i>NOTE: Any change to the AVL system could result in a price adjustment. To avoid any impact to schedule/price, this option needs to be exercised no later than NTP + 3 months.</i>		
Vehicle Provisions & Installation	\$7,037	\$35,185
Non-Recurring Engineering		\$54,737
TOTAL PRICE		\$89,922

	Per Vehicle	Total Project Cost
Stop Request Button		
Material & Labor	\$3,900	\$19,500
Non-Recurring Engineering		\$46,000
TOTAL PRICE		\$65,500

Optional Spare Parts		\$1,228,712
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DISCLAIMER:

Please note: This estimate represents a non-binding price estimate and is provided for budgetary purposes only. Siemens would intend to provide fixed and binding offer following clarification of scope and discussions with Broward County.

Please feel free to contact Brian Hawkins, Director Business Development-Southeast (bhawkins@siemens.com) if you have any questions and concerns.

Best regards,



Michael Cahill
President
Rolling Stock