**COLUMBUS CONSOLIDATED GOVERNMENT**
*Georgia's First Consolidated Government*

**FINANCE DEPARTMENT**
**PURCHASING DIVISION**

100 TENTH STREET, P. O. BOX 1340
COLUMBUS, GEORGIA 31902-1340
706-225-4087, Fax 706-225-3033
BidLine 706-225-4536
www.columbusga.org

December 10, 2020

# Addendum No. Three
## Transit Bus Wash System
## RFB No. 21-0010

**Acknowledgment of receipt of Addenda must be included with sealed Bid.**

**Initials:**_____ **Company:**_____

Vendors are informed that the above subject Request for Bid (RFB) is hereby modified, corrected, or supplemented as specified, described and set forth in this Addendum:

## A. Due Date Extension

The bid due date is changed; bid responses must be submitted via DemandStar no later than **2:30 PM on Wednesday, January 13, 2021**.

## B. Non-Mandatory Site Visit

A Recommended **Non-Mandatory Pre-Bid Site Visit** will be held on **Friday, December 18, 2020**. Vendors should convene at the METRA Administrative Building located at 814 Linwood Boulevard, Columbus, GA, no later than 10:00 AM (EST). Vendors will be escorted by maintenance personnel to the Bus Wash location. Those interested in attending should complete the ***Attendance Confirmation Form (Appendix 1).*** Those not interested in attending due to Covid-19 are still encouraged to submit their proposals. ***For those attending the site visit, masks will be required, and social distancing will be mandatory.***

**A video showing the wash bay area utilities, clearances, control panels, etc. has been posted to the City's webpage for those who are unable to attend the Non-Mandatory Pre-Bid Site Visit.**

Questions will not be answered at the site visit. The City will not be bound by any verbal clarification given during the site visit.

All questions must be submitted in writing by email to bidopportunities@columbusga.org or by fax to 706-225-3033. All questions will be answered via an addendum. Telephone questions to individuals within the City are not encouraged, and any such answers given will in no way be binding upon the bid process. Only responses issued in writing will be binding.

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## C. City's response to submitted request for clarification:

**Responses to questions are available below. The attached *Revised Technical Specifications* have also been updated to reflect changes to the specifications as a result of the responses to clarifications. Please complete and return the attached *REVISED TECHNICAL SPECIFICATIONS (FORM 1-REV)* for Transit Bus Wash System.**

1. Question: *"Ref. Spec. Item 3.A.4 on Page 21 refers to "hot water." Is a hot water heater required to be provided? If so, please provide specifications?"*

   Response: **A hot water heater is required. Specifications are:**
   **Minimum 199,000 btu Natural Gas**
   **Minimum 100-gallon storage tank**
   **Must include 4.5-gallon expansion tank**

2. Question: *"Ref. Spec. Item 3.A.7 on Page 21 refers to "water softener." Is a water softener required to be provided? If so, please provide specifications?"*

   Response: **Yes, water softener is required to be provided: Minimum 10 gallons per minute flow 110 volt/60Hz.**

3. Question: *"Ref. Spec. Item 3.J; Tire Guides on Page 25 – are skid plates required? These are recommended to enable the tires to properly align with the tire guides."*

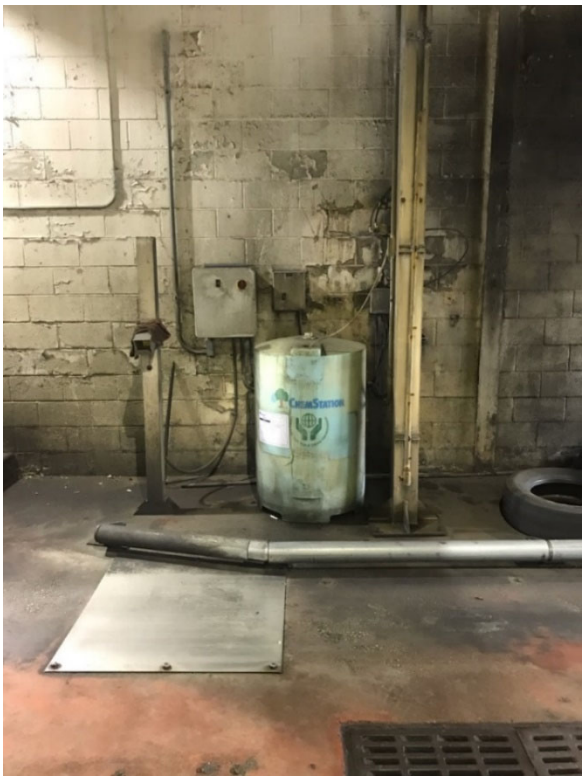
   Response: **Yes.**

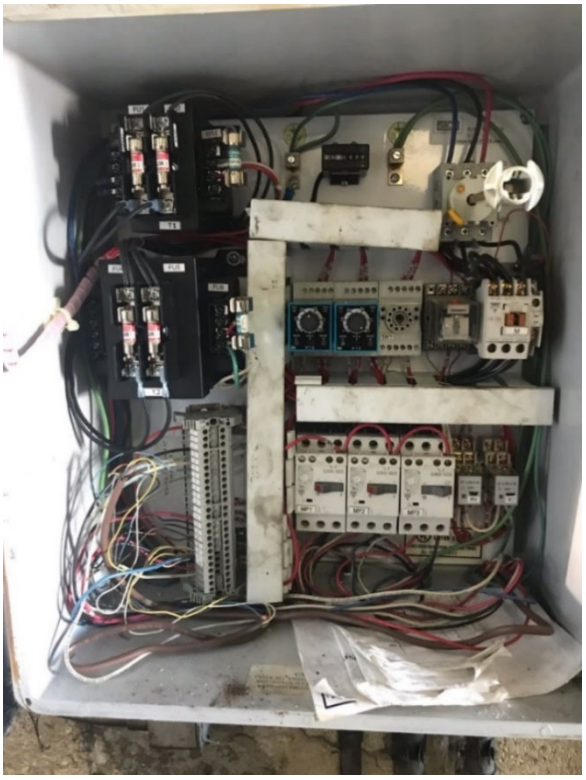
4. Question: *"Ref. Spec. Item 3.J.4 on Page 25 – requires calculations and stress analysis - please provide the max. single axle load?"*

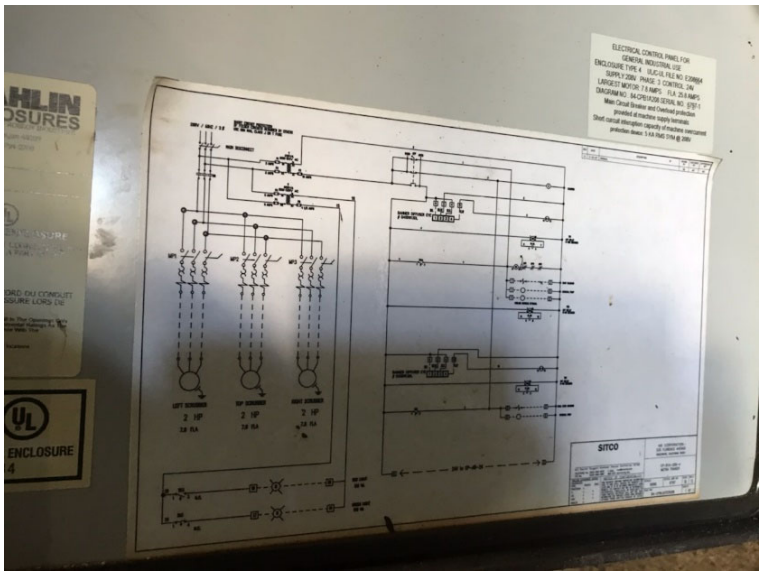
   Response: **The maximum single axle load is 19000lbs.**

5. Question: *"Are there any working drawings of this site showing all existing utilities, clearances, etc.?"*

   Response: **Drawings of the existing bus wash system are attached *(Appendix 2)*. Wash bay measurements are: Width – 19ft 4in; Length – 44ft 6in; Vertical – 17ft. A video of the wash bay showing the utilities, clearances, control panels, etc., has also been made available on the City's website. METRA has also provided additional photos *(see page 3).***







6. Question: *"Please provide drawing of the wash bay and ancillary equipment room/area where pumps, tanks, controls, etc. can be located; showing length, width and vertical clearance."*

   Response: **Drawings of the existing bus wash system are attached *(Appendix 2)*. Wash bay measurements are: Width – 19ft 4in; Length – 44ft 6in; Vertical – 17ft. A video of the wash bay showing the utilities, clearances, control panels, etc., has also been made available on the City's website. METRA has also provided additional photos *(see response to question 5)*.**

7. Question: "*Normally in a procurement of this type, dimensional drawings of the site with utilities available would be provided. Photos do not do us much good other than to show the existing manufacturer. Have you thought about hiring a local architect or engineering company to oversee and put this job together correctly? At this point, any building drawings, with utility locations and size, might give us the information we would need.*"

   Response: **An architect or engineering company is not needed for the replacement of the current wash system structure. Wash bay measurements are: Width – 19ft 4in; Length – 44ft 6in; Vertical – 17ft. Drawings of the existing bus wash system are attached *(Appendix 2)*. Additional photos have been provided in response to question #5 (page 3). A video of the wash bay showing the utilities, clearances, control panels, etc., has also been made available on the City's website.**

8. Question: "*Are progress payments or schedule of values permissible?*"

   Response: **Yes, this is permissible.**

9. Question: "*Is there a desired completion date?*"

   Response: **The desired completion date is March 31, 2020.**

10. Question: "*Is replacing the bus wash considered a construction contract where a performance bond is required?*"

    Response: **Replacing the current bus wash system is not considered construction by FTA, therefore, METRA does not require a performance bond.**

11. Question: "*Do bidders need to provide a security bond for this bid?*"

    Response: **Replacing the current bus wash system is not considered construction by FTA, therefore, METRA does not require a performance bond.**

## D. Addendum Acknowledgement

Indicate that your company has received this Addendum in the appropriate areas and include with sealed Bid. **Failure to acknowledge receipt of this addendum may render your Proposal "Incomplete".**

Andrea J. McCorvey
Purchasing Division Manager

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**FORM 1-REV**

# *REVISED*
## TECHNICAL SPECIFICATIONS
(VENDOR RESPONSE PAGE)

**TRANSIT BUS WASH SYSTEM**
**RFB No. 21-0010**

## I. SCOPE OF WORK

**A.** To furnish a completely automatic, friction and touchless combination heavy-duty vehicle wash which washes all types of transit vehicles used by fleet owners for front, roof, chassis, rear and both sides in drive-thru mode.

METRA's fleet size is as follows: *(Numbers may fluctuate):*

1. Twenty-five (25) – 35-Foot Diesels
2. Nine (9) – 35-Foot Diesels/Hybrids
3. Seventeen (17) - Paratransit

**B.** Sides and Rears of the vehicles shall be able to be washed with friction and fronts and chassis with touchless high pressure. Washing roofs of the vehicle shall be touchless and/or friction.

**C.** The supplier is responsible for the supply of necessary equipment, materials and service for the complete assembly and erection of the equipment so that it is ready for operation as per these specifications. *The successful vendor will be required to remove the existing bus wash system before installing the new bus wash system.*

**D.** The City is responsible for all plumbing and electrical work:

1. Mechanical Interconnecting Piping
   All plumbing work will be completed by a certified plumber, including:
   a. Water and gas utilities up to and connecting to the equipment.
   b. Interconnecting piping between various equipment components located in the equipment room.
   c. Interconnecting piping between the equipment located in the equipment room and the equipment located in the wash bay.

2. Electrical Interconnecting Wiring
   All electrical work will be completed by a certified electrician, including:
   a. Electrical service up to and connecting to the equipment panel.
   b. Interconnecting wiring between various equipment components located in the equipment room.
   c. Interconnecting wiring between the equipment located in the equipment room and the equipment located in the wash bay.

| **EQUIPMENT IDENTITY:** | **MFG:** |
|---|---|
| **TRANSIT BUS WASH SYSTEM** | **MODEL:** |

| **VENDOR'S NAME:** | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| **1. PRODUCT DATA** | |

| EQUIPMENT IDENTITY:<br>TRANSIT BUS WASH SYSTEM | MFG:<br>MODEL: |
|---|---|

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| **A.** This bid is for the custom engineered vehicle wash system for METRA Transit System Bus Wash Bay. The intent is to install a combination friction / touchless bus wash system that is capable of washing all the owners' transit fleet vehicles. All systems and designs must be prepared and engineered along the owner set design and engineering parameters. | |
| **B.** The above information must be complete in all details and must provide METRA the basis for the proposed system evaluation. The submitted drawings shall be corrected for the details after the completion of the system installation for the as-built drawings. | |
| **C. Operation and Maintenance Manual**<br>1. Provide digital copies of the proposed system Operations and Maintenance Manuals. | |
| 2. **The successful awarded contractor will be required to provide hard copies of the proposed system Operations and Maintenance Manuals:** Assemble and provide copies of manual in 8.5 x 11-inch format. Fold out diagrams and illustrations are acceptable. Manuals to be reproducible by dry copy method. | |
| **D. Deviations from These Specifications**<br>These specifications are not designed to limit the competition or to limit the equipment to any specific bidder. The specifications can be modified and altered from the system specifications as listed herein as follows:<br>1. The specified features, wash concepts and functions are mandatory and cannot be altered. | |
| 2. If the specifications call for "no substitution", the item(s) is deemed to be equally available for all bidders and shall be provided as specified. If "no substitution" item is erroneously specified for a patented item not available for the bidder or for an item not available for all bidders for other reasons, the bidder is encouraged to notify the Purchasing Division. | |
| 3. All specified GPM and PSI are listed as minimum and must be met or exceeded. All horse powers, dimensions of structural steel and other components that are stated as minimum must be met or exceeded. | |

| EQUIPMENT IDENTITY: TRANSIT BUS WASH SYSTEM | MFG: |
|---|---|
| | MODEL: |

| VENDOR'S NAME: | |
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| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| 4. All specified materials are minimums and must be met or exceeded. Lower grade material cannot substitute higher grade material. Material listing from lowest grade to higher grade is as follows:<br>(a) Galvanized steel (lowest acceptable for any application)<br>(b) Aluminum<br>(c) Stainless steel 304<br>(d) Stainless steel 316 | |
| 5. The number of equipment packages, modules, number of pumps, arches and all other components listed herein must be met or exceeded. | |
| 6. All wash equipment performance functions are minimum that must be met or exceeded. All deviations from the specified equipment performance must be fully documented with the drawings, engineering calculations and clearly explained why the proposed system meets and exceeds to specifications. The responsibility to meet the specified performance shall be bidders. | |
| **E. Supplier's Qualifications**<br>1. The equipment specified herein is based on the system specification as desired by the Owner's operations people. The Owner shall not approve or provide approved equal status for any bidders, equipment packages or for various manufacturers (including any listed manufacturers). Any mentioning or listing of manufacturers (in these specifications) shall not be considered to be approval by the Owner or Owner's Engineers for the named supplier equipment or equipment packages. | |
| 2. The brush wash system, high pressure cleaning systems, friction systems, pumping stations and all electrical controls shall be designed and supplied by one supplier. | |
| **2. WASH SYSTEM OPERATION AND PERFORMANCE** | |
| **A. Operation mode – Transit Bus Wash** | |

| EQUIPMENT IDENTITY: TRANSIT BUS WASH SYSTEM | MFG: |
|---|---|
| | MODEL: |

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| 1. The bus enters the wash and receives full soap on front, sides and rear. When bus enters the brush and high-pressure system, the two brushes have an option to wash, sides and rear with only the rotating brushes.<br><br>1a. A hot water heater is required with the following specification: Minimum 199,000 btu natural gas, minimum 100-gallon storage tank and must include 4.5-gallon expansion tank.<br><br>1b. A water softener needs to be provided: Minimum 10 gallons per minute flow 110 /60hz. | |
| 2. The supplier shall acknowledge the fact that rear washing of transit buses always has been and continue to be the problem area in any transit bus wash operations. Subsequently the activation of the rear wash activation for the side/rear brushes shall be precise. The brush on each side of the bus shall be independently controlled. The rear wash follow-up of the brush shall be by separately adjustable air pressure only for the rear follow-up feature. The activation of higher air pressure for the side/rear brushes must not take place while the brush(es) is on the side the bus and such activation must take place separately for each side/rear brush. The higher air pressure must be activated immediately as the bus rear corner has already passed each brush. The traffic light visible to the driver must indicate separately on each side and only for the period of time while the rear brush moves across of the rear of the bus. It is up to each supplier to select the method to achieve the above by using a series of photo eyes, sonar detectors, magnetic detectors, proximity sensors, lasers and or radars or other methods to achieve the desired results. | |
| 3. If the supplier feels that his/her technical capabilities are not adequate to achieve the specified brush movement features or if he/she feels that such specified performance feature are impossible, he/she shall take an exception in his/her bid forms and state precisely with supporting technical data the reasons for such. | |
| **B.** The supplier is responsible to design the equipment to satisfactorily wash up to 30 vehicles per hour. | |

| EQUIPMENT IDENTITY: TRANSIT BUS WASH SYSTEM | MFG: |
|---|---|
| | MODEL: |

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| **C.** The supplier is solely responsible for the equipment performance. Should the equipment not perform, as per these specification requirements, the supplier shall modify, add and/or alter the equipment supplied at his own expense until the performance is satisfactory. METRA shall approve all such changes. Should the performance criteria not be met after the changes, the supplier shall remove the system at no cost to the owner. | |
| **D.** The vehicle wash system to be capable of washing all vehicles up to 12' in height including the following:<br>1. Vans, Para-Transit buses<br>2. Transit Buses | |
| **3. WASH SYSTEM TECHNICAL SPECIFICATIONS** | |
| **A. Chemical Arch Components** | |
| 1. Timing of operation and position of the arch shall be determined by manufacturer to provide optimum detergent penetration before high-pressure / brush wash cycle. | |
| 2. Detergent pumps (total of two required) shall be approved equally with variable volume output ratio from 1:10 to 1:100. The selected soap pump set up shall allow the owner to spray separately side and rear of the vehicle at ratios varying from 1:10 to 1:100 separately. The amount of detergent delivery (by the pump) has to be readable on the pump calibrated settings. The detergent pumps must of positive displacement type. | |
| 3. The system shall have 3 HP water booster pump to ensure even water pressure under all circumstances. | |
| 4. Chemical Arch(s) must be made of 1.25-inch stainless steel pipe compatible with used detergents and equipped with adequate number of nozzles to evenly apply detergent, hot water solution to front, rear, sides and roof of vehicle proceeding through the arch. The design of the detergent arch shall allow immediate activation of the nozzles upon arch activation by the vehicle. All arch piping and structures must be stainless steel – no substitution allowed. Piping from the equipment room to the soap arch to be made of PVC or stainless steel. | |

| EQUIPMENT IDENTITY: TRANSIT BUS WASH SYSTEM | MFG: |
|---|---|
| | MODEL: |

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| 5. Intensified Rear Detergent Feature: The rear of the vehicle shall be applied detergent via a separate, stainless steel rear wash arch which is activated immediately after the vehicle has passed through the detergent arch. The detergent concentration for the rear wash arch shall be individually adjustable and must have its own soap pump. The intensified rear detergent arch shall be controlled and operated via its own vehicle sensing device, solenoid valves and chemical pumps as required for proper performance. | |
| 6. Activation: All system functions are activated by photo eyes. | |
| 7. The chemical spray components located in the equipment room must be assembled in a modular, wall mounted assembly containing the following components:<br>a. Solenoid valves (2 required) | |
| b. Pressure gauge | |
| c. Pressure regulator | |
| d. In-line screen | |
| e. Isolator ball valves for all components | |
| f. Isolator ball valves to bi-pass water softener | |
| **B. Side/Rear Brush System** | |
| 1. The system shall be equipped with a 2-brush wrap-around brush wash system. Two brushes shall wash the sides of the bus and the rear of the bus. | |
| 2. The brush wash system structure shall be made of heavy-duty steel and shall be hot dip galvanized. | |
| 3. The brush motors shall be minimum 2 hp each and shall be supported by bearing to the brush arm structure both on the top of the brush and at the bottom of the brush. | |
| **C. High Pressure Arch Assemblies** | |
| 1. The front wash shall be minimum 250 GPM. | |
| 2. It is solely the supplier's responsibility to design and build the high-pressure arches to meet the specified operational characteristics. | |

| EQUIPMENT IDENTITY:<br>TRANSIT BUS WASH SYSTEM | MFG:<br>MODEL: |
|---|---|

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| 3. All bidders are notified and are aware of the fact that the sides of most transit buses are not well suited to be washed by high pressure due to the issues related to leaking (high-pressure water penetrating inside of the bus). It is bidder's responsibility to design the system taking this into consideration. | |
| **4.** It is the supplier's responsibility to design the system to be safe for all buses and still be able to provide adequate cleaning performance on fronts, sides and rears of the buses. | |
| **D. Wheel and Chassis Wash** | |
| 1. The wheel and chassis shall be provided water by a separate pumping system and shall be automatically activated by the vehicle driving through. | |
| 2. Wheel and Chassis spray systems shall utilize static nozzles designed for complete coverage of the wheel and chassis area. | |
| **E. Water Storage Tank** | |
| 1. The water holding tank shall be minimum 500-gallon capacity. Top level fill float and bottom level pump shut off float shall be provided installed and ready to operate. | |
| 2. Minimum 2" air gap and 2" solenoid fill valve shall be provided for the automatic filling of the storage tank with city water. | |
| **F. Pumping Module** | |
| 1. The high-pressure pumps are of the centrifugal diffuser type as manufactured by Goulds Pump, Peerless or Carver and shall be capable of producing volumes up to 250 GPM. Any pump selected by the bidder shall meet the performance of the specified pump. | |
| 2. Impellers: The impellers are of the enclosed single suction type, hydraulically balanced to minimize axial thrust loads. Each impeller is individually keyed to the shaft. Impeller is bronze. | |
| 3. Stuffing box: Packed type stuffing boxes are equipped with a mechanical seal. | |
| 4. Shaft sleeves: The shaft sleeve through the stuffing box is 11-13% chrome stainless steel hardened to a minimum of 225 Brinnel and is keyed to shaft. | |

| EQUIPMENT IDENTITY:<br>TRANSIT BUS WASH SYSTEM | MFG:<br>MODEL: |
|---|---|

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| 5. Shaft: The shaft is standard carbon steel adequately sized for loads transmitted. | |
| 6. Bearing: The bearings are designed for a average life of 50,000 hours. The outboard bearing is a deep groove type; the in-board bearings are of the radial roller type with grease fittings. | |
| 7. Base: A steel base plate contains the mounting of the pump and motor, which are carefully aligned and bolted in place prior to shipment. Final alignment will be checked and certified after installation and prior to operation by the user. | |
| 8. Coupling: The pumping module has a "Jaw" type coupling as manufactured by Lovejoy or equal and includes a coupling guard. | |
| **G. Electric Motor** | |
| 1. The electric motor shall be of the squirrel cage induction type suitable for across the line starting. Motor shall operate on 460 Volt, 3-phase, 60 cycle and be ODP with a 1.15 service factor. | |
| 2. The motor shall be sized so as not to exceed the name plate horsepower during operation. | |
| 3. The motor shall be certified by the manufacturer for 25 activations per hour. | |
| **H. Final Rinse Arches** | |
| 1. The final rinse arches shall use fresh water. | |
| 2. Timing of operation and position of the rinse arch shall be determined by manufacturer to provide optimum rinse penetration after wash cycle. | |
| 3. Final Rinse Arches shall be made of 1.25-inch stainless steel pipe and equipped with 25 pcs. of dual, adjustable Spraying Systems Swivel Nozzle Bodies with Spraying Systems Diaphragm Check Valve to evenly apply freshwater rinse to front, rear, sides and roof of vehicle proceeding through the arch. | |
| **I. Electric Control Panel and Components** | |
| 1. The panel and controls must be built according to these specifications. No substitutions shall be allowed. The control system shall be PLC based with separate HMI. | |

| EQUIPMENT IDENTITY:<br>TRANSIT BUS WASH SYSTEM | MFG:<br>MODEL: |
|---|---|

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| 2. The PLC shall be the process application controller and provide near real time control of the entire wash system. It shall be connected to distributed I/O via an Ethernet network. The operator interface shall be through a separate HMI not integral to the PLC, connected to the PLC via Ethernet. | |
| 3. The PLC shall be panel mounted in a 48"x36"x12" electrical enclosure, which also houses the electrical controls for the wash system. The PLC may be mounted in its own enclosure in an office environment. The PLC provides the centralized infrastructure to enable simple and complete integration with other systems. | |
| 4. The PLC and HMI programs shall be developed and provided by the bidder. These programs shall include the specified wash components and provide capacity for future expansion. The PLC program shall be provided in RSLogix 5000 v20 and the HMI program shall be provided in RSView ME v6.1 | |
| 5. PLC and HMI programs shall provide the following:<br>a. GUI shall be intuitive to use by people without computer experience. Little or no training should be required. | |
| b. At program start up, all devices shall be initialized to a known state. | |
| c. All system settings, such as baud rates, parity, comm. port configurations, etc. shall be reconfigurable without necessitating recompiling the application software. | |
| d. All user configurable settings shall be stored in the PLC and/or HMI and saved to their respective SD cards. These include all timing set points, alarm settings, and communication settings. | |
| e. Periodic polling of I/O shall be every 20 ms or less. | |
| f. Alarms should have user configurable delays to prevent nuisance tripping. | |
| g. Latency: scanning interval for all closed loop processes should be executed <20 ms. | |
| h. Provide terminal windows for spying on any devices communicating to PC via Ethernet, RS232, etc. These will be used for troubleshooting communications problems. | |

| EQUIPMENT IDENTITY: TRANSIT BUS WASH SYSTEM | MFG: |
|---|---|
| | MODEL: |

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| i. Failure of any single component shall result in disabling the entire wash. For example, the system will not be allowed to wash vehicles in a crippled state if a chemical pump motor overload trips. | |
| 6. The Industrial Control Panel shall be manufactured and evaluated in accordance with the Underwriters Laboratories, Inc. (UL) standard 508A (Industrial Control Panels). In addition, the panel shall be evaluated for high-capacity short circuit withstand and shall bear the appropriate UL marks including the short circuit withstand value mark as part of the official UL label. | |
| 7. The industrial Control Panel shall be designed for operation on a 460 Volt, 3 phase, 60 Hertz system, with a short circuit capacity of 65,000 amperes RMS Symetrical available at the incoming line terminals of the control panel. | |
| 8. The Industrial Control Panel shall be designed to meet the requirements of the National Electric Code (NEC) Articles 430 and 670, also the National Fire Protections Association (NFPA) Standard 79 (Industrial Machinery). | |
| 9. E-Stop related operator controls, all push buttons, selector switches, pilot devices, system control and access functions must be by Touch Screen Operator Interface Terminal. | |
| 10. Electric Panels that are not UL approved are not acceptable. | |
| 11. The activation switches shall be designed to be activated by all fleet vehicles used by the owner. Each activator shall be pre-mounted and wired to a watertight junction box equipped with built-in drainage holes. | |
| **J. Tire Guides** | |
| 1. Tire guides must be installed for the full length of the wash bay starting at the earliest possible starting point and ending no more than 6" from the exit door frames. | |
| 2. Tire guides shall be made of minimum 4" schedule 40 hot dip galvanized pipes. | |

| EQUIPMENT IDENTITY: TRANSIT BUS WASH SYSTEM | MFG: |
|---|---|
| | MODEL: |

| VENDOR'S NAME: | |
|---|---|
| **DETAILED DESCRIPTION** | **VENDOR'S RESPONSE:** |
| 3. The system has angled entry at the entrance. Ends of rails are capped and all headings are smoothly finished to prevent tire damage. Brackets supporting pipe shall be made of minimum of 3/8" steel plate that are welded to concrete imbedded cleats or anchor bolted to the concrete. Additionally, METRA requires skid plates with the dimensions between 4' wide x 4' long. | |
| 4. The bidder must provide calculations and stress analysis of the tire guides with the bid package proving that they will be able to carry 19000lbs, which is the heaviest possible single axle load of the Owner's fleet. | |
| **6. WARRANTY** | |
| **A.** Warranty work specified herein is for one (1) year from substantial completion against defects in materials and in labor and workmanship. | |
| **B.** Defects shall include, but not be limited to:<br>1. Operation; Noisy, rough or substandard operation | |
| 2. Parts; Loose, damaged and missing parts | |
| 3. Finish; Abnormal deterioration | |
| **7. INSTALLATION, START-UP, TRAINING AND SERVICE** | |
| **A.** Install equipment in accordance with manufacturers' supplied installation drawings. | |
| **B.** Equipment supplier shall undertake the commissioning of the system and make all required adjustments to ensure proper operation. | |
| **C.** The equipment manufacturer shall start-up the system. The owner shall have all operating personnel present during the start-up and equipment training. | |
| **D.** The supplier shall arrange adequate amount of detergent for the performance testing. | |
| **E.** The owner's personnel shall be trained for a minimum of 5 hours in the system operation and maintenance. | |
| **F.** The supplier shall provide the owner the names and the addresses of all local service and maintenance personnel to assist in future service. | |
| ***NOTE: A copy of the manufacturer's warranty must be included with the bid response.*** | |

*Appendix 1*

# NON-MANDATORY PRE-BID SITE VISIT
# ATTENDANCE CONFIRMATION FORM

**DATE:** _____

**TO:** **Sandra Chandler, Buyer I**
**FAX NO. (706) 225-3033**

**RE:** **RFB NO. 21-0010 Transit Bus Wash System**

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## NON-MANDATORY PRE-BID SITE VISIT:

**A NON-MANDATORY PRE-BID SITE VISIT for the transit bus wash system is scheduled for FRIDAY, DECEMBER 18, 2020. Attendance at the mandatory pre-bid site visit is not a requirement of this bid.** Vendors should convene at the METRA Administrative Building located at 814 Linwood Boulevard, Columbus, GA, **no later than 10:00 AM (EST)**. They will be escorted by maintenance personnel to the Bus Wash location. Those interested in attending should complete the ***Attendance Confirmation Form (Appendix 1).***

Vendors must complete this notification form to confirm attendance, and email completed form to bidopportunities@columbusga.org. Those not interested in attending due to Covid-19 are still encouraged to submit their proposals. For those attending these site inspections, masks will be required, and social distancing will be mandatory.

Questions will not be answered at the site visit. The City will not be bound by any verbal clarification given during the site visit.

All questions must be submitted in writing by email to bidopportunities@columbusga.org or by fax to 706-225-3033. All questions will be answered via an addendum. Telephone questions to individuals within the City are not encouraged, and any such answers given will in no way be binding upon the bid process. Only responses issued in writing will be binding.

After the pre-proposal site inspections, all questions must be submitted in writing **(via e-mail or fax)** to the Purchasing Division, attention Sandra Chandler, bidopportunities@columbusga.org no later than 5:00 p.m. **Wednesday, December 23, 2020**. All questions will be answered via an addendum. Only responses issued in writing will be binding.

**Completing and forwarding this form to the Purchasing Division confirms your attendance at the Non-Mandatory Pre-Bid Site Visit.**

**(PLEASE PRINT)**

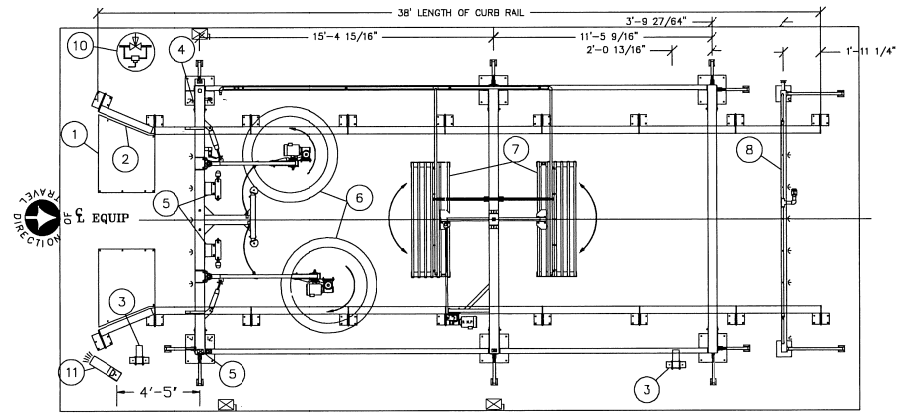
FROM: _____
Company Name

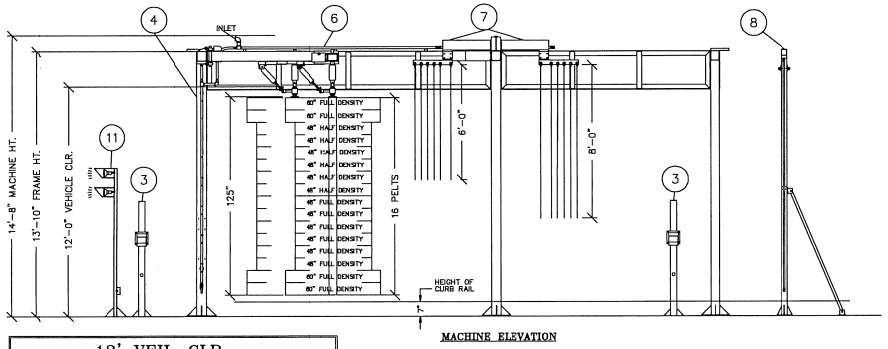
**PLEASE INDICATE THE NUMBER OF REPRESENTATIVES ATTENDING:** _____

_____
Authorized Agent

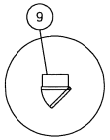
_____
Mailing Address City State Zip Code

_____
Telephone Number Fax Email address




MACHINE ELEVATION



## EQUIPMENT LIST

1. SKID PLATES ** N/S SUPPLIED **
2. 4" DIAMETER CURB RAIL SYSTEM ** N/S SUPPLIED **
3. DIFFUSE ELECTRIC EYE ACTIVATION, WASH & RINSE (RIGHT SIDE) ** N/S SUPPLIED ** [SYS-101]
4. DETERGENT ARCH (MOUNTED ON SYS-3100) ** N/S SUPPLIED **
5. AIR RETRACT PANEL AND CYLINDERS (RIGHT SIDE) ** N/S SUPPLIED **
6. WRAP-A-ROUND CLEANING BRUSHES ** N/S SUPPLIED **
7. OSCILLATING DOUBLE TOP SCRUBBER (SIDE TO SIDE) ** N/S SUPPLIED **
8. FINAL RINSE APPLICATOR ARCH (PAR-512) ** N/S SUPPLIED **
9. MACHINE CONTROL PANEL MOUNTED REMOTELY ON RIGHT SIDE IN PLACE OF EXISTING WASH PANEL. ** N/S SUPPLIED **
10. DETERGENT DEMA LOOP INJECTOR ** N/S SUPPLIED **
11. RED/GREEN ENTRY LIGHT (RGLS-00) ** N/S SUPPLIED **

## 12' VEH. CLR. NOZZLE SCHEDULE PER UNIT

| | |
|---|---|
| DETERGENT SPRAY PIPE (SYS-3100) | (5) 5010 BRASS NOZZLES (TOP)<br>(12) 5010 BRASS NOZZLES (SIDES) |
| WRAP BRUSHES SPRAY PIPE (SYS-3100) | (12) 5005 BRASS NOZZLES (SIDES) |
| TOP SCRUBBER SPRAY PIPE (SYS-3100) | (10) 5005 BRASS NOZZLES (TOP) |
| FINAL RINSE ARCH (PAR - 512) | (5) 5020 BRASS NOZZLES (TOP)<br>(12) 5020 BRASS NOZZLES (SIDES) |

These are only general drawings produced with sole intent of showing the approximate location of equipment and utilities necessary to run said equipment. They are by no means to be considered complete or exact in detail. These drawings are produced as a service to assist the customer and his architect for preliminary planning and bidding purposes. N/S does not accept any responsibility for the accuracy, errors and omissions on said drawings.

## GENERAL NOTES

1. ALL ELECTRICAL CONNECTIONS FROM CUSTOMER'S MAIN POWER SUPPLY TO N/S CONTROL PANEL ARE THE RESPONSIBILITY OF THE GEN. CONTRACTOR. ANY AND ALL LOCAL CODES ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
2. ALL PLUMBING CONNECTIONS TO MACHINE AND ALL EXTERNAL MACHINE PLUMBING ARE THE RESPONSIBILITY OF PLUMBING CONTRACTOR.
3. ALL AIR LINE CONNECTIONS TO MACHINE WHEN USED IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. MINIMUM AIR PRESSURE IS 100 PSI.
4. MINIMUM WATER SUPPLY TO MACHINE WITHOUT OPTIONAL PUMP SYSTEM IS 100 GPM AT 60 PSI.
5. ALL CONNECTIONS TO MACHINE SHALL BE FLEXIBLE. ALL CONNECTIONS TO AND FROM PUMP SYSTEM SHALL BE MADE FLEXIBLE.
6. WATER LINES TO BE GALVANIZED PIPE OR COPPER PIPE.
7. ALL GAS LINE CONNECTIONS TO MACHINE WHEN USED IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
8. ALL DUCTING TO AND FROM MACHINE WHEN USED IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
9. N/S RECOMMENDS THAT ALL CONNECTIONS COMING INTO OUR PANEL BOX SHOULD BE MADE INTO THE BOTTOM OF THE ENCLOSURE.
10. THE RECOMMENDED MINIMUM BREAKER AND REQUIRED AMPEREAGE ARE AS FOLLOW:

| ITEM | 208 V | |
|---|---|---|
| | F.L.A. | MIN. C/B |
| BASIC MACHINE (3-2HP MOTORS) FOR SYS-3100 | 22.5 A | 45.0 A |
| | | |

11. THE RECOMMENDED SIZE OF ANCHOR BOLTS FOR EQUIPMENT IS: 5/8"ø - 5" LONG ANCHOR BOLTS FOR A 6" THICK CONCRETE SLAB

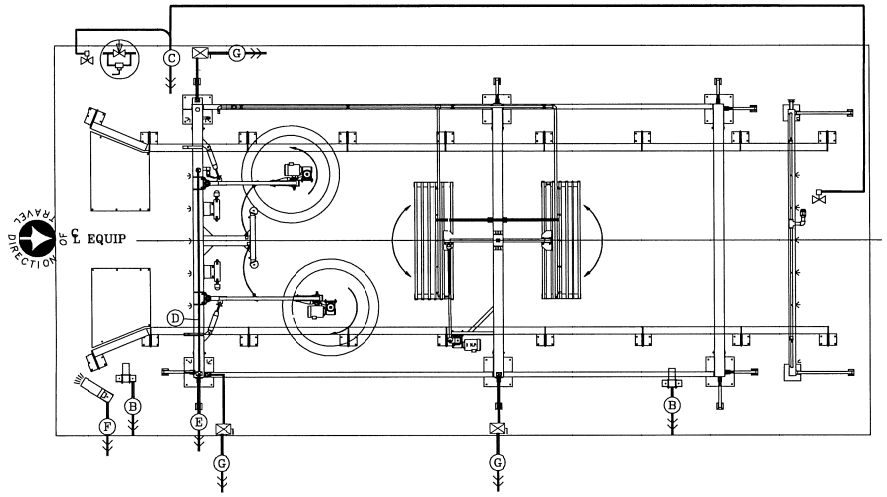
SYS-3100

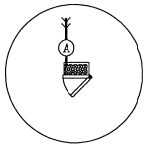
REVISIONS | DRAWN JOHN WONG | DATE 03/02/07 | SCALE 3/8"=1'

N/S Corporation

TITLE: METRA TRANSIT EQUIPMENT LAYOUT

DWG. No. 6797-E




LEGEND:

- ELECTRICAL LINE
- SOLENOID VALVE
- LOCAL DISCONNECT

## ELECTRICAL NOTES

(A)– 208V 3ø, 60HZ POWER FROM SOURCE TO MACHINE CONTROL PANEL (FOR (2) 2HP BRUSH MOTORS) BY ELECTRICAL CONTRACTOR.**MCP IS MOUNTED REMOTELY ON RIGHT SIDE WALL.**

(B)– (2 PLACES) 4 WIRES, CONDUIT AND 24VAC CONNECTION FROM MACHINE AND FINAL RINSE DIFFUSE ELECTRIC EYE ACTIVATION TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR. (RIGHT SIDE)

(C)– (2 PLACES) 2 WIRES, CONDUIT AND 24VAC CONNECTION FROM SOURCE AND FINAL RINSE SOLENOID VALVES TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.

(D)– 2 WIRES, CONDUIT AND 24VAC CONNECTION FROM LIMIT SWITCH TO AIR RETRACT CONTROL PANEL BY ELECTRICAL CONTRACTOR. (RIGHT SIDE)

(E)– 4 WIRES, CONDUIT AND 24VAC CONNECTION FROM AIR RETRACT CONTROL PANEL TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR. (RIGHT SIDE)

(F)– 3 WIRES, CONDUIT AND 115VAC CONNECTION FROM RED/GREEN ENTRANCE LIGHT TO MACHINE CONTROL PANEL BY ELECTRICAL CONTRACTOR.

(G)– (3 PLACES) 208V, 3ø, 60Hz WIRE, CONDUIT AND CONNECTION FROM MACHINE CONTROL PANEL TO BRUSH MOTOR J-BOX THROUGH NON-FUSED DISCONNECT (AS REQUIRED BY CODE) BY E.C.
**NON-FUSED DISCONNECT SUPPLIED BY E.C.**

NOTE:

1. PLAN SHOWS ELECTRICAL WORK TO BE PERFORMED BY ELECTRICAL CONTRACTOR AS PERTAIN TO CAR WASH EQUIPMENT.
2. ALL WORK SHOWN ON THIS DRAWINGS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND ALL WORK MUST CONFORM TO NATIONAL AND LOCAL CODES.
3. ELECTRICAL CONTRACTOR TO SUPPLY ALL CONNECTING WIRING, CONDUIT, FITTINGS ETC. AND MAKE CONNECTION AS SHOWN.

NOTE:

THE ELECTRICAL ROUTING IN THIS DRAWING IS IN DIAGRAM FORM. ROUTING OF WIRING IS BY ELECTRICAL CONTRACTOR.

These are only general drawings procuced with sole intent of showing the approximate location of equipment and utilities necessary to run said equipment. They are by no means to be considered complete or exact in detail. These drawings are produced as a service to assist the customer and his architect for preliminary planning and bidding purposes. N/S does not accept any responsibility for the accuracy, errors and omissions on said drawings.

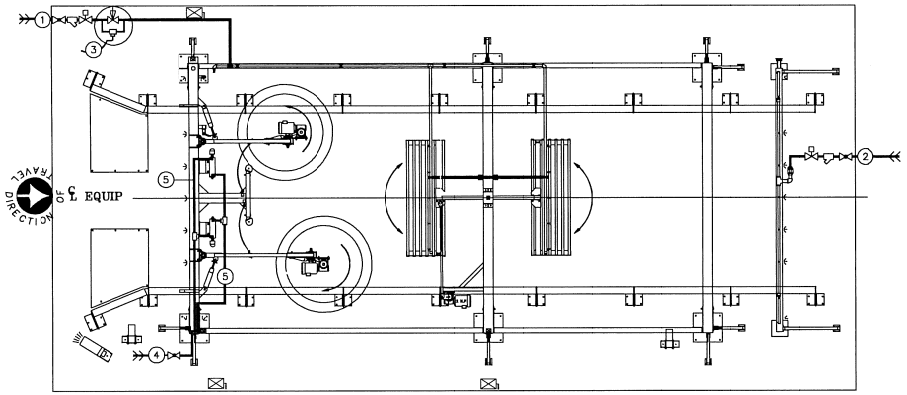
SYS-3100

DRAWN: JOHN WONG
DATE: 03/02/07
SCALE: 3/8"=1'

N/S Corporation

TITLE: METRA TRANSIT ELECTRICAL LAYOUT

DWG. No. 6797-L

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## PLUMBING NOTES

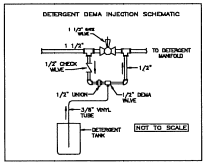
(1)– 1 1/2" ø GALV. PIPE OR COPPER PIPE WITH BALL VALVE, Y-STRAINER, SOLENOID VALVE, AND DEMA LOOP FROM SOURCE TO MACHINE MANIFOLD PLUMBED BY PLUMBING CONTRACTOR. **N/S TO SUPPLY SOLENOID VALVE AND DEMA LOOP.**

(2)– 1 1/2" ø GALV. PIPE OR COPPER PIPE WITH BALL VALVE, Y-STRAINER AND SOLENOID VALVE FROM SOURCE TO FINAL RINSE PLUMBED BY PLUMBING CONTRACTOR. **N/S TO SUPPLY SOLENOID VALVE.**

(3)– 3/8" ø VINYL TUBE FROM DETERGENT TANK TO DEMA INJECTOR PLUMBED BY ERECTOR. **N/S TO SUPPLY VINYL TUBE.**

(4)– 1/2" ø COMPRESSED AIR LINE WITH BALL VALVE, F.N.P.T., AND AIR TRIO FROM SOURCE TO AIR RETRACT CONTROL PANEL PLUMBED BY PLUMBING CONTRACTOR. **N/S TO SUPPLY AIR TRIO.** (RIGHT SIDE)

(5)– (4 PLACES) 3/8" ø BLACK FLEXIBLE AIR LINE FROM AIR RETRACT PANEL TO (2) AIR CYLINDERS (MOUNTED ON MACHINE) PLUMBED BY ERECTOR. **N/S TO SUPPLY AIR LINE.**




LEGEND:
- WATER LINE
- SOLENOID VALVE
- BALL VALVE
- DEMA INJECTOR
- TEE

NOTE:
1. PLUMBING CONTRACTOR IS TO PROVIDE ALL PIPING SHOW AND CALLED FOR ON THIS DRAWING, INCLUDING ALL CONNECTION TO EQUIPMENT.
2. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL AN APPROVED PRESSURE TYPE BACKFLOW DEVICE ON THE FRESH WATER LINE PRIOR TO ANY INDUSTRIAL WATER CONNECTIONS TO CAR WASH EQUIPMENT.
3. PLUMBER IS TO PROVIDE AND INSTALL A SHUT-OFF VALVE (BALL VALVE) AND UNION PRIOR TO ANY CONNECTION TO EQUIPMENT.
4. PLUMBER IS TO PROVIDE ANY ADDITIONAL VENTS THAT MAY BE REQUIRED BY CODE FOR DRAIN LINES.
5. ALL DUCTING IS TO BE DONE BY PLUMBING CONTRACTOR.

NOTE:
THE PLUMBING ROUTING IN THIS DRAWING IS IN DIAGRAM FORM.
ROUTING OF PLUMBING IS BY PLUMBING CONTRACTOR.

SYS-3100

REVISIONS
DRAWN JOHN WONG
DATE 03/02/07
SCALE 3/8"=1'

NS Corporation

TITLE METRA TRANSIT
PLUMBING LAYOUT

DWG. No. 6797-P