REQUEST FOR PROPOSALS
FOR THE MANUFACTURE AND DELIVERY OF HEAVY DUTY, LOW-FLOOR, ADA COMPLIANT TRANSIT BUSES

RFP 2018-01

Date: December 15, 2017
Contact: Wayne Bey, Procurement
Telephone Number: 859-814-2142
E-mail: wbey@tankbus.org
December 15, 2017

RFP 2018-01
FOR THE MANUFACTURE AND DELIVERY OF HEAVY DUTY, LOW-FLOOR, ADA COMPLIANT TRANSIT BUSES

NOTICE OF REQUEST FOR PROPOSALS

The Transit Authority of Northern Kentucky (TANK) is issuing this Request for Proposals (RFP) to award a competitive contract to a firm or firms to provide revenue vehicles (buses).

One original and eight (8) copies of the proposal package must be submitted no later than 3:00 PM EST on Friday, February 9, 2018. Only one (1) copy of the required Pricing Form shall be supplied and it shall be supplied in a separate envelope clearly marked “Pricing Form”. Please reference RFP #2018-01 on the submittal cover. Proposals received after the time specified may not be considered for award. Proposals received via facsimile (fax) or electronic mail (e-mail) may not be considered. Submitted proposals must be delivered or mailed to TANK, Attn: Wayne Bey, Procurement, at 3375 Madison Pk., Ft. Wright, KY 41017.

No person or entity submitting a proposal in response to this RFP, nor any officer, employee, agent, representative, relative or consultant representing such a person (or entity) may contact through any means or engage in any discussion concerning the award of this contract with any member of the TANK Board of Directors or any employee of TANK during the period beginning on the date of proposal issue and ending on the date of selection of the Contractor. Any such contact may be grounds for disqualification of the Proposer. Contact with TANK Procurement Department staff during such time period must be limited to site visits and written technical questions.

It is the policy of TANK to ensure that Disadvantaged Business Enterprises (DBEs), as identified in 49 CFR Part 26, have an equal opportunity to receive and participate in Department of Transportation (DOT)-assisted contracts. TANK will not discriminate with regard to race, national origin, creed, color, sex, age, disability or sexual orientation in consideration for an award.

For information and questions related to this RFP, contact Wayne Bey via email at wbey@tankbus.org. Any questions, requests for clarification/equal or comments concerning this RFP are due from Proposers on or before close of business (5:00 PM EST) on Friday, January 12, 2018. Questions, requests for clarification or general inquiries must be submitted in writing to Mr. Bey. If required, TANK’s response to these submissions will be in the form of an Addendum.
NO PROPOSAL REPLY FORM

RFP 2018-01
FOR THE MANUFACTURE AND DELIVERY OF HEAVY DUTY, LOW-FLOOR, ADA COMPLIANT TRANSIT BUSES

To assist TANK obtaining good competition on its Requests for Proposals, we ask that if you received an invitation but do not wish to propose, please state the reason(s) below and return this form to Wayne Bey, Procurement Department, TANK, 3375 Madison Pk., Ft. Wright, KY 41017.

This information will not preclude receipt of future invitations unless you request removal from the Proposer’s List by so indicating below.

Unfortunately, we must offer a “No Proposal” at this time because:

_____ 1. We do not wish to participate in the proposal process.

_____ 2. We do not wish to propose under the terms and conditions of the Request for Proposal document.
   Our objections are:

   __________________________________________________________
   __________________________________________________________

_____ 3. We do not feel we can be competitive.

   __________________________________________________________
   __________________________________________________________

_____ 4. We do not provide the services on which Proposals are requested.

_____ 5. Other: ______________________________________________

_____ We wish to remain on the Proposer’s list for these services.

_____ We wish to be removed from the Proposer’s list for these services.

FIRM NAME ____________________________________________

SIGNATURE ____________________________________________

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ANTICIPATED PROPOSAL SCHEDULE

RFP Advertised and Issued ............................. Friday, December 15, 2017

Final Questions and Requests for Clarifications/Equals Due to TANK .... Friday, January 12, 2018

TANK Response to Final Questions .......................... Friday, January 26, 2018

RFP Closing .................................................. Friday, February 9, 2018 at 3:00 PM

Demonstration Vehicle (will be requested, if necessary) ........ Week of Monday, February 11, 2018

Best and Final Offer (if necessary) ........................... Friday, February 23, 2018

Contract Award ................................................ Friday, March 16, 2018
Section I

SCOPE OF SERVICES

1. INTRODUCTION

The Transit Authority of Northern Kentucky (TANK) is the public transportation system that provides service to Boone, Campbell and Kenton Counties in Northern Kentucky as well as downtown Cincinnati, Ohio.

2. SCOPE OF SERVICE

TANK requests proposals for the manufacture and delivery of heavy-duty, low-floor, transit buses in accordance with the terms and conditions set forth in this RFP. The Contract shall be a firm fixed-price Contract.

2.1 Options and Option Pricing

TANK wishes to procure a quantity of buses for its revenue service. Buses shall be purchased as needed and as funding becomes available throughout the contract period of five (5) years. The initial order is expected to be for nine (9) buses. TANK will purchase as many as sixty (60) buses throughout the contract term, depending upon the availability of funding for this project. The current procurement schedule is as follows:

- 9 buses to be delivered in fiscal year 2019 (July 2018 through June 2019)
- 10 buses to be delivered in fiscal year 2020 (July 2019 through June 2020)
- 8 buses to be delivered in fiscal year 2021 (July 2020 through June 2021)
- 8 buses to be delivered in fiscal year 2022 (July 2021 through June 2022)
- 8 buses to be delivered in fiscal year 2023 (July 2022 through June 2023)

However, TANK and the other agencies listed in this RFP make no guarantee as to the maximum number of vehicles that will be purchased through this procurement. Once a contract has been awarded, the successful proposer will be issued a purchase order as a notice to proceed with the manufacture of any ordered units.

In addition, the following transit agencies have, based on their available funds, expected fleet replacements and other documents, determined their minimum coach requirements and future potential maximum purchases. Each transit agency is responsible for managing their options. Each of the agencies listed below is a permitted assignee, eligible to exercise options under this agreement, to be treated as the “Procuring Agency” in all respects under the contract, and is assigned and assumes all benefits and obligations accruing directly to it with respect to the exercised option.
<table>
<thead>
<tr>
<th>Transit Authority</th>
<th>Min Order</th>
<th>Max Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit Authority of River City (TARC)</td>
<td>2</td>
<td>120</td>
</tr>
<tr>
<td>Transit Authority of Lexington - Fayette Urban County Government (Lextran)</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>Southwest Ohio Regional Transit Authority (SORTA/Metro)</td>
<td>0</td>
<td>277</td>
</tr>
<tr>
<td>Paducah Area Transit System (PATS)</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Owensboro Transit Systems</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Frankfort Transit and Trolley</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Metropolitan Evansville Transit System</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Clarksville Transit System (City of Clarksville, TN)</td>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>

All Options shall be valid for a period of five (5) years from the effective date of the Contract. There shall be no minimum order quantity for any permissible assignee. Subject to the Agency’s right to order modifications, the Option Vehicles shall have the same specifications as the vehicles purchased under this Contract. The Agency may exercise the Options by written notice to the Contractor (“Notice of Exercise of Option”) at any time on or before five years following the effective date of the Contract (“Option Date”).

The price of the Option Vehicles shall be the unit price of the base order vehicles, ("Base Order Price") adjusted by multiplying the base order price by the following fraction:

\[
\frac{\text{Latest Published Preliminary Index Number Prior to Notice of Exercise of Option}}{\text{Index Number on Effective Date of the Contract}}
\]

The Index shall be the Producer Price Index for Truck and Bus Bodies, Series No. 1413, published by the United States Department of Labor Bureau of Labor Statistics, or if such Index is no longer in use, then such replacement that is most comparable to the Index as may be designated by the Bureau of Labor Statistics, or as agreed by the parties.

Within thirty (30) days after delivery of the Notice of Exercise of Option to the Contractor, the Contractor shall submit a proposed delivery schedule. Along with the proposed delivery schedule, the Contractor will provide the Agency with access to its production schedule for the purpose of the parties verifying available production capacity. The production schedule shall include a reasonable time for mobilization and for coordinating with other vehicle orders, and it shall be based upon a production rate at least equal to the production rate actually realized with respect to the base order vehicles. If the parties are unable to agree on a production schedule, the maximum term for the production of the Option Vehicles shall not exceed a total of 18 months after the date of Notice to Proceed with Option Vehicle production. The Agency or any permissible assignee may issue a Notice to Proceed at any time after the Contractor submits its proposed delivery schedule. The Contractor shall not commence production of the Option Vehicles prior to issuance of the Notice to Proceed by the Agency or any permissible assignee of the Agency for the Option Vehicles incorporating the agreed production delivery schedule or the 18-month maximum term.
Except as otherwise specifically provided in this Contract, all other terms of the Contract shall apply to the Option Vehicles.

2.2 Payment Terms

The Agency shall pay and the Contractor shall accept the amounts set forth in the price schedule as full compensation for all costs and expenses of completing the Work in accordance with the Contract, including but not limited to all labor, equipment and material required, overhead, expenses, storage and shipping, risks and obligations, taxes (as applicable), fees and profit, and any unforeseen costs.

All payments shall be made as provided herein, less any additional amount withheld as provided below and less any amounts for liquidated damages in accordance with “Liquidated Damages for Late Delivery of the Bus.”

The Agency shall make payments for buses at the unit prices itemized in the price schedule within 30 calendar days after the delivery and acceptance of each bus and receipt of a proper invoice.

The Agency shall make payments for spare parts and/or equipment at the unit prices itemized in the price schedule within 30 calendar days after the delivery and acceptance of said spare parts and/or equipment and receipt of a proper invoice.

The Agency shall make a final payment for all withholding within 30 calendar days of receipt of a final proper invoice and the following:

1. Delivery and acceptance of all Contract deliverables, including manuals and other documentation required by the Contract, excluding training.
2. Contractor provision of any certifications as required by law and/or regulations.
3. Completion of post-delivery audits required under the Contract.

2.2.1 Liquidated Damages for Late Delivery of the Bus

It is mutually understood and agreed by and between the parties to the Contract that time is of the essence with respect to the completion of the Work and that in case of any failure on the part of the Contractor to deliver the buses within the time specified in “Delivery Schedule,” except for any excusable delays as provided in “Excusable Delays/Force Majeure” or any extension thereof, the Agency will be damaged thereby. The amount of said damages, being difficult if not impossible of definite ascertainment and proof, it is hereby agreed that the amount of such damages due to the Agency shall be fixed at $75 per calendar day per bus not delivered within the time specified in the applicable agreed Delivery Schedule.

Prior to delivery, each vehicle shall be completely serviced by the contractor. Service shall include not less than the following: full fuel tank, lubrication, wash, and other checks and
adjustments required for proper complete servicing of a new vehicle. Each vehicle shall be ready for placement in service upon delivery and acceptance.

2.3 Condition of Equipment Proposed

This equipment shall be new and unused, of current production model, with the latest design features. The unit shall be delivered fully operational and ready for field use with all necessary maintenance equipment and accessories.

This equipment shall, in all respects, be equipped to operate legally on State highways, night and day, and shall, in all respects, conform to State and Federal regulations pertaining to the equipment herein described. All parts of this vehicle shall conform with the provisions of the State Vehicle Code, Federal Motor Vehicle Safety Standards, Motor Carrier Safety Regulations and requirements under the Americans with Disabilities Act (ADA) Final Guidelines for Transportation Vehicles, 49 CFR, Part 38, Subpart B in effect as of September 6, 1991 or as modified subsequently.

An adequate stock of repair parts and service facilities shall be readily available.

2.3.1 Post-Delivery Tests

The Agency will conduct acceptance tests on each delivered bus. These tests shall be completed within fifteen (15) days after bus delivery and shall be conducted in accordance with written test plans. The purpose of these tests is to identify Defects that have become apparent between the time of bus release and delivery to the Agency. The post-delivery tests shall include visual inspection and bus operations. No post-delivery test shall apply criteria that are different from the criteria applied in an analogous pre-delivery test (if any).

Buses that fail to pass the post-delivery tests are subject to non-acceptance. The Agency shall record details of all Defects on the appropriate test forms and shall notify the Contractor of acceptance or non-acceptance of each bus according to “Inspection, Testing and Acceptance” after completion of the tests. The Defects detected during these tests shall be repaired according to procedures defined in “Repairs after Non-Acceptance.”

2.3.2 Repairs after Non-Acceptance

The Contractor, or its designated representative, shall perform the repairs after non-acceptance. If the Contractor fails or refuses to begin the repairs within five (5) days, then the Work may be done by the Agency’s personnel with reimbursement by the Contractor.

2.3.3 Repairs by Contractor

After non-acceptance of the bus, the Contractor must begin Work within five (5) working days after receiving notification from the Agency of failure of acceptance tests. The Agency shall make the bus available to complete repairs timely with the Contractor repair schedule.
The Contractor shall provide, at its own expense, all spare parts, tools and space required to complete the repairs. At the Agency’s option, the Contractor may be required to remove the bus from the Agency’s property while repairs are being made. If the bus is removed from the Agency’s property, repair procedures must be diligently pursued by the Contractor’s representatives, and the Contractor shall assume risk of loss while the bus is under its control.

2.3.4 Repairs by the Agency

The Agency will not take responsibility to correct Defects, except to replace defective parts as instructed by the Contractor.

1. Parts used. If the Agency performs the repairs after non-acceptance of the bus, it shall correct or repair the Defect and any Related Defects using Contractor-specified parts available from its own stock or those supplied by the Contractor specifically for this repair. Reports of all repairs covered by this procedure shall be submitted by the Agency to the Contractor for reimbursement or replacement of parts monthly, or at a period to be mutually agreed upon. The Contractor shall provide forms for these reports.

2. Contractor-supplied parts. If the Contractor supplies parts for repairs being performed by the Agency after non-acceptance of the bus, these parts shall be shipped prepaid to the Agency.

3. Return of defective components. The Contractor may request that parts covered by this provision be returned to the manufacturing plant. The total costs for this action shall be paid by the Contractor.

4. Reimbursement for labor. The Agency shall be reimbursed by the Contractor for labor. The amount shall be determined by the Agency for a qualified mechanic at a straight time wage rate of $130 per hour, which includes fringe benefits and overhead adjusted for the Agency’s most recently published rate in effect at the time the Work is performed, plus the cost of towing in the bus, if such action was necessary. These wage and fringe benefits rates shall not exceed the rates in effect in the Agency’s service garage at the time the Defect correction is made.

5. Reimbursement for parts. The Agency shall be reimbursed by the Contractor for defective parts that must be replaced to correct the Defect. The reimbursement shall include taxes where applicable and fifteen (15) percent handling costs.

2.4 Deliveries

2.4.1 Bus Delivery

Delivery of buses shall be determined by signed receipt of the Agency’s designated agent(s) at the following point of delivery and may be preceded by a cursory inspection of the bus: 3375 Madison Pike, Ft. Wright, Kentucky 41017. Buses purchased through this contract by one of the other agencies listed in this RFP will be delivered in coordination with that agency.
2.4.2 Delivery Schedule

The buses shall be delivered at a rate not to exceed six (6) buses per week. Delivery shall be completed within 18 months of receipt of a purchase order. Hours of delivery shall be between 8:00 AM and 4:00 PM Eastern Time Monday through Friday.

2.5 Items to be Provided upon Delivery

The following items must be furnished by the successful proposer upon delivery of each vehicle:

- All warranty verification vouchers, certificates or coupons
- Operator’s manual(s) for vehicle and all add-on equipment (See Section 3 Technical Specifications for specifics)
- Drawings showing wiring of auxiliary circuits, and/or modifications of standard vehicle wiring which would not be included in the standard vehicle maintenance manual
- Completely filled fuel tank(s)
- Complete vehicle maintenance and parts manuals (3 sets for each model year)
- Assurance of compliance with manufacturer’s pre-delivery service
- Any maintenance and inspection schedules for the basic vehicle and its subsystems and any add-on equipment
- All required documents, completely executed by the manufacturer/dealer
- Training schedule and all training material
- One (1) spare tires mounted on a spare wheel/rim
- Two (2) additional spare wheels/rims
- All applicable software
- All applicable/selected hardware (cables, modules, screens, etc.)
- Additional keys

2.6 Parts Availability Guarantee

The Contractor hereby guarantees to provide, within reasonable periods of time, the spare parts, software and all equipment necessary to maintain and repair the buses supplied under this Contract for a period of at least fifteen (15) years after the date of acceptance. Parts shall be interchangeable with the original equipment and shall be manufactured in accordance with the quality assurance provisions of this Contract. Prices shall not exceed the Contractor’s then-current published catalog prices.

Where the parts ordered by the Agency are not received within two working days of the agreed-upon time and date and a bus procured under this Contract is out of service due to the lack of said ordered parts, then the Contractor shall provide the Agency, within eight (8) hours of the Agency’s verbal or written request, the original Suppliers’ and/or manufacturers’ parts numbers, company names, addresses, telephone numbers and contact persons’ names for all of the specific parts not received by the Agency.
Where the Contractor fails to honor this parts guarantee or parts ordered by the Agency are not received within thirty (30) days of the agreed-upon delivery date, then the Contractor shall provide to Agency, within seven (7) days of the Agency’s verbal or written request, the design and manufacturing documentation for those parts manufactured by the Contractor and the original Suppliers’ and/or manufacturers’ parts numbers, company names, addresses, telephone numbers and contact persons’ names for all of the specific parts not received by the Agency. The Contractor’s design and manufacturing documentation provided to the Agency shall be for its sole use in regard to the buses procured under this Contract and for no other purpose.

2.7 Agency-Furnished Property

In the event that equipment or other goods or materials are specified in the Technical Specifications to be furnished by the Agency to the Contractor for incorporation in the Work, the following provisions shall apply:

The Agency shall furnish the equipment, goods or materials in a timely manner so as not to delay Contract delivery or performance dates. If Agency-furnished property is received in a condition not suitable for the intended use, then the Contractor shall promptly notify the Agency, detailing the facts, and at the Agency’s expense repair, modify, return or take such other action as directed by the Agency. The parties may conduct a joint inspection of the property before the Contractor takes possession to document its condition.

The Agency retains title to all Agency-furnished property. Upon receipt of the Agency-furnished property, the Contractor assumes the charge and care of the property and bears the risk of loss or damage due to action of the elements or from any other cause. The Contractor shall provide appropriate protection for all such property during the progress of the Work. Should any Agency-furnished equipment or materials be damaged, such property shall be repaired or replaced at the Contractor’s expense to the satisfaction of the Agency. No extension of time will be allowed for repair or replacement of such damaged items. Should the Contractor not repair or replace such damaged items, the Agency shall have the right to take corrective measures itself and deduct the cost from any sums owed to the Contractor.

Warranty administration and enforcement for Agency-furnished equipment are the responsibility of the Agency, unless the parties agree to transfer warranty responsibility to the Contractor.
3. TECHNICAL SPECIFICATIONS

These Technical Specifications cover requirements for Low Floor Heavy Duty Transit coaches which may be used for rural and urban transit service operations on urban streets and rural roadways in the general environmental and climatic conditions prevailing throughout different regions of the United States. It is intended for the widest possible spectrum of adult passengers, elderly, and the handicapped.

It is the intent of this specification to describe the design requirements for a Heavy Duty Transit coach rugged enough to withstand rigorous intensive daily transit service operations and provide maximum reliability and availability, with a minimum of maintenance and repair time. The coach shall exhibit maximum passenger appeal in appearance, comfort and safety, combined with excellence in reliability, operating characteristics, efficiency, and economy of operation.

The coach shall be fully compliant with the applicable requirements of the Americans with Disabilities Act (ADA) and any revisions published by the Architectural and Transportation Barriers Compliance Board or The Federal Transit Administration for fixed route operations. Where these specifications exceed the requirements of ADA, the specification requirement shall apply.

Included in this specification is the general description for low floor 30, 35, and 40 foot heavy-duty transit coaches along with different configuration options.

3.1 DIMENSIONS

Below are the general dimensions expected for low-floor 30, 35, and 40 foot heavy-duty transit coaches. The proposer should clearly indicate on each bus description form (Section 7) any deviations from the dimensions listed below.

<table>
<thead>
<tr>
<th>Low Floor Coach</th>
<th>40 feet</th>
<th>35 feet</th>
<th>30 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length:</td>
<td>40 feet</td>
<td>35 feet</td>
<td>30 feet</td>
</tr>
<tr>
<td>Width:</td>
<td>102 inches</td>
<td>102 inches</td>
<td>102 inches</td>
</tr>
<tr>
<td>Height:</td>
<td>114.5 inches</td>
<td>114.5 inches</td>
<td>113.5 inches</td>
</tr>
<tr>
<td>Seating Capacity:</td>
<td>39</td>
<td>32</td>
<td>26</td>
</tr>
<tr>
<td>Floor Height:</td>
<td>15.75 inches</td>
<td>15.75 inches</td>
<td>15.75 inches</td>
</tr>
<tr>
<td>Front Step Height:</td>
<td>15 inches</td>
<td>15 inches</td>
<td>15 inches</td>
</tr>
<tr>
<td>Head Room Maximum:</td>
<td>95 inches</td>
<td>95 inches</td>
<td>95 inches</td>
</tr>
<tr>
<td>Aisle Width Minimum:</td>
<td>25 inches</td>
<td>25 inches</td>
<td>26 inches</td>
</tr>
<tr>
<td>Wheel Base:</td>
<td>284 inches</td>
<td>235 inches</td>
<td>162.5 inches</td>
</tr>
<tr>
<td>Turning Radius (front body corner) maximum:</td>
<td>40.5 feet</td>
<td>36.10 feet</td>
<td>29.9 feet</td>
</tr>
<tr>
<td>Approach Angle:</td>
<td>9 degrees</td>
<td>9 degrees</td>
<td>9 degrees</td>
</tr>
<tr>
<td>Departure Angle:</td>
<td>9 degrees</td>
<td>9 degrees</td>
<td>9 degrees</td>
</tr>
<tr>
<td>Curb Weight Max. GVW:</td>
<td>29,000 lbs.</td>
<td>27,000 lbs.</td>
<td>21,980 lbs.</td>
</tr>
<tr>
<td>Vehicle Weight Max. GVWR:</td>
<td>39,600 lbs.</td>
<td>39,600 lbs.</td>
<td>31,000 lbs.</td>
</tr>
</tbody>
</table>
3.2 REQUIREMENTS

Coaches are to be used in rural and urban areas, but at the same time must be able to maintain speeds up to 65 MPH for relatively long distances between stops. Coaches shall be able to maintain a minimum of seven (7) MPH on a fifteen percent (15%) grade when loaded to GVWR.

Coaches shall incorporate features essential for safe, fast, efficient and comfortable operation by the operator, features that ensure excellent road and traffic visibility under all driving conditions and adequate means for safe passenger movement. The coach shall be made capable of easy maneuvering in normal and heavy traffic.

3.3 MAINTENANCE AND INSPECTION

Scheduled maintenance tasks shall be related and shall be grouped in maximum mileage intervals. Routine scheduled maintenance actions, such as filter replacement and adjustments, shall not be required at intervals of less than 6,000 miles, except for routine daily service performed during the fueling operations. Higher levels of scheduled maintenance tasks shall occur at even multiples of mileages for lower level tasks.

3.4 OPERATING ENVIRONMENT

The coach shall achieve normal operation in the environmental conditions normally occurring in the area in which TANK is located in temperature ranges of -10o F to 120o F, at relative humidity between five (5) percent and 100 percent, and at altitudes up to 5,000 feet above sea level.

3.5 CONFORMITY

All Proposers must conform to these specifications and the product they furnish shall be of first-class quality and the workmanship shall be the best obtainable in various trades. The design of the body, chassis and equipment which the manufacturer proposes to furnish shall be such as to produce a coach of substantial and durable construction in all respects.

No advantage shall be taken by the manufacturer in the omission of any part or detail which goes to make the coach complete and ready for service, even though such parts or detail are not mentioned in these specifications.

All units or parts not specified shall be manufacturer's standard units. In all cases, material must be furnished as specified, but if the term, "approved equal" or “equal” is used, the Contractor must provide information about the item and any substitution will still be subject to the purchasing agency’s approval prior to use. It does NOT require approval for submitting the proposal.
3.6 RESPONSIBILITY

Coach manufacturer shall assume responsibility for all material and accessories in the coach, whether the same are made by coach manufacturer or purchased ready-made from an outside source.

3.6.1 General Testing

The coach provided shall be fully tested to assure compliance with the performance and safety requirements of the specifications. At the option of the purchasing agency, Proposer may be required to provide test results and/or certifications insuring compliance with the requirements of the specifications. Certifications or written documentation outlining test procedures and results shall be prepared by a Professional Engineer and/or test laboratory certifying compliance with the requirements of the appropriate section of the technical specification and shall be provided by the Proposer for approval by the purchasing agency.

Proposer may be required to demonstrate compliance with any of the performance requirements of the technical specifications. Minimum testing that shall be required includes:

- Cooling System Performance
- AC Performance
- Acceleration
- Gradeability
- Internal Noise
- External Noise
- Passenger Door(s) Opening and Closing Speeds
- Lighting Levels
- Turning Radius
- Water Test

3.7 INTERNAL NOISE

Maximum internal noise shall not exceed eighty (80) DBA in areas "1", "2", and "3", and no more than eighty-three (83) DBA in area "4" as described below. Sound levels within the coach shall be measured with all doors and windows closed and all vehicle equipment operating. If some equipment operates on a cyclic basis, the sound level shall be measured with all equipment functioning simultaneously to determine the worst case noise level.

Measurements shall be made with the vehicle empty, except for test personnel and equipment. Not more than three (3) persons shall occupy the vehicle during the measurements.

Measurements shall be made at a height of four feet (4') above the floor and directly above the center line of the seats at the following locations:
• The operator's seat;
• The foremost passenger seat at the centerline of the coach;
• The seat nearest the center of the coach, and at the coach centerline; and
• The rear-most seat at the centerline of the coach.

Accelerate the coach at full throttle from standstill to automatic transmission shift speed. Gear or range must be selected so that terminating test speed is sixty-five (65) miles per hour. Observe and record maximum sound level during this operating mode. The sound level recorded shall be the average of at least four (4) readings.

Measurements shall be taken where there are no reflecting or absorbing surfaces to change the sounds emitting from the vehicle.

3.8 EXTERNAL NOISE

Airborne noise generated by the coach and measured from either side shall not exceed 83 DBA under full power acceleration when operated at or below 35 mph at curb weight and just prior to transmission upshift. The maximum noise level generated by the coach pulling away from a stop at full power shall not exceed 83 DBA. The coach generated noise at curb idle shall not exceed 65 DBA. If the noise contains an audible discrete frequency, a penalty of five (5) DBA shall be added to the sound level measured. All noise readings shall be taken 50 feet from the perpendicular to the centerline of the coach with all accessories operating. Instrumentation, test sites, and other general requirements shall be in accordance with SAE Standard J366. The pull-away test shall begin with the front bumper even with the microphone. The curb idle test shall be conducted with the rear bumper even with the microphone.

3.9 CRASHWORTHINESS

The coach body and roof structure shall withstand a static load equal to 150 percent of the curb weight evenly distributed on the roof with no more than a six (6) inch reduction in any interior dimension. Windows shall remain in place and shall not open under such a load.

The coach shall withstand a 25 mph impact by a 4,000 pound post-1973 American automobile at any point, excluding doorways, along either side of the coach with no more than three (3) inches of permanent structural deformation at seated passenger hip height. This impact shall not result in sharp edges or protrusions in the coach interior.

Exterior panels below the rub rail and their supporting members shall withstand a static load of 2,000 pounds applied perpendicular to the coach anywhere below the rub rail (on standard floor coach only) by a pad no larger than five (5) inches square. This load shall not result in deformation that prevents installation of new exterior panels to restore the original appearance of the coach.

The coach, at GVWR and under static conditions, shall not exhibit deformation or deflection that impairs operation of doors, windows, or other mechanical elements. Static conditions include the
vehicle at rest with any one wheel or dual set of wheels on a six (6) inch curb or in a six (6) inch deep hole.

All structure, body, and panel-bending mode frequencies, including vertical, lateral, and torsional modes, shall be sufficiently removed from all primary excitation frequencies to minimize audible, visible, or sensible resonant vibrations during normal service.

The standard floor bus rub rails shall be capable of withstanding impacts of 200 foot pounds of energy from a steel faced spherical missile no less than nine (9) inches in diameter and of a 500 pound load applied anywhere along their length by a rigid plate one (1) foot in length, wider than the rub rail and with one (1) inch end radii with no visible damage to the rub rail, retainer, or supporting structure. A damaged portion of the rub rail shall be replaceable without requiring removal or replacement of the entire rub rail. The low floor bus does not require rub rails.

To protect passengers seated in low floor area, the basic low floor coach structure shall incorporate a substantial side impact barrier. The barrier shall include steel plate, continuous between the front wheel arches and the rear suspension (except in the width of the exit door opening).

The impact barrier shall be an integral welded part of the undercarriage portion of the coach structure, and shall be angled such that vehicles impacting the coach side will tend to subvert.

To further increase both passenger safety and repairability, robust welded structures are required between the angled barrier and the coach side skins. These shall be designed to dissipate collision energy.

3.10 MATERIAL

All materials used in construction of the coach and all its parts shall conform in all respects to American Society of Testing Materials, Society of Automotive Engineers, or similar association standards. Materials used shall be exact duplicate in manufacture, design and construction on each coach model.

Reinforced fiberglass and plastic materials shall be excluded from the basic body construction, except for replaceable panels, doors, and front and rear caps.

All lumber shall be thoroughly kiln dried free from knots and checks and shall be of clear straight grain, dressed on all sides.

All painted aluminum sheets shall be thoroughly cleaned and coated on the outside with PPG DPU Low VOC primer, or approved equal, prior to assembly in coach.

All joints shall be protected by application of PPG DPU Low VOC primer, Butyl Tape Sealer, or approved equal, at assembly.
Plywood shall be of a marine grade with sealed waterproof edges.

All bolts, nuts, washers and exposed linkage shall be zinc, cadmium plated or phosphate coated to prevent corrosion.

All bolts, nuts, and washers shall SAE Grade five (5) or better.

### 3.11 CORROSION

The vehicle shall resist corrosion from atmospheric conditions and road salts. It shall maintain structural integrity and nearly maintain original appearance throughout its service life, provided it is maintained in accordance with the procedures specified in the manufacturer's service manual by TANK. Materials exposed to the elements and all joints and connections of dissimilar metals (and remote from each other in the galvanic series), shall be corrosion-resistant and shall be protected from galvanic corrosion.

The entire body frame assembly, access doors, fenders, cab, underbody, wheel housings, lower skirt panels, including closed-off body panel sections, the interior of tubing structure and all welds shall be treated and rust-proofed with a commercial grade heavy-duty rust-proofing material. All metal body parts shall be given a thorough multiple-stage anti-corrosion treatment. The product used shall be listed as a qualified product under Mil Spec C-62218, Mil Spec C-0083933A (MR). Zinc chromate or zinc phosphate prime paint shall be applied to both aluminum and steel. Body panels that are one-side galvanized, two-side galvanized, two-side iron-zinc alloy, zincormetal, aluminum or tin coated, etc., or treated in any other method or procedure currently accepted by the commercial vehicle industry, are acknowledged as meeting this requirement and need no further treatment, except for finish prime/paint or undercoating where applicable. Representative samples shall withstand a two-week salt spray test in accordance with ASTM Procedure B-117 with no visual or structural detrimental effects to normally visible surfaces, and no significant structural degradation or weight loss of over one (1) percent for other members or components.

### 3.12 UNDERCOATING

Except as noted below, the entire body lower frame assembly, cab, underbody, understructure/frame, chassis, fenders, wheel housings, and lower skirt panels shall be completely undercoated.

Undercoating shall be PPG Corashield 7972 material. Undercoating shall be applied to a uniform thickness throughout with no bare spots.

Items and components that shall not be undercoated include non-metallic fender and engine, transmission, driveshaft(s), differential/axle housing, brakes, lube fittings, exhaust system, and power steering.

### 3.13 AXLES
Both front and rear axles shall have the load rating for the gross loads equal to or greater than the coach builder requires them to carry. The gross load shall include curb weight plus seated and standee passengers with the average weight of each passenger to be 150 pounds. Front and rear axles for the coaches shall have the highest GVWR capacity available. Front and rear hubs shall be of steel construction.

3.13.1 Front Axle

- Front axle shall be designed with proper wheel and axle geometry so that imperfect front axle operation will not be encountered in service.
- Front axle shall be 14,600 lbs., minimum rating.
- For 30’ low floor coach, axle shall be 10,000 lbs., minimum rating.
- Wheel bearings shall utilize "wet" lubrication.

3.13.2 Rear Axle

- Rear axle shall have minimum rated capacity of 26,000 lbs.
- For 30’ low floor coach, axle shall be 21,000 lbs., minimum rating.
- The rear axle shall be a heavy-duty, full floating type, Meritor Standard, or approved equal, incorporating a spiral bevel drive. The axle housing shall be a steel stamping and located to the roadside of the axle center. End tubes shall be removable and shall be threaded to allow for adjustment of wheel bearing nuts. The housing drain plug shall be magnetic.
- The differential carrier shall incorporate the differential assembly, drive pinion and pinion cage. Carrier shall be removable as a complete unit from the axle housing.
- The four (4) pinion differential gears shall be carried in a two-piece case mounted on tapered roller bearings. Torque nuts and bolts are used to mount the dowel gear drive to the flanged half of the differential case.
- Axle shafts shall be the floating type with all wheel bearing loads carried on the axle housing end sleeves.
- The drive flanges at the outer end shall be attached to hub-piloted wheels.
- Wheel bearings shall utilize "wet" lubrication.

3.13.3 Rear Axle Gear Ratio

The differential gear ratio is subject to approval by procuring transit agency prior to production after reviewing performance computer generated models.

3.13.4 Hubodometer

A Veeder Root Mechanical Hubodometer (no tenths), or approved equal shall be installed, with the correct bracket, on curbside rear axle flange studs with guards.
3.14 BRAKES

3.14.1 General

Each coach must be equipped with both service and emergency brakes.

3.14.2 Brake Chambers

Brake chambers shall be Anchorlok or MGM or approved equal.

Brake chambers shall be equipped with manufacturer's standard diaphragm and spring. Brake system shall be balanced to provide safe stop operation.

3.14.3 Service Brakes

Coaches shall be equipped with Meritor Disc brake systems or approved equal, which conform to the requirements of all Federal and State regulations, designed so such conformance can be maintained throughout the normal adjustment cycle. A supplemental brake (transmission retarder) shall also be provided. The supplemental braking shall not be used in meeting regulatory criteria. The braking system shall include service brakes, a parking and emergency brake.

Service air brakes shall be furnished on all wheels of each coach. The brake system shall be approved by the purchasing agency.

Control - The driver's brake pedal shall control the service brake and the supplemental brake in a coordinated manner to give a total braking effort depending on the position of the pedal up to the maximum capability of the braking system. The control shall make maximum practical use of the supplemental brake to minimize brake fade and to achieve maximum brake lining lifetimes. Braking forces shall be proportioned among the axles to assure balanced braking and equalize lining life between axles. Braking shall be initiated at the second axle.

Brake lights shall be activated as soon as the brake pedal is depressed only.

Meritor Disc Brake - Front and rear standard Meritor Disc brake systems shall be furnished on all wheels with standard Meritor components. Other brake configurations, such as drum style brakes may be supplied with the prior approval.

Brake Adjustment - Brake system shall provide automatic adjustment to compensate for pad wear with standard Meritor Disc Brake system components.

Brake Hoses - Brake hoses shall be installed in locations where the possibility of damage is minimized. Hoses shall be clamped and supported by the coach structure to minimize long unsupported hose lengths and to eliminate rubbing and/or chafing.
3.14.4 Emergency Brake

Coach shall be equipped with spring brakes Anchorlok or MGM with manual "wind-off", or approved equal, capable of bringing the coach to a stop from a speed of twenty (20) miles per hour at a deceleration rate equivalent to a stop within sixty feet (60') with a seated passenger load. Brake valve to be PP-1 40 PSI setting.

3.14.5 Brake Retarder

Transmission shall have an integral brake retarder.

Retarder ON-OFF Toggle switch shall be mounted inside the electrical junction box above the driver.

3.15 AIR SYSTEM

3.15.1 Air Compressor

Air compressor shall be a Wabco / Cummins or approved equal, with capacity of 30.4 cfm minimum.

Compressor shall be gear driven by the engine.

3.15.2 Air Governor

Air Governor shall be Bendix-Westinghouse "D-2" type, or approved equal.

3.15.3 Air Tanks

Air reservoirs shall be of adequate capacity for supplying the air volume needs of the coach. First tank shall be equipped with a Bendix #800691 PUROGUARD System filter and an automatic air dryer Sludge Breaker QBA15, or approved equal, and shall operate in conjunction with the air governor or relay valve. All air tanks shall be equipped with drain valves.

There shall be low-air pressure switches located on the air tanks. They shall monitor the primary and secondary reservoir air pressure.

In combination with the visual and audible signals, there shall be single, dual needle air pressure gauge reading the pressures of the primary (rear brake) and secondary (front brake) reservoirs.
3.15.4 Brake Lines Body Mounted

All air lines shall be synflex nylon tubing, color coded or approved equal. Lines shall be securely mounted to frame to prevent chafing or wear. Clamps shall be of proper size. Lines shall be protected at clamps with heat resistant material.

The main air line between the air compressor and first air tank shall be minimum three-fourths inch (3/4”) I.D.

Rubber grommets shall be used at all points where air lines pass through bulkheads or any supports.

All air lines shall be protected to prevent freezing in cold weather.

All clamps, fittings, etc., must be easily accessible and installed in such a manner that they are easily removed and replaced.

3.15.5 Brake Lines at Wheel

Flexible brake lines shall be Parker 293 or approved equal, with nut and sleeve type fittings. They shall be of adequate length to prevent any strain, regardless of relative motion between brake valve and brake chamber, without allowing chafing or rubbing.

3.15.6 Brake Relay Valve

A brake relay valve shall be provided. It shall be Bendix-Westinghouse R-12, or approved equal.

3.15.7 Check Valve

A check valve shall be provided between #1 and #2 tanks, adjacent to the second tank, and accessible for service.

3.15.8 Discharge Line

Discharge line to first tank shall be #12, three-fourths inch (3/4”) O.D. Teflon hose with braided stainless steel jacket and shall be properly supported every two feet to prevent chafing or damage and so assembled that the line will be free of sharp bends, and will drain all moisture into the reservoir. Discharge line on the low floor bus shall be a #16 hose.

3.15.9 Emergency Brake Control Valve

The control valve shall be located to the left and adjacent to the driver for safe, convenient access. The valve shall be a Bendix Westinghouse type PP1, with 40 PSI setting, or approved equal.
3.15.10 **Interlock Valves, Door, Accelerator and Brake**

Door, accelerator and rear brake interlock valves shall be mounted to minimize length of air lines.

3.15.11 **Towing-Air Line Connector**

An airline connector (Shrader or approved equal) shall be installed on the front end of the coach.

3.15.12 **Switch, Low Air Pressure**

The switches shall be connected in parallel and shall trigger a red indicator "LOW AIR" light and an audible alarm when the air pressure of any reservoir is below 90 p.s.i.

3.16 **COOLING**

3.16.1 **Radiator**

The radiator shall be of durable corrosion resistant construction, with long life aluminum core and cast aluminum tanks. Radiator piping shall be stainless steel or brass tubing, and, if practicable, rubber hoses shall be eliminated. Necessary hoses shall be premium silicone rubber types that are impervious to all coach fluids.

All components (Radiator, charge air cooler and Hydraulic oil cooler) should be “E-coated”.

3.16.2 **Filler Neck and Cap**

The sealed cooling system shall be provided with self-unloading valve to prevent extreme pressure from injuring cooling system.

A manual pressure release valve shall also be provided.

3.16.3 **Surge Tank**

Heavy-duty copper, brass (stress relieved), or stainless steel radiator surge tank shall be provided and mounted above the radiator and easily accessible for service. Sight glass shall be provided to allow check of fluid level without opening system. Filler cap shall be hinged type.

3.16.4 **Water Pump**

Water pump shall have sufficient capacity to prevent any hot spots under all operating conditions.
3.16.5 Fan and Drive

A thermostatically controlled EMP Gen IV MH5 Fan system or approved equal is required.

3.16.6 Hose

Engine water and heater hoses shall be premium quality Armet or Flex-Fab or approved equal silicon hose. All hoses shall be protected from engine heat which may cause premature failure.

3.16.7 Hose Clamps

All hose clamps shall have constant tension. Hose clamps shall be 1/2 inch wide minimum, stainless steel worm type, and socket tightened with collar. Breeze or approved equal.

3.16.8 Coolant

Coolant shall be Fleetguard antifreeze, with rust inhibitor Nal-Cool 3000, or approved equal. Coolant shall be 50-50 ethylene-glycol.

3.17 ELECTRICAL

3.17.1 Compliance with Regulations

Turn signals and all interior and exterior lights shall meet all State and Federal requirements.

3.17.2 Alternator and Regulator

The alternator shall be sized to supply the entire nighttime operating electrical load of the coach while providing at least 20 percent of its current output for battery charging when the battery is fully discharged. The alternator shall be a Niehoff C803 rated at 500 amps, or approved equal with an external electronic voltage regulator.

3.17.3 Backup Alarm

An electrical backup alarm producing an intermittent sound or a buzzer connected with backup lights shall be furnished. It shall be loud enough to be heard when the engine is running, yet not be too loud to annoy persons in their homes.

3.17.4 Battery

The term battery means four or more heavy duty top quality “AGM” battery units mounted side by side in a battery compartment. Batteries shall be by "Odyssey” maintenance free or approved equal. The configuration for the battery is four battery units size Group 31, 12 volt. Battery units shall have polypropylene cases and top mount terminals. For ease in handling, no single battery unit shall exceed 155 pounds (70 kg). Batteries shall be stamped with the date of manufacture.
Batteries shall not be abused or quick charged before delivery. Batteries shall be new when the coach is delivered.

Despite the battery configuration stated above, the Proposer shall be responsible for analysis of the loads and selecting a battery of adequate capacity to supply them. Other battery configurations may be used.

### 3.17.5 Battery Terminals/Wiring

The battery wiring shall be terminated with properly sized ring terminals. The cable shall be permanently marked with a "+" and "-" at the battery end. Cables shall be extra flexible and routed in the battery box so as not to chafe or rub on the battery tray and other components. Cable ends shall be sealed to eliminate corrosion from battery acid and/or fumes. Cable ends shall be attached to the battery studs with non-corroding flat washers, spring washers and brass nuts. The positive battery terminal shall be a 3/8 NC top stud and the negative terminal shall be a 3/8 NC top stud. Stud length shall be 1 inch (25 mm) as measured from the terminal face. Cable ends will be coated with a corrosion inhibitor after being attached to the batteries.

### 3.17.6 Electrical Panel

Circuit breakers shall be provided to sectionalize and protect all branch circuits of the electrical system of each coach.

To the maximum practical extent, electrical distribution and control devices shall be grouped on an electrical panel arranged for ease of access, test, and replacement of components. The panel shall be large enough to avoid crowding of the components and leads. Component heat build-up shall not affect the components or mounting locations. There shall be a test plug receptacle for electronically diagnosing the engine using portable instruments.

A durable diagram shall be mounted, in the electrical panel, that identifies the components and their function. Relays and circuit breakers shall be permanently labeled to correspond to this diagram. Switch controlled lights shall be provided to illuminate the main electrical panel.

### 3.17.7 Multi-Plex System Electrical. Dinex-MPX

The main coach controller (MBC/HCNC) shall be located at the rear electrical enclosure panel (rear bulkhead). Additional DIO's (digital Input/Output Module) will be located above the exit door, air tank compartment, driver's console, and in the rear electrical enclosure panel. The indicator lamp strip module shall be integrated into the multiplexing system to receive commands from the master module to turn appropriate indicator lights on and off according to programming commands. The system shall be connected by a "ring loop" hookup.
3.17.8 Electrical Main Switch

An electrical main switch shall be provided to positively disconnect the battery from electrical loads when the coach is not in use or in emergency situations. The switch shall be located in an outside compartment which requires no tool(s) for access. The switch shall be totally sealed in its own sub-compartment. It is preferred that the switch handle be non-removable. If the switch handle is removable, it shall be attached to the switch housing using a small corrosion proof metal cable. Emergency flasher and radio power circuitry shall be independent of the main switch.

3.17.9 Main Switch Circuit Breaker

A manually reset circuit breaker capable of interrupting a major short circuit shall be supplied on the positive side of the batteries. The breaker shall be located near the batteries in an easily accessible location, sealed from water and battery fumes.

3.17.10 Battery Jumper Terminals

There shall be a set of battery jumper terminals located next to the battery electrical main switch and a set located in an easily accessible location in the engine compartment. These connectors shall be Anderson Model 350 (Red) or approved equal. The positive terminal shall be red in color and the negative terminal shall be black. The metal housing face where the terminals are attached shall be permanently marked "+" and "-" by etched metal.

3.17.11 Towing Connector

An electrical receptacle shall be provided behind the front bumper of each coach, adjacent to the air connector described elsewhere in this section, to receive power for illuminating the tail lights, stop light and directional signals from a towing vehicle. The receptacle shall be a 7-wire receptacle assembly. "Cole-Hersee" No. 12063 or approved equal. The pins shall be coated with corrosion resistant paste. The termination end of the receptacle shall be strain relieved and sealed against water entry.

3.17.12 Fare Equipment Power Supply

If a farebox is not ordered with the coach, Proposer is to supply a coil of wire through floor mounting hole for farebox wiring, powered by a dedicated circuit for later hookup to a farebox.

3.17.13 Radio Power Supply

A separate electrical circuit, initiated at the batteries and terminating at the radio box shall be supplied. This circuit shall be independent of the electrical main switch, be capable of delivering 25 continuous amperes at 12 volts and be protected at the source with an adequate circuit breaker. No other electrical equipment shall be attached to this circuit. It shall be connected and placed to minimize electrical noise, hash and transients. If a 24 volt coach electrical system is
used for the coach, an "Electric Transit Laboratories Inc. (ETL)" or approved equal converter shall be provided in the radio box to supply 12 volt power to the radio.

3.17.14 Starter

The engine starter shall operate from normal coach voltage and be sized to provide sufficient torque to turn the engine reliably under all hot or cold engine or ambient temperature conditions. The starter shall be a heavy duty as recommended by the engine manufacturer. The starter solenoid switch shall be interlocked so that:

- Engine can be started in neutral gear only with the transmission selector in neutral only and the parking brake applied.
- Starter will not operate when engine is running. The interlock shall be activated by fuel pressure or by other approved means.
- Other major electrical loads shall be disconnected while cranking.

3.17.15 Low Voltage Wiring

All wiring including cables shall be stranded copper, adequate in size to carry the electrical load. Each harness shall contain identified spare wires (10 percent, minimum one) and shall be installed with consideration of possible future need to remove and replace it. All low voltage lighting shall run sufficiently cool so as to eliminate any damage to lamps, lenses, sockets, wiring or surrounding areas. Electrical junction boxes shall have sealed covers and openings.

3.17.16 Insulation

Wiring shall be insulated with two-layer cross-link polyethylene. Insulation must be moisture proof and heat resistant. It shall be a design objective to route wiring and harnesses in areas with no temperature build-up. If wiring must be run in areas of heat build-up, it must withstand, without deterioration for the life of the coach, the highest temperature in the area served. Engine compartment wiring shall be heat, oil and flame resistant.

3.17.17 Voltage Drop

There shall be no more than a 0.5 volt cumulative drop on any circuit, measured from the initiating source to the appliance load positive and from the appliance load negative to the reference ground with the load fully operational.

The initiating source for any 24 volt circuit is defined as the 24 volt output positive post of the series connected batteries.
The initiating source for any 12 volt circuit is defined as the 12 volt output positive post of the battery equalizer/splitter.

The reference ground is defined as the most negative post of the series connected batteries.
3.17.18 Protection and Support

Wiring shall be protected from weather and mechanical injury. Cables should be supported along their length and strain-relieved near terminations so that connectors and terminals are not under stress. Wire and cable passing through holes in sheet metal, structural members, etc. shall be protected with a grommet or other approved device. Wire and cable subject to flexing shall be extra flexible and shall be installed to allow for continual flexing without damage to the conductors or insulation. Wiring routed next to or bent over other materials shall be chafe protected by approved means.

All under coach looms, cable runs, connectors, terminations and harnesses should be totally sealed to dirt, water and road hazards. Under coach wiring shall be run in sealed flexible plastic conduit.

3.17.19 Terminations

All electrical connectors shall be replaceable. Engine and transmission harnesses shall have sealed, quick disconnect connectors to facilitate engine and transmission removal. All high current connection points shall be coated with approved conductive coating.

All wire termination loops shall have a minimum of 2 inches (51 mm) excess wire for additional end terminal installation which will allow at least one replacement of the termination without disrupting the wiring harness. Wires shall not be spliced between terminations.

Cable terminations shall be pressure-type terminals applied with a full cycle correct tool of the same manufacturer as the terminal. All terminals shall be full-ring, interlocking or tongue-type sized for the terminal screw or stud.

All under coach connectors shall be of a locking type. Use of spade terminals shall be with purchasing agency approval only. Connector terminals shall be coated with approved dielectric grease.

Drip loops shall be supplied on all under coach termination points.

All electronics components and boxes shall have quick disconnect plugs attached. Hard wiring to these boxes is prohibited.

3.17.20 Wire Numbering

The conductor identification shall be developed by the Contractor to give an individual identifying designation to each wire for circuit tracing and renewal of equipment and shall be shown on all electrical diagrams. All junction panel terminals shall be numbered.
All wiring shall be identified with hot stamped, machine printed wiring numbers printed on the insulation itself with no more than 6 inches (153 mm) of space between the identifying printed numbers along the continuous run of wire.

Wire markers and/or any type of heat shrink shall not cover any termination point or crimped lug.

Numbers shall not be removable by and be impervious to normal abrasion, oils, diesel, grease, Anti-Freeze and water

### 3.17.21 Console Assembly and Instrument Panel

- **Side Console Assembly** shall contain the following switches, all of which shall have lighted legends:
  - Master Switch: 4-position rotary switch identified with lighted legend "Engine Stop," "Run," "Night" and "Park" marked on the panel, in accordance with FMVSS requirements.
  - Engine Start: Push-button switch, marked "Start."
  - Hazard Warning: 2-position On-Off toggle switch with lighted hazard symbol. Legend to be "Hazard" or symbol.
  - Defroster: 3-position toggle switch having "Low-Off-High" positions. Legend to be "Defroster."
  - Chime Switch: 2-position toggle switch having "On-Off" positions with legend "Chime."
  - Farebox Light Switch: 2-position toggle switch having "On-Off" positions with legend "Farebox Light."
  - Fluorescent Light Switch: 3-position toggle switch having "All-Off-Rear" positions with legend "Interior Lights."
  - Radio "Emergency Call" switch. No legend allowed. Locate in sidewall panel near driver’s left knee position.
  - Door control handle.
  - Switch for fan for defrosting the windshield.
  - Key switch to lock out transmission.

- **Instrument Panel** shall be manufacturer's standard for heavy-duty service, with clear lettering for identification and shall house the following controls:
  - Panel light dimmer: A rotary rheostat, labeled "Panel Lights," which controls the intensity of the panel and legend lights.
  - Wiper control: A control for each side, with lighted legend "Wiper," which controls the windshield wipers.
  - The instrument panel shall contain, at a minimum, the following indicator lights:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Legend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Turn Signal</td>
<td>Exit Door Open</td>
</tr>
<tr>
<td>Right Turn Signal</td>
<td>Charging Failure</td>
</tr>
<tr>
<td>Hot Engine</td>
<td>Brakes On</td>
</tr>
<tr>
<td>Low Engine Oil Pressure</td>
<td>High Beam Headlights</td>
</tr>
</tbody>
</table>
• Indicator lights shall be arranged across the top of the instrument panel.
• Turn signal switches shall be located on the floor near the driver's left foot and shall be constructed with polarized multi-connector plugs.
• The instrument panel shall house the following monitor devices:
  o A dual-needle gauge that monitors air pressure in the front and rear brake reservoirs.
  o Speedometer: A speedometer with MPH as major markings, 0-80 MPH.

3.17.22 Defroster Fan

A 12V 5-blade fan, with fan guard, shall be located in the lower left corner of the windshield area of the coach. Switch shall be mounted on the driver's console. Fan shall be adjustable to allow fan to blow air toward Bus Operator. Subject to final location at pre-production meeting.

3.17.23 Door Electrical

Rear door shall be passenger actuated, manual.

Locking and unlocking of doors shall be controlled by a door-control handle located on the driver's console. Door control handle, when in the "rear" position, shall energize a solenoid that unlocks the door. A LED green lamp, which indicates that door is openable, shall be located above rear door. A red "EXIT DOOR OPEN" indicator lamp on driver's panel shall illuminate simultaneously with green lamp while door is open. A lamp mounted on the exterior, or door header above the front and the rear doors, shall be illuminated when the door is openable. Front and rear stepwell illumination lamps shall operate the same way. Lamps to be controlled by the master switch in the "Run" or "Night" position.

3.17.24 Engine Compartment and Rear Control Box

The engine compartment shall have a rear control box with engine oil pressure, engine coolant temperature, voltage and hour meter gauges. Gauges shall be mechanical. A variable engine speed control with toggle switch and guard will be located in control box.

The control box shall be located in the upper right corner of the engine compartment.

Four (4) 21 c.p. incandescent lamps (LED if available) shall be installed in the engine compartment in locations which will provide maximum illumination for the mechanics.

The engine and coach control switches on the face of the panel shall be as follows:
• Starter Switch - Three position toggle switch, marked "Front-Off-Rear" for selection of engine start position. Must be weatherproof.
- Light Switch - Two position toggle switch marked "Engine Compartment Lights." Must be weatherproof.
- Engine Start - Push button switch marked "Start," with waterproof rubber cover, shall operate the starter motor only when the starter switch is in the "Rear" position and transmission is in neutral. The engine transmission down link port shall be provided. Throttle control must be variable speed.

3.17.25 Horn

Dual electric horns mounted so as to be protected from road splash. Control shall be push button, located in center of steering wheel.

3.17.26 Exterior Lighting

Exterior lighting shall conform to FMVSS requirements.

Headlamps shall be guide lamp, rectangular sealed beam, 12 volt dual system, Dialight LED low beam and Halogen high beam. Headlights shall be switched on with ignition switch. A dimmer switch shall be mounted on the floor between and above the turn signal switches. The instrument panel shall have a high beam indicator lamp. Vehicles shall be equipped with daytime running headlamps.

Clearance, Marker and I.D. Lights. All clearance and I.D. lights shall be surface or flush mount LED type. The units shall protrude not more than 1.5 inches when mounted on the vehicle. If a surface mount marker design is used, a custom guard to prevent damage to the light during contact shall protect the marker. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a weather pak connector. No interim connector shall be allowed on the body of the light. All lenses shall be smooth to prevent dirt entrapment and ease the washing process.

Front directional signals shall have amber lenses and shall be located on the right and left front corner areas of the coach.

Rear, tail, stop, backup and turn signal lamps shall be mounted on the right and left rear corner areas of the coach.

- A Third LED high mount brake light bar will be included.
- Top and third lamps (stop and tail) shall be red LED. The tail lights shall be fabricated with the use of a current regulator circuit to the LED’s that allow for the operation of the device from 7 volts to 16 volts with constant intensity. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a weather pak connector. No interim connector shall be allowed on the body of the light. All lenses shall be smooth to prevent dirt entrapment and ease the washing process. The entire LED assembly shall be specially coated to protect the light from chemical and abrasion degradation.
• Flange Mounted 4” Round - In addition to the above, if flange mounted 4” round lamps are used, the flange shall be constructed in a manner that water intrusion will not be allowed between the lighted portion of the lamp flange.

• Middle lamp (turn) shall be amber LED. The turn lights shall be fabricated with the use of a current regulator circuit to the LED’s that allow for the operation of the device from 7 volts to 16 volts with constant intensity. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a weather pak connector. No interim connector shall be allowed on the body of the light. All lenses shall be smooth to prevent dirt entrapment and ease the washing process. The entire LED assembly shall be specially coated to protect the light from chemical and abrasion degradation.

• Bottom lamp (back-up lamp) shall be a clear LED.

Side turn signal lamps shall be located on each side of the coach at the forward edge of the front wheel housing. The side signal lights shall be LED amber 18 Series lights. These lights shall be guarded for protection. The light shall be visible from the rear and front of the coach as well as outward. All electrical connections to the LED light shall be by wire coming from the light housing and terminated with a weather pak connector. No interim connector shall be allowed on the body of the light. The same type side signal lamp shall be located slightly above and slightly forward of the rear wheel housing.

Intermediate side marker lights shall be LED Series 84, one on each side of coach.

License plate lamp shall be an LED, recessed in right lower quadrant of the engine compartment door.

Curb lamps shall be positioned in manufacturer's standard location above the front and rear doors in such a manner as to illuminate the ground area in the immediate vicinity of the stepwell. Lamps shall be actuated when entrance door, exit door, or both, are opened.

Directional lamps shall be equipped for simultaneous flashing for emergency use.

3.17.27 Interior Lighting

Front stepwell shall be lighted by stepwell LED light, suitably mounted, so that entire stepwell and a portion of the ground area immediately outside the coach is illuminated.

An overhead LED lighting system, DINEX I/O LED or approved equal, shall provide general illumination in the passenger compartment and shall be controlled independent of the run switch. The system shall provide a minimum of 25 foot-candles of illuminance on a one square foot plane, centered 33 inches above the floor and 24 inches in front of the seat back at each seating position. The floor surface in the vestibule shall be illuminated at a minimum of 4 foot-candles with the front door open and a minimum of 2 foot-candles with the front door closed. Power consumption from the lamps shall not exceed 9.5 watts per linear foot of fixture length. Fluorescent light fixtures shall be located above the side windows at or near the juncture of the
coach ceiling and the side wall and may be provided over the rear door. The fixture lenses shall have a cover with louvers or baffles to reduce glare in the windshield which affects driver visibility. Advertising media located in this area shall be illuminated by direct lighting, although the interior lighting requirements shall be attained without advertising media installed. The lighting system materials shall comply with the Federal Transit Administration Docket 90-A Specification.

Interior advertisement racks shall be reinforced by use of structural members attached directly to the coach structure. The advertisement racks shall be hinged to provide access to the air plenum at every fixture location without removing the fixture from the coach structure. The card racks shall be retained in the closed position by use of threaded closing screws. The card racks shall be self-retained in the open position to allow maintenance accessibility. The fixture shall be enclosed to inhibit the accumulation of dust and insects. The fixture lens cover shall be hinged to provide access without removing the fixture from the coach structure. The lens cover shall be retained in the closed position by use of threaded closing screws. Wiring to the input connector and to the lamps shall be continuous, without splices or secondary connections. The wiring to the lamps shall be contained in a wiring trough. Interchangeability of lamps, lenses fixtures, and power supplies shall be maximized.

Lighting intensity for all cross seats, forward of the rear longitudinal seats, shall have a minimum average of fifteen (15) foot candles, with a minimum of twelve (12) foot candles at the seated passenger reading plane, that plane being thirty-three inches (33”) above the floor on a forty-five (45) degree angle. An effective level of lighting shall also be provided for all other seated passengers.

The lighting components shall be so located and constructed to prevent the entrance of water, contaminants and insects.

Lights shall operate without the engine running.

Driver's light shall be recess-mounted in the top of the window frame above driver's head. Do not impair use by location conflict with sun visor. Switch to be located on the bezel of the lamp.

3.17.28 Passenger Chime Signal

A chime operated by bell cords, running the length of both sides of the coach, shall be provided. Illuminated "STOP REQUESTED" sign, mounted above the destination sign access door or on the low floor air tank enclosure so as to be visible to all passengers, with automatic chime muting, shall be provided.

3.17.29 Transmission Electrical

There shall be an electric shifter compatible with transmission located on left side console.

Transmission engine interlock switch so coach cannot be shut off while in gear.
A waterproof back-up light switch shall be provided on the transmission to energize the back-up lights and de-energize the interior lights with transmission in reverse and master switch in the "RUN" or "NIGHT" position.

A starter lockout switch shall be provided that shall sense transmission gear changes. Starter motor shall be energized only with the transmission in the neutral position.

3.17.30 Radio

Provisions for a two way radio system and wiring shall be provided.

A compartment shall be provided to accommodate the system. The radio box shall be located on inside of the coach within five (5) feet of the driver's seat. The box shall be approximately forty four (44) inches high, twenty four (24) inches wide, and twenty (20) inches deep. The box shall contain a minimum of four (4) sliding shelves. The radio's position shall be convenient for servicing. The compartment shall include a clear space twelve inches (12") high, eighteen inches (18") wide, and twenty inches (20") deep for the radio. The box and conduit shall be waterproof when the service door is closed and the door shall incorporate a keyed latch.

A positive/negative dedicated and isolated power source with a minimum capacity of 30 amps/12 volts, using ten (10) wires shall be provided. The radio circuit shall be wired so that the radio is on when the master run switch is not in the off position.

At a location convenient to the driver and subject to final approval at pre-production meeting, Proposer shall provide and install "silent alarm" (Panic Alarm) switch. The switch shall not be marked or illuminated and be of durable design. The switch shall accommodate connection to the "silent alarm" feature of the radio. Two 12 gauge wires shall be provided from the switch to the transceiver.

Two antenna reinforcement and ground plane plates, twelve inches x twelve inches x one/eighth inch (12" x 12" x 1/8") shall be mounted at locations on the roof body panel at approximately the coach center line.

Proposer shall provide and install a low profile blade type antenna. One antenna shall be mounted approximately four feet (4') to the rear from the front of the coach for GPS. The second antenna shall be located 15 feet (15') to the rear of the forward antenna for radio. The antennae locations shall have access plates in the interior roof panel below the reinforcement for access to the antenna cables.

Proposer shall provide and install type RG 58 coaxial cable from the radio box to each antenna location.

Proposer shall provide any required voltage converters and RF filters necessary to make the radio operate.
Proposer to provide necessary noise suppression to prevent interference from alternator, fluorescent lighting and other sources.

3.18 GENERAL

The powerplant shall be arranged so that accessibility for all routine maintenance is assured. No special tools, other than dollies and hoists, shall be required to remove the powerplant. Two mechanics shall be able to remove, replace, and prepare the engine and transmission assembly for service in less than 20 total combined man hours. The muffler, exhaust system, air cleaner, air compressor, starter, alternator, radiator, all accessories, and any other component requiring service or replacement shall also be easily removable independent of the engine and transmission removal.

3.19 ENGINE

3.19.1 Type

Coach shall be powered by a heavy-duty diesel engine, with a minimum 280BHP, 2200 RPM peak torque of 900 foot lbs., 1300 RPM, or approved equal.

Power plant shall be a complete unit, mountable and demountable unit.

Engine shall meet all applicable Federal and State clean air standards as they pertain to diesel engines.

3.19.2 Installation

The rear mounts for the engine shall be attached to engine bell housing.

3.19.3 Oil Filter

A full-flow Fleetguard spin-on filter mounted to the engine, or approved equal is required. In addition, a remote mounted centrifuge Spinner II Model 76 Bypass oil filter may be required, or approved equal.

3.19.4 Air Cleaner

The air cleaner shall be a dry type with a dry type in-line separator with broad band attenuation centered about 250 hertz.

The engine air intake duct shall be so shaped as to minimize water entrance into the air induction system, and the element shall be easily replaceable. A passage shall be provided so that any water which does find entry into the system can be drained prior to entry into the air cleaner.
element. A click-stop restriction gauge shall be provided. Donaldson Model RBX00-2277, or equal.

3.19.5 Engine Compartment Lines

Flexible lines (air, fuel and oil) in the engine compartment shall be Aero Quip Teflon lines or approved equal, with stainless steel reusable fittings. Water lines in the engine compartment are silicone. All lines shall be sufficiently secured so that there will be no abrasive movement.

3.19.6 Clamps

All support clamps in the engine compartment and/or on the power module that have direct contact with the wire, cable, harness hose or line shall be insulated from contact with the wire, cable, harness hose, or line by stainless steel Breeze or approved equal clamps.

3.19.7 Insulation

Engine side of rear seat shall be sealed so as to prevent smoke and fumes from entering passenger area and shall be insulated against both heat and sound. Thermal insulation shall assure there will be a minimum eighty degree (80°) temperature differential between engine compartment and passenger area. Noise transfer to the passenger area shall not exceed 82 DBA.

3.19.8 Accelerator Control System

Accelerator shall be at a 45° angle. The throttle pedal shall be mounted so that it is equal to or higher than brake pedal.

3.19.9 EPM Switch

A switch will be installed that will allow the Bus Operator to override the shutdown system for the engine. This will allow the engine to be active for a short period of time in order to move the bus in an emergency.

3.19.10 Engine Oil Extractor Port

An engine oil extractor port will be installed in a location that provides easy access.

3.20 FUEL SYSTEM

3.20.1 Fuel Tank

The fuel tank shall be a minimum 120-gallons capacity, with minimum 115-gallons useable, internally baffled to prevent surging and rigidly supported by at least four (4) supports, arranged for easy removal. Tank shall incorporate a sump with a minimum one-half inch (1/2") hex head brass drain plug.
Tank shall be equipped with an audible signal to indicate when tank is almost full. Shall be equipped with Emco Wheaton Posi/Lock Fast Fill (or approved equal) with dry break, and shall be provided with hinged spring loaded cap and hinged access door. Fill rate shall be a minimum of 40 gallons per minute. Filler neck shall be located on the curb side of the coach. Proposer shall provide two Emco Wheaton (or approved equal) fueling nozzles consistent with the Posi/Lock Fast Fill system.

Bottom draw configured fuel tank and fuel tank sending unit shall be provided to be accessible from underneath the coach.

The fuel tank shall be designed so as to not permit the spillage of any fuel, with the filler cap properly closed, when the floor of the coach is at any angle from horizontal through 22 degrees from horizontal in any direction for any period of time. This shall be accomplished with the fuel tank filled to capacity as defined by published capacity and whistle cut off point.

Fuel tank for 30’ low floor shall have a minimum 75 gallons useable.

3.20.2 Fittings and Installation

Fittings on fuel and oil lines shall be SAE flared or inverted flare type. Fuel filter and lines shall be installed in such a manner as to avoid excessive heat and fire hazard. Restriction fittings, if applicable, shall be in fuel return line and of proper size so as to maintain fuel pressure under all conditions. A swing type check valve in the fuel supply line shall keep the supply line full of fuel when servicing filters or when fuel lines are disconnected in engine compartment.

3.20.3 Filters

Primary fuel filter Davco 384 Heated with FC350 or approved equal

One (1) FleetGuard or approved equal, remote mount fuel filter.

3.20.4 Fuel Lines

Fuel lines in engine compartment shall be Aero Quip FC350 black hose for the supply and return fuel lines from the engine compartment bulkhead to the fuel tank, or approved equal.

Underbody fuel lines shall be sized to meet the requirements of the engine manufacturer.

3.20.5 Air and Oil Lines

All lines shall be synflex nylon tubing, or approved equal throughout, except air compressor discharge and turbo oil feed lines, which shall be 2807 stainless steel braid, or approved equal. All hydraulic lines shall be equipped with quick disconnects in the engine compartment.
3.21 EXHAUST SYSTEM

3.21.1 Type

The exhaust muffler shall be a stainless steel heavy plate type muffler designed with proper acoustical qualities and tailored to the engine requirements and installation.

Exhaust pipes shall be constructed of stainless steel metal tubing direct from the muffler to a location in the upper left rear of the coach.

The exhaust system will meet all Federal and State clean air standards.

3.21.2 System Characteristics

Exhaust system shall be constructed so that it will not cause back pressure in the engine or damage to the paint on the coach, and shall be anchored as near the end of the exhaust line as possible. It shall be mounted so as to maintain the integrity of its design throughout the life of the coach.

Exhaust manifolds, muffler and single tail pipe assemblies shall be tight and allow no emission of fumes or smoke other than from open end of tail pipe.

Access to test port on muffler shall be provided.

3.21.3 Tail Pipes

Exhaust tail pipes shall be constructed of stainless steel tubing

The use of the vertical exhaust outlet shall not increase the overall length of the vehicle, nor shall it be located in such a way as to present a burn hazard to the pedestrian traffic. The termination of the tail pipe shall be such that it complies with FMVSS 108 pertaining to side marker and clearance lights, and exhaust shall be deflected to the rear of the coach.

3.22 TRANSMISSION

Automatic transmission with electronic control and shifter.

A drain plug of magnetic type, and a flat magnet attached to bottom of oil pan near drain opening, shall be furnished.

Transmission shall have a built-in oil pump, governor, and an external heat exchanger that utilizes water from the engine cooling system. The heat exchanger shall be located in an accident-free area.
A transmission fluid extractor port is to be installed.

3.23 PROPELLER SHAFT AND DRIVELINE

Propeller shaft shall be a Dana 1710 series, or approved equal. It shall have a minimum diameter of four inches (4") and shall be constructed of steel. The universal joints shall be heavy duty. Shaft shall have a protector guard.

A slip joint shall be placed at the transmission to compensate for vertical movement at the rear axle. Lubrication fittings shall be provided for the universal bearings and slip joint splines.

3.24 WHEELS AND TIRES

Coach shall be equipped with single front and dual rear wheels. Front wheels and tires shall be balanced and counter weighted where necessary. Accuride White (or color determined in preproduction meeting with purchasing agency) Powder Coated Steel hub piloted wheels 22.5 or approved equal shall be provided.

Tires shall be furnished by purchasing agency’s tire Contractor.

3.25 AIR SUSPENSION

3.25.1 System Characteristics

Coach shall be equipped with an air-suspension system. Air suspension system shall consist of four (4) rear and four (4) front Rolling Lobe Firestone air bellows and three (3) leveling valves, or approved equal, by which the air pressure is automatically regulated in proportion to the coach loading. Leveling valve shall be installed in such a manner that will prevent leveling valve roll-over. 30’ low floor to have a minimum of 2 front and 2 rear air bellows.

Air bellows shall act as a flexible connection between body and axle to absorb and cushion road shocks.

Leveling valves (two rears and one front) shall also act to keep the coach body in relatively level position and contain a dampening or compensating feature to prevent excessive consumption of air resulting from high-frequency axle movements over rough streets.

Metal air chambers, if used, shall be guaranteed by the manufacturer for the life of the coach. Methods of construction and the materials used shall be of such manufacture as to permit easy and convenient replacement of bellows. Bellows shall be mounted to provide easy replacement under coach.

The three (3) height control valves, one (1) at the front axle and two (2) at the rear axle, will retain the height of the body in relation to the axles under all loading conditions.
3.25.2 Radius Arm Assemblies

Each axle shall have four (4) rubber bushed (lubrication free) radius arm assemblies.

Two (2) lower, one (1) upper, and one (1) lateral to locate the axle position and to transmit the driving, braking and cornering forces from the road to the coach understructure.

The front upper radius arm assembly shall have a turn buckle to allow adjustment of the front axle caster without arm removal.

3.25.3 Shock Absorbers

Shock absorbers, Koni adjustable or approved equal, shall be provided.

3.25.4 Axle Stops

Rubber axle stops shall be provided between the axle and frame on each side of the axles to prevent axle and/or frame damage in severe bounce condition and to allow operation of the coach if one or more air bellows are deflated.

3.26 POWER STEERING

3.26.1 System Characteristics

Steering effort and number of turns "lock-to-lock" shall be designed and coordinated to minimize driver fatigue. Steering forces and characteristics in the event of failure of the power boost shall enable the coach to be safely driven in this condition.

Mounting of gear assembly shall be engineered to reduce road shock and vibration.

Steering mechanism shall be mounted so that all adjustments can be made without dismounting. Steering units shall have hex head filler and drain plugs.

The drag link assembly shall have a horizontal socket for attachment at the Pitman arm, and a vertical stud for attachment at the steering knuckle arm. Both ends shall have internal springs and lubrication fittings. The assembly shall have plus or minus .50-inch length adjustment.

Front axle tie rod ends shall be threaded into the tube for adjustment without removal. Lubrication fittings shall be provided on the nonserviceable end assemblies.

3.26.2 Steering Wheel

The steering wheel shall be twenty inches (20") minimum in diameter and shall be black color plastic or synthetic resin construction with a metal core. It shall be provided with puller holes in the hub.
3.26.3 **Steering Column**

Shall be tilt with telescoping steering shaft.

3.27 **BODY**

3.27.1 **Construction: Body and Understructure**

The basic body structure shall be an integral design. The structure shall be designed for maximum strength, reliability and durability.

Body and understructure shall be adequately reinforced at all joints and points where stress concentration may occur so that the vehicle will carry the required loads and properly withstand road shocks.

The entire coach understructure, including the wheelhouses, shall be spray coated.

All interior and exterior metal surfaces shall be cleaned and treated to prevent rust and/or corrosion. After welding in areas where primer was previously applied, all joints shall be brushed to eliminate foreign matter and then the joint shall be cleaned with a phosphorus solution to provide a good base for good paint adhesion. Finally, the joint shall be painted with red oxide primer.

Aluminum panels shall be properly prepared and primed before final paint. All bolts, nuts, washers, clamps, clips, and similar parts, shall be zinc or cadmium plated or phosphate coated to prevent corrosion.

All exterior body seams, joints and overlapping panels shall be sealed against entry of water or dust. Where dissimilar metals meet, proper care shall be taken to prevent electrolytic corrosion.

All material used in the body and chassis, including cross members, posts and panels, shall be of the required strength for the purpose intended and shall be properly treated to resist corrosion.

All joints exposed to weather shall be made tight against leakage.

3.27.2 **Low Floor**

Understructure shall consist of structural stainless steel for maximum durability, reduced maintenance, and weight and improved corrosion resistance. It shall be welded and Huck bolted throughout.

Conventional bolt construction shall be with Grade 8 (traceable) hardware, and shall be used only where necessary to allow for routine disassembly (e.g., the closing crossmember shall be bolted to allow for engine removal at overhaul). No movement at bolted joints shall be allowed.
Understructure at the coach sides in the low floor bus area shall have crash protection consisting of continuous minimum 3/16” stainless steel plate at an angle which will tend to cause an impacting vehicle to subvert. The crash protective steel plate shall be an integral, welded part of the structure, continuous between the wheelwells except for the exit door. Effectiveness of the design shall be documented by successful application of crashworthiness test. Results of such testing shall be submitted prior to delivery of first coach, and must meet the standards set forth in Federal Register Volume 47, No. 195, Section 2.1.2.10.

Understructure at the front and rear overhang (defined as the distance between axle centerline and bumpers) shall be sufficiently robust to permit towing or lifting without special rigging being required. The design shall be verified by submission of those parts of the STRUAA (Altoona Test) which address towing/recovery.

The understructure shall incorporate minimum 3/16” steel floor material in the area of the vestibule, the driver’s platform and the exit door area. The installation shall be sufficiently rigid to prevent flexing, and to permit rigid mounting of a farebox.

Understructure shall provide protected pathways for hydraulic lines, heater piping, airlines and electrical cabling. PVC tubing shall be used as protective conduit for wires and cables. Joints in lines, hoses, etc. shall be accessible for repairing.

Body structure shall be modern, and aesthetically pleasing without protruding fasteners. Visible exterior fasteners shall be kept to an absolute minimum.

All side panels shall be essentially flat, without ripples and with minimal visible joints.

Side panels below the window line shall be aluminum, etched, primed and painted to the purchasing agency’s paint scheme. These side panels shall each be replaceable by a mechanic without assistance. Welding, riveting, or adhesive attachment is deemed unacceptable, although adhesive, as a secondary method to control panel resonance will be permitted.

Side panels shall be simple enough in shape to allow fabrication with no more tooling than a shear, brake, and edge roller. Metal panels with compound curves, fluting, curved indentations, etc. will not be permitted.

3.27.3 Construction: Exterior Panels

All exterior panels above the rub rail shall be either riveted or welded to the body frame.

A rub rail shall run the full length on each side of the standard floor coach at the floor line; no rub rail is required on the low floor.

Provisions shall be made to integrate transit advertising into the exterior design of the coach. Advertising media, frames, or supporting structures shall not detract from the readability of destination signs and signal lights, and shall not compromise passenger visibility. Advertising
provisions shall not cause pedestrian hazards or foul automatic bus washing equipment, and shall not cover or interfere with doors, air passages, vehicle fittings, or in any other manner restrict the operation or serviceability of the coach.

3.27.4 Construction: Hardware

Fasteners must be of non-corroding material or finished to prevent rust and corrosion. Boron fasteners are not acceptable.

3.27.5 Insulation

Interior of body, including roof, must be well insulated against heat, cold and noise.

Roof insulation shall provide polystyrene EPS insulation.

Sidewall insulation shall meet the same specifications as roof insulation. It shall be installed in all sidewalls, window post areas, and areas over the front and rear wheelhouses.

The insulation referred to above, or other additional insulation, shall provide effective sound attenuation for the passenger. The maximum DBA allowable in the passenger compartment is 82.

There shall be one inch insulation in the engine compartment to restrict, to the maximum practical extent, the entry of fumes, odors and heat into the passenger area.

3.27.6 Flooring: Plywood

Floor shall be constructed of marine grade, seven (7) ply 3/4", grade AB, or better, with sealed waterproof edges.

The underside shall be primed. The cut edges shall be sealed.

Floor shall be laid in such a manner as to be free from squeaks. All edges shall be over underframe members.

Floor shall be level throughout and all joints between the floor and vertical surfaces shall have a cove molding.

Plywood shall be securely huck bolted to frame members.

Underframe shall be stiff enough to prevent floor from excessive flexing under normal loads. The floor shall be supported so that when a person of 150 pounds or more steps on any area, there will be no discernible flexing or movement.

The area at the farebox shall be of adequate strength to support the farebox safely and durably.
The entire wooden floor shall be thoroughly sanded in preparation for application of floor covering material.

### 3.27.7 Roof

Roof shall be constructed in accordance with the manufacturer's standard and of sufficient strength and stiffness to prevent vibration, drumming or flexing in service. The low floor roof shall be one piece fiber reinforced plastic (FRP) sheet.

A rear roof hatch shall be provided to meet the requirements of FMVSS 217.

All seams, joints and overlapping panels, shall be thoroughly sealed to prevent the entry of water and dust. Where dissimilar metals meet, proper care shall be taken to prevent electrolytic corrosion.

### 3.27.8 Stepwells

Front and rear stepwells shall be stainless steel reinforced with steel tubing. For low floor coaches entrance and exit floor areas are to be sloped to prevent accumulation of water or ice. No risers are permitted, except aft of exit door and may not exceed 8 1/2" in height for each riser.

### 3.27.9 Wheelhouse

Wheelhouses shall be of sturdy construction, manufactured of stainless steel, providing ample clearance at front and rear tires under load and under all positions of front wheel steering.

### 3.27.10 Fenders

Rubber fenders shall be furnished at each wheelhouse and shall be formed so as to effectively prevent road water/dirt from splashing up and onto driver's mirror and windows.

Anodized aluminum retainers or moldings extending around wheelhouse to bottom of lower skirt panel shall be furnished on all wheel housings.

### 3.27.11 Splash Apron

Splash aprons, made of not less than one-quarter inch (1/4"), three-ply rubberized fabric, or one-quarter inch (1/4") cured masticated tire friction material, black color, shall be provided at the rear of the wheel housings, projecting downward to a point approximately six inches (6") above ground with coach loaded. Aprons shall have a maximum width compatible with the understructure of the coach.

### 3.27.12 Drip Moldings
Water-deflecting roof gutters shall be provided over the side windows and doors.

3.27.13 Lines: Fuel, Oil and Water

Fuel and oil lines shall be seamless annealed copper tubing or 213 Stratoflex or approved equal. Water lines will be silicone and protected with loom when passing through supports and brackets. In the engine compartment, however, all flexible air, fuel and oil lines shall be 213 Stratoflex or approved equal. Brackets shall be installed at each cross frame bulkhead and support.

3.28 INTERIOR

3.28.1 Floor Covering

Installation: Floor covering shall be butt joined. Should any gaps be unavoidable, they shall be filled with color matching material so as to be tight against any influx or seepage of water present in any uneven floor edges which might cause a person, walking on them, to trip. The floor shall be cleaned thoroughly before delivery.

Step Treads: Steps at the front entrance and rear exit shall be covered with five-sixteenths inch (5/16") ribbed flooring. Entrance and exit step treads shall include integral molded noses on stainless steel metal backing. Backing to be totally enclosed in rubber.

Entrance Area: Entrance area and front standee area shall be covered with ribbed flooring not less than five-sixteenth inch (5/16") in thickness. The entrance area and the standee area are to be separated by a white strip molded into the flooring. A six-inch (6") stainless steel backing shall be furnished under standee line edge.

Ribbed: Center aisle and rear exit door approach area shall be covered with a ribbed floor covering not less than three-sixteenths inch (3/16") in thickness. Center aisle strip shall be twenty-two inches (22") wide.

Smooth: Floor area under the seats, including driver's area, shall be covered with a mottled smooth floor covering not less than one-eighth inch (1/8") in thickness. The material is to be thoroughly cemented into position throughout the entire area. The floor covering shall not be extended up on the wheelwell housing but shall terminate where the floor covering butts the housing. A stainless steel trim molding shall be installed on the flooring at the point the wheelwell housing and floor covering butt.

Type and Color: Floor shall utilize RCA Transit floor, or approved equal with the following colors to be used:

- Aisle – TR766 Ribbed
- Underseat – TR766 Smooth
Colors for other transit systems will be determined during pre-production meetings.

### 3.28.2 Modesty Panels

**NOTE:** Proposer is advised to review the wheelchair accessibility requirements in earlier sections of this RFP, as they affect stanchion and modesty panel location and alignment.

Modesty panels shall be installed in the following locations:
- At the rear of front stepwell. This panel shall have adequate clearance from the front door, to prevent injury to passenger's hand(s) during the opening cycle.
- At the rear of rear stepwell.
- Modesty panels shall be attached to handrails with counter-sunk flush fasteners securely attached to stanchion and body side. Panels shall be attached to a bottom extruded anodized aluminum rail for stiffness.
- Panels shall be constructed of 3/8 inch thick 14 inch Graylite Lexan or approved equal. All modesty panels shall be raised three inches (3”) above floor level.

### 3.28.3 Advertising Card Racks

Interior advertising card racks, as integral parts of the light fixtures, shall be provided along each side of the coach to accommodate eleven-inch (11”) advertising card signs. The retainers shall be concave and shall support the media without adhesives.

### 3.28.4 Stanchions

In the following locations, vertical stanchions shall be mounted between either the floor or the modesty panel, and either the ceiling or the grab rail:
- At the right rear of the driver's seat.
- At the inside rear corners of front and rear stepwells.

A handrail constructed of smoothly surfaced anodized extruded aluminum, or approved equal, shall extend from these stanchions to the side of the coach at a height of approximately thirty-four inches (34”) from the floor.

### 3.28.5 Grab Rails

An entrance grab rail shall be provided at the dashboard, minimum height thirty-six inches (36”). It shall be properly located to allow installation of the farebox and access of wheelchairs.

Grab rails shall be installed at the front and rear doors to aid passengers in boarding and alighting.

One full length standee grab rail shall be mounted on each side of the aisle. They shall be no more than seventy-two inches (72”) above the coach floor and their ends shall terminate either in ceiling connections or in elbows.
3.28.6 Stanchions and Grab Rails: Construction

All stanchions and grab rails shall be one and one-quarter inch (1 1/4") welded stainless steel tubing, with fittings that match tubing. Minimum tubing thickness shall be .065-inch. Fittings shall be constructed of stainless steel, cast aluminum, cast zinc, or a corrosion resistant material.

3.28.7 Driver's Barrier

A full height barrier beginning 6 inches (152 mm) above the floor shall be provided directly in back of the driver's station to separate the driver from the passenger compartment. The barrier shall extend from the left side coach wall to the stanchion at the right rear of the driver's station. This panel shall in no way interfere with the safe normal operation of the coach or restrict movement of the driver's seat.

The barrier assembly shall be rigid, shall not shake or rattle in service, and shall withstand forces from passengers using it as a handhold. Any screws and/or bolts protruding through the barrier shall have rounded heads to eliminate passenger injury.

Passenger Information and Advertising: Provisions shall be made on the rear of the driver's barrier for a frame, to retain information sized twenty-one (21) inches wide and twenty-two (22) inches high. Three (3) pocket holder 6-1/2 in. H x 3-3/4 in. W x 1-1/2 in. D and two (2) sheet paper holders to accept standard 8-1/2 x 11 in. paper.

3.28.8 Interior Trim

Interior panels shall be applied to ensure a neat and finished appearance. Fasteners shall be of such type that they will not loosen because of vibration. Panels shall be supported so as to prevent buckles, drumming, or flexing when the vehicle is in service. All panel joints shall be sealed and covered with protective trim strips to guard against sharp edges.

Ceiling: Ceiling trim panels shall be Melamine, Melamine bonded to aluminum, or approved equal, one-tenth inch (1/10") minimum thickness.

Sidewall Panels: Sidewall trim/panels below the windows shall be Melamine, or approved equal, 0.12 inches minimum thickness.

Sidewall Posts: Sidewall posts between the windows shall be covered with a suitable material.

Front Area: All interior surfaces forward of the standee line shall be non-reflective black or a color complementary to the interior of the coach.

Rear Area: Panel behind rear settee shall be installed to provide sound attenuation and covered with Medium Gray colored carpet. Material shall conform to the requirements of Federal Safety Standard No. 302-Flammability of Interior Materials.
Trim Moldings: All trim moldings around wheelwells, stepwells, sidewall, cove area, settee riser, front dash area, and panel below driver's window, shall be stainless steel.

Color Scheme: A color scheme shall be furnished for purchasing agency approval at pre-production meeting.

3.28.9 Passenger Seats

Passenger seats shall be 4 One Seating Model – Aries 4MA, or approved equal. Seating shall meet or exceed all Federal Motor Vehicle Safety Standards.

The seat shall be ergonomically designed and shaped to provide optimal lumbar, kidney area and buttocks support.

The thickness of the transverse seat back shall be minimized to increase passenger knee room and coach capacity. The backrest shall not be thicker than 1” at the edges and 1/2” in the center when utilizing vandal resistant inserts. A curved insert shall allow the seat hip to knee measurements to be greater than the seat pitch.

Seat backrests shall taper toward the top to accommodate required aisle spacing. The aisle between the seats on a 102” wide coach shall be no less than 20” wide at seated passenger hip height and no less than 24” at standing passenger hip height.

Foot room, measured at the floor forward from a point vertically below the front of the seat cushion, shall be no less than 14”. Seats immediately behind the wheel housings may have foot room reduced, provided the wheelhouse is shaped so that it may be used as a footrest.

SEAT FRAME: Each seated position shall have its own seat frame assembly. All metal of the standard seat structure including the frame, cantilever, pedestals, beams, mounting brackets and other components shall be stainless steel with beaded finish. The passenger seat frame and its supporting structure shall be constructed and mounted so that space under the seat is maximized to facilitate cleaning. The lowest part of the seat assembly that is within 12” of the aisle shall be at least 10” above the floor.

GRAB RAIL: The back of each transverse seat shall incorporate a handhold.

TEST REQUIREMENTS: The Proposer shall be capable of providing a test report fully documenting compliance. The report shall include a statement of compliance with the requirements of the Federal Procurement Guidelines (White Book), Section 5: Federal Requirements, FR 13, Testing of New Bus Models. Testing must be done by an independent, certified testing facility.

WHEELCHAIR ACCOMMODATIONS: Two forward-facing locations, as close to the wheelchair loading system as practical, shall provide parking space and secure tie-down for a
passenger in a wheelchair. Additional equipment, including passenger restraint seat belts and wheelchair securing devices shall be provided for two wheelchair passengers. Passenger restraint seat belts shall be provided to accommodate passengers in electrically powered wheelchairs. All belt assemblies must stow up and out of the way when not in use.

Passenger Seats: Transverse

Seat colors shall be provided at pre-production meeting.

There shall be an end closure between the window end of the seat cushion and back and the interior panel below the window to prevent the accumulation of trash in that area.

Passenger Seats: Longitudinal

Longitudinal passenger seats shall be provided, two each, in the front and rear of the coach. They shall be of the same color, quality, make and construction as all other passenger seats.

Location of front seats shall be directly behind driver's seat and front stepwell between tie-down-equipped jump seats.

Rear longitudinal seats shall be located above the rear wheel wells.

Passenger Seats: Folding

Will be used in wheelchair securing area.

Passenger Seats: Rear Cross

Rear seat shall be a 5-passenger unit.

Seat shall be of same color, quality, make and construction as all other passenger seats.

3.29 OPERATOR’S STATION AND CONTROLS

3.29.1 Design Factors

The design of the Operator’s station shall have as its primary objective the provision of an environment for the driver that will aid him or her to operate the coach safely and efficiently for long periods of time with minimum fatigue. Human factors design principles shall be used in the layout and proportioning of the driver's station and its components with attention given to safety, "comfort and fatigue," body support; the size, shape and location of switches, levers, pedals and gauges; and all other factors that affect the design objective.

The driver's station shall accommodate drivers who are of various heights and body proportions by the use of human factors design in locating and proportioning the devices in the station and by
the use of adjustable components such as the driver's seat and the steering column. It is required
that the station accommodate drivers within a height range of 57 to 76.5 inches (145 to 194 cm).

The Proposer shall, as a joint effort with the purchasing agency, determine the location of all
equipment with respect to proper lighting, ease of operation, accessibility and passenger flow.

Factors to be considered include, but are not limited to, the provision of mountings for and
deterring the location of the farebox, radio speaker, radio control head and any other equipment.
Complete details of the Operator's station design shall be presented at the preproduction meeting.

3.29.2 Operator's Seat

The Operator's seat shall be adjustable to provide comfort for drivers within the range of sizes
given in the previous subsection. It shall have a full ten (10) inches of adjustment in the fore and
aft direction without contacting any coach part. The seat back and seat cushion shall be
adjustable, and the seat height shall be adjustable. The seat shall be installed in the same location
in all coaches. All adjustments shall be easily made without the possibility of crushing or
pinching the driver's hand or fingers. A dynamic load damper shall be provided on the seat to
augment the springing and padding in the cushions. Rubber bumpers shall be provided to prevent
metal-to-metal contact if the seat "bottoms out." Any electrical connections to the seat shall have
quick disconnect provisions to allow easy removal and replacement of the seat.

The entire face of the driver's seat and back cushions shall be fabric and no welt cord shall be
used. Seat cushion edges shall be vinyl. Seat cushions shall be of long lasting, fire resistant foam.
Particular attention shall be given to providing a seat which is comfortable in warm, humid
weather and which gives full consideration to long period of occupancy.

The seat shall be supplied with an inertia locked retractable and adjustable seat belt. The seat belt
shall extend from left to right and shall have a usable travel of at least 70 inches measured from
the open end of the protective boot to the end of the buckle or latch plate.

3.29.3 Operators Seats: Type

Operators seats shall be USSC Model – G2A, or approved equal. Seating shall meet or exceed all
Federal Motor Vehicle Safety Standards.

3.30 WINDOWS

3.30.1 Windshield

The windshield shall incorporate a two-piece design constructed of one-quarter inch (1/4") thick
safety plate laminated glass. Both right-hand and left-hand windshields shall be retained in the
body structure with "zip-lock" black rubber extrusions for ease of maintenance. The Operator's
windshield shall be tilted 17 degrees-19 degrees to reduce windshield glare. Total glass area shall
be twenty-one square feet (21 sq. ft.) minimum.
3.30.2 Side Windows

Windows shall have black anodized aluminum frames. All windows shall be 3/4 lower egress and all windows of the same size shall be interchangeable. All egress handles shall be located towards the front of the coach. Windows shall be designed to prevent the entrance of air and water when windows are closed. Near each window there shall be instructions on decals or aluminum plates that sufficiently explain emergency exit procedures. Location of the metal decal shall be determined at pre-production meeting. Emergency instructions shall be printed in both English and Spanish. All requirements of FMVSS217 shall be complied with.

The lower section of the window, approximately thirty inches (30”) shall be fixed. The upper portion of approximately nine inches (9”) shall be inwardly openable to provide adequate outside air ventilation and shall have locking latches. Transom locks are required.

Windows shall be one-quarter inch (1/4”) laminated safety glass.

Glazing in the sash shall be replaced without removing the window from its installed position or manipulation of the rubber molding surrounding the glazing.

All passenger windows 1/4” laminated fixed glazing.

3.30.3 Operator's Window

Operator's window shall have black anodized aluminum frame with one horizontal sliding sash. The window shall have a ratchet mechanism to prevent uncontrolled sliding. The window shall have an upper fixed lower 3/4 slider window assembly. It shall be constructed so that it can easily be adjusted with one-hand operation.

3.31 WINDSHIELD WIPERS AND WASHERS

3.31.1 Wipers

Windshield wipers shall provide an adjustable time delay feature. The coach shall be equipped with variable speed windshield wiper for each half of the windshield with separate controls for each side. No part of the windshield mechanism shall be damaged by manual manipulation of the arm. Both wipers shall park along the edges of the windshield glass. Windshield wiper motor mechanisms shall be easily accessible for repairs or service from inside or outside the coach and shall be removable as complete units.

3.31.2 Washers

The windshield washer system shall have a reservoir of at least two (2) gallons located for easy refilling. The reservoir itself shall be translucent for easy determination of fluid level. Reservoir, reservoir pumps, lines and fittings shall be corrosion resistant and protected from freezing.
3.32 PASSENGER DOORS

3.32.1 Front Entrance Door

The front door shall be a two-section, slide-glide or bifold type with minimum clear opening dimensions of 31.25 inches wide, or equal.

Door shall be inward opening and shall have stainless steel hinges with joints at the door posts covered by rubber seals, or equal. Meeting edges of door shall have four inches (4"), extruded overlapping type rubber safety edges two inches (2") on each half, or approved equal.

Door shall be fully air-operated with Vapor, or approved equal, door motor. An air shut-off valve, located either immediately above the front door within the header compartment, or at left of driver controls, shall be supplied. When valve is in "Off" position, front door shall be capable of being opened and closed manually.

Front door area shall have a hand rail to aid in boarding the coach. The hand rails on the wheelchair lift are appropriate.

Access door to door mechanism compartment shall have a chain or other acceptable device to hold door in the open position, when necessary.

3.32.2 Rear Exit Door

Rear exit door shall be two-section outward opening and closed by spring-loaded check mechanism. Clear opening of door shall be a minimum of 24.25 inches.

The door operating mechanism, mounted on a removable steel base plate in a compartment directly above the door, shall be a Vapor Corporation, or approved equal, mechanical lock/electric unlock type. Door in closed position shall be locked by a spring-loaded lock lever. To unlock door, lock lever shall be retracted by an electrical solenoid that is energized from a switch in driver's door control valve. When unlocked, door shall be able to be manually opened. Door closing shall be controlled by a return spring mechanism, and the rate of closing shall be retarded by a check cylinder designed to prevent slamming of the door. The rate of closing shall be adjustable, with a speed control valve on the check cylinder.

Meeting edges of the door shall have four-inch (4") extruded overlapping type rubber safety edges, two inches (2") on each half, or approved equal.

Rear door shall incorporate safety features as required for power actuated doors not adjacent to the driver. A sensitive edge shall be located on the rear door to prevent accidental closer

Access door to door operating mechanism shall have a chain or other acceptable device to hold door in the open position, when necessary.
3.32.3 Door Controls and Interlocks

Both front and rear doors shall be controlled by a five (5) position door operating control, with the following positions:
- Front door open - rear door open
- Front door open
- Both doors closed
- Rear door open
- Rear door open - front door open

This control shall be located on the console to the left of the Bus Operator.

A brake and accelerator interlock shall be provided that prevents movement of the coach when the rear doors are open. The interlock equipment shall be mounted together as one assembly.

A rear door override lever shall be provided for emergency exit. The lever shall be located in the rear, door control, compartment. The lever is used to release the rear door from the locked position for manual operation and also shall engage the interlock.

A master interlock override switch shall be provided. It shall be located in the electric panel near the driver and shall be in a secure position.

A front door, air override, control valve shall be provided. The valve shall control the release of all air to the front door so that the door may be opened manually.

3.33 MIRRORS

3.33.1 Interior Mirrors

Coaches shall be equipped with four inside rear view mirrors.
- Center rear view mirror above windshield shall be mounted on windshield header panel above and in front of driver. Dimensions shall be 8.25 inches by 16 inches. Mirror shall have a nonreflective black rim and mounting bracket made of steel. Mirror shall be positively mounted to allow for adjustment but to eliminate, to the maximum practical extent, mirror vibration.
- Right windshield header mirror shall be a six-inch (6") round mirror. This mirror shall be located so as not to interfere with passengers, and shall have an adjustable mounting bracket.
- A mirror shall be mounted above the entrance door. It shall be 7" x 10" and shall have an adjustable mounting bracket.
- A twelve-inch (12") diameter mirror shall be mounted above and behind the rear exit door in such a way that it will not interfere with passengers.
3.33.2 Exterior Mirrors

Coaches shall be equipped with two (2) mirrors, one (1) mounted on the roadside front corner post and one (1) mounted on the curbside front corner post. Roadside mirror just above lower edge of driver's roadside window. Curbside mirror is not to extend further than a twelve inch (12") radius from the corner of coach and shall be mounted on the curbside front corner post.

Curbside and Roadside Mirrors

Mirrors shall be a remote adjustable with all metal hardware. The controls shall be located to the roadside of the Operator and provide for a full range of adjustment of both glazing of the mirrors. The glass shall be easily replaceable and be secured with Velcro.

All arms, housings and hardware utilized for the exterior mirrors shall be stainless steel.

Mirrors shall be mounted on retractable arms.

Mirror type and location subject to final approval by purchasing agency.

Each mirror shall have a separate flat and convex mirror. There should be no “spot mirror” add-on.

3.34 HEATING, DEFROSTING, VENTILATING & AIR CONDITIONING SYSTEM

3.34.1 System Characteristics

A heating and ventilating system shall be provided with proper correlation to provide practical maximum comfort to passengers and the operator. Heating and ventilating system shall incorporate introduction of approximately twenty (20) percent fresh air.

Air for heating and ventilating shall be evenly distributed throughout the coach body in such a manner as to minimize temperature variation. Provision shall be made for minor adjustment of controls to maintain desired temperatures within the coach without changing supply of outside air required for ventilation.

A manual control or modulating valve shall be provided to permit the fans to be used for power ventilation of outside air in warm weather.

Main heating system shall be thermostatically controlled. The heating system shall provide heated, filtered air for an ambient temperature differential from sixty (60) degrees to zero (0) degree F. Heating filtering elements must be of the disposable type.

All motors shall be brushless, or approved equal.
Blower motor(s) shall be two-speed, heavy-duty with adequate output to provide circulation throughout the coach. Blowers shall also circulate fresh air throughout the coach.

Main heater shall be mounted in the rear of the coach above the engine compartment. It shall be a hot water type with heavy-duty motors and a minimum capacity of 110,000 B.T.U. at 100-degree water-air temperature differential, or approved equal. A water shut-off valve shall be provided at the heater.

3.34.2 Operator's Heater

A separate dash heater and blower shall be provided for the Operator's comfort and for windshield defrosting. Capacity of 40,000 BTU output at 100-degree water-air temperature differential, is required.

A blower with a brushless motor, or approved equal, with standard manual control shall be provided.

Defroster blower shall be automatically inoperative if the alternator is not charging.

There shall also be a left foot vent for the Operator.

3.34.3 Heater Water Lines

Heater water lines shall not be exposed within the coach.

All water lines shall be heavily insulated throughout the coach. They shall be made of heavy-duty copper or brass, except where shock absorbing or flex lines are required.

3.34.4 Heater Cores

All heater cores shall be of aluminum. Metal used in the tanks shall be of adequate thickness with drawn reinforcements. All radii of the tanks shall be of sufficient size to preclude fatigue failure.

Heater cores, motor and fan must be readily accessible and installed to permit ready removal.

3.34.5 Heater and Blower Motors

All blowers required for the heating and ventilating system shall be balanced statically and dynamically.

All motors required for these blowers shall be heavy-duty type with a three-eighth (3/8) horsepower minimum.

3.34.6 Heater Water Pump
The heater circulating water pump must have a minimum capacity of fifteen (15) gallons per minute.

3.34.7 Air Conditioning System

The coach shall be equipped with a Thermo King Intelligaire III Model Air Conditioning System with S391 Compressor and Clutch Assembly or approved equal. The motors are to be brushless. The compressor/clutch assembly shall be mounted in the engine compartment, and be belt driven from either the engine or transmission. If an alternator is also driven from the same PTO, then the compressor and alternator shall be driven by a single serpentine design belt. "Neverseez" anti-seizing lubricant shall be applied to the threads of all stainless steel hardware during unit assembly to prevent thread galling.

The evaporator, heater and condenser coils shall be dipped in an acrylic base, polyvinyl material to provide a thick coating of the entire exterior surface for corrosion protection and quick dirt release during washing. This coating shall not impair the performance of the air conditioning system.

The condenser coil shall be mounted to allow easy removal and reinstallation without major disassembly of the unit frame or removal of the unit from the coach. Separate drains shall be provided for the condenser and evaporator/heater sections to allow moisture to be routed out of the unit to the street.

The motors shall be brushless, or approved equal.

The fans shall be coated with high solid polyester paint for corrosion protection

3.34.8 Temperature and Electrical Controls

There shall be a unitized control panel consisting of reliable electromechanical relays, magnetic motor circuit breakers, bi-metal control circuit breakers, adjustable return air thermostat with a range of 60o - 90o F, ambient thermostat, evaporator coil anti-freeze thermostat and terminal board for ease of troubleshooting.

This control panel shall be located in the evaporator/heater return air area, or in an enclosed control box if mounted in an ambient location. The return air thermostat shall have a maximum tolerance from set point of 2.5o F.

3.34.9 Electrical Wiring and Terminals

All unit wiring shall be UL758, Style 3173/3196 having copper strands with tinned ally coating rated for up to 600 volts. The insulation shall be cross-linked polyethylene, rated for 125o C and shall be white in color with hot stamp number coding the entire length at a maximum spacing of 1-3 inches. All terminals shall be "forklok" or ring type with vinyl insulation. All terminals shall
be machine crimped. Hand crimping is not acceptable. All terminations exposed to ambient shall be coated with glycol for corrosion protection.

3.34.10 Receiver Tank, Dry Eye, Filter/Dehydrator

The unit shall be equipped with a refrigerant receiver tank installed vertically to ensure a steady liquid feed to the expansion valve. The receiver tank shall meet all ASTM requirements and have two (2) sight glasses for checking refrigerant level. The top sight glass shall have a floating plastic ball to indicate proper refrigerant level. A refrigerant dry eye shall be provided in the liquid line, or in the lower sight glass of the receiver tank, to indicate the presence of moisture in the refrigerant system. The unit shall have a disposable liquid line filter/dehydrator.

3.34.11 Refrigerant Hoses, Copper Tubing, Fittings

Suction and discharge hoses shall be provided to connect the air conditioning unit to the compressor. The hoses shall have reusable swivel fittings, Teflon liner, stainless steel interior support coil, stainless steel exterior braid, and asbestos exterior sleeve for abrasion protection. Length of such hoses shall be kept to a minimum to minimize effusion of refrigerant or permeation of moisture.

All copper tubing provided shall be refrigeration grade, Series 122 seamless type meeting ASTM specifications. All solder joints shall be silver soldered. All flux and scale shall be cleaned from solder joints, prior to soldering, and all tubing exposed to ambient shall be sprayed with fungus proof varnish.

All JIC and SAE swivel fittings of 3/4" flare size and larger shall include "o" rings for added sealing protection. "O" ring material must be compatible with refrigerant.

3.34.12 Expansion Valve

The expansion valve shall be externally equalized. It shall have a replaceable power head and cage assembly and be equipped with a 100 mesh screen at the inlet to prevent contaminants from plugging the seat. The superheat shall be factory set, requiring no field adjustment. The expansion valve bulb shall be clamped to the suction line in the evaporator compartment and insulated from effects of surrounding air temperature. The expansion valve body shall be properly secured and mounted in the return air area for ease of access.

3.34.13 System Performance

The Air Conditioning System shall control the interior coach temperature to meet all White Book temperature control performance requirements.
3.35 DESTINATION SIGNS

A Luminator 100% LED (amber), automatic electronic Passenger Information Display Sign System, or approved equal, shall be furnished and installed in the coach. The System shall consist of:

- Front Sign: 16 rows x 160 columns; display height min 7.7 inches, display width 63”.
- Side Sign: 14 rows x 108 columns; display height min 4.2 inches, display width 42”.
- Operators Control Unit (OCU)
- Cables and Accessories
- Sign communication via a J1708
- Emergency message shall be activated by a push button or toggle switch

3.36 STOP ANNOUNCEMENT SYSTEM

An automatic stop announcement system shall an option available to be provided and installed on each coach.

3.37 MISCELLANEOUS INTERIOR COMPONENTS

3.37.1 Visor

Padded visors or roller type shades shall be provided on Operator's side; one shall be for the windshield and one shall be for the Operator's side window. They shall be adjustable horizontally and vertically and shall meet requirements of State law. Visor shall be constructed of heavy-duty material and assembled to last the life of the coach in normal operations. Visor shall incorporate a clip type lock to lock visor in front or side position.

3.37.2 Farebox

A farebox shall be available to be installed on the coach as an option selected by the purchasing agency at the pre-production meeting.

3.37.3 Safety Equipment Compartment

An Amerex Model 400T ABC, or approved equal, five-pound (5 lb.) dry chemical fire extinguisher and KD #610-4645, or approved equal, safety triangle kit shall be installed. Safety triangle kit to be securely installed under the front right side longitudinal seat. Location of both the fire extinguisher and the kit to be approved by purchasing agency.

3.37.4 Coat Hook

A coat hook shall be mounted on the rear post of the Operator's window, or driver barrier frame.

3.37.5 Valuables Compartment
A compartment/box for storing Operator's purse or valuables shall be located near the front of the coach close to the Operator. It shall be of aluminum or steel, 6” x 11” x 20” with a hinged door which cannot be securely locked. Design and location to be approved at pre-production meeting.

3.38 BUMPERS

Energy absorbing front and rear bumpers by Romeo Rim, or approved equal, shall be furnished.

3.39 TOWING EYES

Two (2) front towing eyes, concealed and located above the bumper, shall be provided on the standard floor coach.

3.40 WHEELCHAIR ACCESSIBILITY

3.40.1 Requirements

Coach, front door entry area, aisle, tie-down area, and tie-downs shall be fully accessible to wheelchair passengers using standard electric wheelchairs in the 95th percentile of wheelchair size, length, width, height, tire size, and tire thickness. In any case, all conventional wheelchair designs shall be accommodated. Adequate provisions, including body modifications, as necessary, shall be made to enable wheelchair passengers to smoothly, quickly, and safely leave the passenger lift platform in a forward position, pass the front door entry area, and move down the aisle to the tie-down area, turn one-hundred eighty (180) degrees, and then move into the tie-down area.

3.40.2 Wheelchair Tie-Down Area

Accommodations shall be provided for two (2) wheelchair passengers to be secured in a forward-facing position in the area between the front longitudinal seats and the modesty panels facing the first transverse seats. The length of this area shall be fifty-eight inches (58”) or greater, and the width shall equal the length of the transverse seats and the modesty panels. Modesty panels shall be adequately reinforced to withstand impact of wheelchairs.

Fold down longitudinal seats, equal in appearance, design, and quality to the front longitudinal seats, shall be provided in the tie-down areas for use by ambulatory passengers when no wheelchair passengers are on the coach. When the fold-down seats are in the retracted position, there shall be adequate room for wheelchair users to safely and quickly secure themselves with the tie-down equipment.

A metal instruction plate attached to the bottom of the fold down longitudinal seats shall detail procedures for using the tie-down equipment.
3.40.3 Tie-Down Apparatus

Two seat belts for securement of wheelchair passengers and their wheelchairs shall be provided. When the folding seats are not retracted, the seat belts shall attach to the bottom of the seat such that they are securely bound and not visible.

Adequate sheathing, or other reinforcement, shall be used to position the lap belt and coupler ends so that wheelchair passengers, when in the tie-down securement position, may secure the lap belts without assistance and without bending, twisting, or leaning. Lap belts and couplers shall reach the hip level of the wheelchair user in such a way that no torso movement is necessary throughout the tie-down securement procedure.

3.41 ACCESS RAMP

An access ramp shall be provided at the entrance door. The ramp shall meet all A.D.A. requirements. The ramp is to be operated by the Operator from the seated position. In case of malfunction, the ramp shall be manually stowable.

3.42 ON-BOARD DIGITAL RECORDING SYSTEM

A digital video recording (DVR) security camera system shall be available to be installed supplied by the Proposer.

There must be a decal that is clearly visible to boarding passengers that they are being recorded (voice and video).

3.43 RADIO SYSTEM

There shall be a space to locate the radio control head convenient to the Operator and shall be provided for the radio control head, speaker, and handset. The final location will be determined at the pre-production meeting.

The Proposer is to provide at a minimum prewiring for a radio system. Including provisions for attaching an antenna to the roof and routing an antenna lead to the radio compartment shall include a three-fourths (3/4) inch inside diameter conduit. The antenna mounting and lead termination shall be accessible from the coach interior.

The Procuring transit agency shall have the option to select to have the Proposer install and setup the radio equipment. (i.e. a fully functioning and programmed radio system)

3.44 AUTOMATIC VEHICLE LOCATOR SYSTEM

The Proposer is to provide pricing for associated wiring, antenna and equipment for various AVL systems. As part of the bid the Proposer shall provide pricing for a complete install and wiring/antenna options.
3.45 BIKE RACK

The Proposer is to provide pricing for the installation of a bike rake.

The carrier is to be mounted to the front of the bus and shall have the option of a two position or three position configuration. In the stored position, it shall be folded up against the front of the bus protruding a minimal amount in front of the bumper. In the deployed position, it shall be folded down and ready to accept bicycles.

The carrier or its mounting brackets when folded down will not interfere with access to the front panel of the bus. The carrier when folded up shall not interfere with the windshield wipers. The carrier shall be able to load and unload from the front of the bus or the "curb-side" of the bus.

3.46 PUBLIC ADDRESS SYSTEM

A public address system shall be installed that enables the Operator to address passengers either inside or outside the coach. The public address system specified shall have the following requirements:

Inside speakers shall broadcast, in a clear tone, announcements that are clearly perceived from all seat positions at approximately the same volume level. A speaker shall be provided outside the coach so that announcement can be clearly heard and understood by passengers standing near the front door. An Operator-controlled switch shall select inside or outside announcements. A separate volume control shall be provided for the outside system if volume adjustment would otherwise be necessary when switching from inside to outside. The system shall be muted when not in use. The microphone shall be mounted on a heavy-duty, flexible, gooseneck that allows the Operator to comfortably speak into it without using his hands. The public address system will be activated by a foot control by Operator’s left foot.

3.47 WARRANTY

Warranties in this document are in addition to any statutory remedies or warranties imposed on the Proposer. Consistent with this requirement, the Proposer warrants that it will comply with the general and specific terms and requirements of these specifications with respect to providing the Procuring transit agency with transit coaches, specific sub-systems, components, and replacement parts of the quality, design, materials, and construction specified in the technical specifications.

The coach is warranted and guaranteed to be free from defects for two (2) years or 100,000 miles, whichever comes first, beginning on the date of acceptance of each coach. During this warranty period, the coach shall maintain its structural and functional integrity. The warranty is based on regular operation of the coach under the normal operating conditions. Basic body structure shall be warranted for twelve (12) years or 600,000.
Specification sub-systems and components are warranted and guaranteed to be free of defects for the mileages stated in below:

SUB-SYSTEM AND COMPONENT WARRANTY
WHICHEVER OCCURS FIRST

<table>
<thead>
<tr>
<th>ITEM</th>
<th>YEARS</th>
<th>MILEAGE</th>
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<tr>
<td>Transmission</td>
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<td>Unlimited</td>
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<td>Drive Axle</td>
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<td>100,000</td>
</tr>
<tr>
<td>Brake System (Excluding friction material)</td>
<td>2</td>
<td>50,000</td>
</tr>
<tr>
<td>Heating, Ventilation &amp; A/C System</td>
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<td>2 Seasons</td>
</tr>
<tr>
<td>Basic Body Structure</td>
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<td>50,000</td>
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<tr>
<td>Catalytic Converter (if equipped)</td>
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<td>150,000</td>
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The Proposer shall warrant that any components sub-systems, etc. shall carry with them an implied warranty and they are merchantable and reasonably fit from the general use and the same warranty exists where an examination, if available, would be fruitless as in the case of latent defects.

During the extended service warranty, the Proposer will pay for all parts and labor needed to repair the damage to the engine and/or the transmission resulting from the warrantable failure. The successful Proposer shall provide the Procuring transit agency with a list of all components that exceeds the warranty requirements of this specification.

If the Procuring transit agency detects a defect within the warranty periods defined in these specifications, it shall promptly notify the Proposer's representative. Within five (5) working days after receipt of notification, the Proposer's representative shall either agree that the defect is in fact covered by warranty, or reserve judgment until the subsystem or component is inspected by the Proposer's representative or is removed and examined at the procuring transit agency’s property or at the Proposer's plant. At that time, the status of warranty coverage on the subsystem or component shall be mutually resolved, if possible, between the procuring transit agency and the Proposer. Work necessary to effect the repairs shall commence within ten (10) working days after receipt of notification by the Proposer.

When warranty repairs are required, the procuring transit agency and the Proposer's representative shall agree within five (5) days after notification on the most appropriate course for the repairs and the exact scope of the repairs to be performed under the warranty. If no agreement is obtained within the five (5) day period, the reserves the right to commence the repairs and to enforce the warranty provisions and guarantee by recourse to legal action. The Proposer warrants that whenever any change is required to strengthen or correct a defect or efficiency of the coaches, this correction shall be made for all coaches at the Proposer's expense.

A fleet defect is defined as the failure of identical items covered by the warranty and occurring in the warranty period in a portion of the coaches delivered under this contract. The portion shall be
at least twenty-five (25%) percent of the fleet. The corrective action taken for a fleet defect shall survive the balance of the original warranty or be warranted for one (1) year or 50,000 miles whichever is longer. The extended warranty shall start when the defect is corrected on each coach, on a coach by coach basis.

The Proposer shall correct a fleet defect under the warranty provisions and shall promptly undertake and complete a work program reasonably designed to prevent the occurrence of the same defect in all other coaches purchased under this contract. The work program shall include inspection and/or correction of the potential or defective parts in all of the coaches.

The warranty on items determined to be fleet defects shall be extended to cover the time and/or miles of the original warranty, and the time and/or miles between the date a fleet defect was determined to exist until the time and/or miles that the repair or replacement of the fleet defect has been completed, shall not count against the time and/or miles of the warranty provisions.

The warranty shall not apply to any part or component of the coach that has been subject to misuse, negligence, accident or that has been repaired or altered in any way so as to affect adversely its performance or reliability, except insofar as such repairs were in accordance with the Contractor's maintenance manuals and the workmanship was in accordance with recognized standards of the industry. The warranty shall also be void if the Procuring transit agency fails to conduct normal inspections and scheduled preventative maintenance procedures as recommended in the Proposer's maintenance manuals.

The fleet defect provisions shall not apply to coach defects caused by non-compliance with the Proposer's recommended normal maintenance practices and procedures.

The warranty shall not apply to scheduled maintenance items, and items such as tires and tubes, nor to items furnished by the Transit Authority, such as radios, fareboxes and other auxiliary equipment, except insofar as such equipment may be damaged by the failure of a part or component for which the Proposer is responsible.

Fleet defect warranty provisions shall not apply to damage that is a result of normal wear and tear in service to such items as seats, floor covering, windows, and interior trim and paint.

3.48 WARRANTY REPAIRS

3.48.1 Procedures

The Procuring transit agency shall require the Proposer or its designated representative to perform warranty covered repairs that are clearly beyond the scope of the Procuring transit agency's capabilities. The Procuring transit agency personnel may do the work with reimbursement by the Proposer.
3.48.2 Repairs by the Proposer

If the Procuring transit agency requires the Proposer to perform warranty covered repairs, the Proposer's representative must begin, within ten (10) working days after receiving notification of a defect.

The Procuring transit agency shall make the coach available within the Proposer's repair schedule.

The Proposer shall provide, at its own expense, all spare parts, tools, and space required to complete repairs. At the Procuring transit agency’s option, the Proposer may be required to remove the coach from the Procuring transit agency's property while repairs are being affected. If the coach is removed from the Procuring transit agency’s property, the Proposer shall be responsible for the transportation cost and the Proposer’s representative must diligently pursue all repair procedures.

3.48.3 Repairs by the Procuring Transit Agency

If the Procuring transit agency performs the warranty covered repairs, it shall correct or repair the defect and any related defects using Proposer specified spare parts available from its own stock or those supplied by the Proposer specifically for this repair. The Procuring transit agency shall determine whether a component is repaired or replaced.

Monthly or at a period to be mutually agreed upon, reports of all repairs covered by this warranty shall be submitted by the Procuring transit agency to the Proposer for reimbursement or replacement of parts. The Proposer shall provide forms for these reports. Reimbursement for the Procuring transit agency supplied parts shall be calculated from the OEM parts price list in effect at the time of the repair.

3.48.4 Parts – Proposer Supplied Parts

The Procuring transit agency may request that the Proposer supply new components or parts necessary for warranty covered repairs being performed by the Procuring transit agency. These parts shall be shipped prepaid to the Procuring transit agency from any source selected by the Proposer within ten (10) working days of receipt of the request for said parts.

3.48.5 Defective Components Return

The Proposer may request that parts covered by the warranty be returned to the manufacturing plant. The Proposer shall pay the total cost for this action. Materials should be returned in accordance with Proposer's instructions, except that returns shall be to the contractor's plant and not drop slipped to various suppliers.
3.48.6 Reimbursement for Labor

The Proposer shall reimburse the Procuring transit agency for labor cost. The amount shall be $65.00 per hour for the duration of this contract.

3.48.7 Reimbursement for Parts

The Proposer shall reimburse the Procuring transit agency for parts that must be replaced to correct a defect.

The reimbursement shall be at calculated from OEM parts price list in effect at the time of repair and 15% handling costs.

3.48.8 Warranty after Replacement/Repairs

If any component, unit, or sub-system is repaired, rebuilt or replaced by the Proposer or by the Procuring transit agency’s personnel, with the concurrence of the Proposer, the subsystem shall have the un-expired warranty period of the original sub-system.

3.49 EDUCATION AND TRAINING

3.49.1 General Requirements

This section establishes the requirements for Proposer supplied services in support of the purchase of coaches. These services shall be provided both prior to, during, and after delivery of the coach(s) to the Procuring transit agency. System support services includes, but is not limited to, lesson plans and outlines, special studies to improve vehicle safety, reliability, general economy and the Procuring transit agency maintenance procedures relating to the successful deployment of the acquired coaches. This section outlines specific requirements for education/training, publications, field service engineering, spare parts and special tools and equipment for maintenance, fault diagnosis, and testing.

The Proposer shall provide an educational program for the Procuring transit agency’s supervisory staff and maintenance personnel of a quality and depth sufficient to permit satisfactory deployment, use, servicing, and maintenance of the coaches furnished. The training program shall include formal and informal instruction with use of slides, models, mock-ups, samples, manuals, diagrams, parts catalogs, schematics, wall charts, and other training aids. All courses of instruction shall be presented in the English language. Training shall be conducted within 14 days after delivery of the first coach. All training shall be conducted at the Procuring transit agency’s facility.

3.49.2 Training Program

The Proposer shall within sixty (60) days before delivery of the coaches, submit to the Procuring transit agency for approval, an outline of the education and training program designed in
accordance with these technical specifications. The program shall provide for formal classroom instruction and a period of time to perform maintenance functions in on-coach and in shop environments. The program shall also include Bus Line Inspection training and shall be performed by the contractor.

3.49.3 Training Schedule

The following outline is the minimum training program required by the Procuring transit agency.

Training for major components (Engine, Transmission, A/C, etc.) shall be conducted by the manufacture.

This training is to be conducted for each delivery of new coaches.

All training will include material such as diagnostic, maintenance and/or operational manuals.

A master copy of all training material must be delivered to the Procuring transit agency’s training department prior to the beginning of training.

3.49.4 Training Hours

The Proposer shall provide to each Procuring transit agency as part of this five year contract with the first coach order; 20 hours of training per coach delivered. This training shall include classes on Basic familiarization, HVAC systems, Electrical systems, Transmission, Diesel Engine, CNG Engine, Hybrid system (engine/transmission/battery, etc.), fuel systems and any other course that may be required by the Procuring transit agency that deals with the maintenance of the coach. The courses will have between 5 to 10 trainees per class.

3.50 MANUALS AND CATALOGS

Three (3) copies each of complete parts books for coaches is furnished prior to delivery of the coaches which will permit the stocking of spare parts. Parts manuals will also be made available in the LINK 1 format.

Four (4) copies of service manuals shall be provided. The service manual shall have all information needed for on-bus running maintenance and adjustment, and on-line trouble diagnosis of each system including such data as troubleshooting guides and schematics for the vehicle and each of its systems. (Engine, transmission, A/C and heating, Wheelchair lift, Electronic destination sign, etc.).

Four (4) copies of heavy repair maintenance manuals shall be provided. The manual shall contain a detailed analysis of each component of the coach so that mechanics can effectively and safely service, inspect, maintain, adjust, troubleshoot, repair, replace, and overhaul the coach. The manuals shall be coach specific.
Ten (10) copies of drawings showing wiring schematics of auxiliary circuits, including airline diagrams and other necessary prints for the maintenance of these coaches are furnished.

All manuals shall also be provided on an electronic medium, Such as a CD-ROM or preferably a USB flash drive. The Proposer must also provide appropriate software to view the manuals. This does not replace the printed material above.

3.51 REPLACEMENT PARTS

A supply of replacement parts for the coaches specified shall be guaranteed for a period of fifteen (15) years by issuing revised pages or otherwise notifying the Procuring transit agency of new or superseding parts and maintenance practices.

3.52 PAINTING AND DECALS

3.52.1 Painting

As part of the base cost of the coach the Proposer shall supply a DuPont low VOC paint, or approved equal shall be applied to all exterior surfaces.

This base bid shall include the cost for a two color paint scheme. Colors to be determined at the pre-production meeting.

The base cost shall also include a reflective decal strips for two side and the rear of the coach.

These strips shall be two colors.

The Procuring transit agency shall approve all paint schemes and color combinations at the pre-production meeting.

All exterior surfaces shall be smooth and free of wrinkles and dents. Paint shall be applied smoothly and evenly with the finished surface free of dirt and other imperfections.

Coach number location shall be finalized at the pre-production meeting.

3.52.2 Decals

The following decals shall be provided. Preferred letter style is "HELVETICA MEDIUM, all upper case.

<table>
<thead>
<tr>
<th>DECAL</th>
<th>LOCATION</th>
<th>COLOR*/HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Website”</td>
<td>4 locations on the outside of the bus</td>
<td>TBD at Preproduction</td>
</tr>
<tr>
<td>(i.e. <a href="http://www.transitname.org">www.transitname.org</a>)</td>
<td>- TBD at Preproduction</td>
<td>3” (CRILLIE)</td>
</tr>
<tr>
<td>Coach number</td>
<td>Interior above windshield</td>
<td>White 2”</td>
</tr>
</tbody>
</table>
For your safety and security, continuous audio/video monitoring may be occurring on this vehicle video & audio recorded.

<table>
<thead>
<tr>
<th>“Watch your step”</th>
<th>Front stepwell</th>
<th>Red (reflective) 2”</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Operating Instructions)</td>
<td>Above exit door</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>(Operating Instructions)</td>
<td>At emergency escapes</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“For passenger safety, Federal law prohibits operation of this bus while anyone is standing forward of the white line”</td>
<td>Interior above windshield</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>(Illustrated - No Smoking/Food/Radio)</td>
<td>Front destination sign door</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“On Off”</td>
<td>Side console on valve</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“Diesel Fuel”</td>
<td>Inside fuel filler door</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“Oil”</td>
<td>Inside oil filler door</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“Caution 'Water' Hot”</td>
<td>Inside surge tank filler door</td>
<td>Mfg. Std.</td>
</tr>
<tr>
<td>“Caution – Negative Ground”</td>
<td>Inside battery compartment door</td>
<td>Mfg. Std.</td>
</tr>
<tr>
<td>“Exit through back door”</td>
<td>Interior above windshield</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“Wait for light”</td>
<td>Interior above rear door to right</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“Push door to open”</td>
<td>2 locations-Interior on top panel of each door</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“Never cross in front of bus”</td>
<td>Above front passenger door</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>“As a courtesy, please allow older adults and people with disabilities passengers to use these seats”</td>
<td>Above front longitudinal</td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>International Handicapped Symbol (2)</td>
<td></td>
<td>Black Mfg. Std.</td>
</tr>
<tr>
<td>Coach Number</td>
<td>TBD at Pre production</td>
<td>Black on White or White on Black</td>
</tr>
</tbody>
</table>

*On approval of the Procuring transit agency, specified color may be changed in response to interior color scheme.

## 3.53 HYBRID OPTION

The Proposer shall propose a Hybrid Drive, or approved equal as an option.

### 3.53.1 Engine

The bus shall be powered by a hybrid/diesel propulsion system. Engine shall be an engine capable of giving satisfactory life and performance in transit service.

Power plant is a complete unit, mounted in the rear, and mountable and de-mountable as a unit, complete with hybrid drive. Engine shall also be removable without disturbing hybrid drive.

### 3.53.2 Hybrid Drive

The bus shall have a hybrid drive unit, designed to last the life of the bus, which, coordinated with the engine and the rear axle drive ratio, enables the vehicle to achieve the required top speed, acceleration and hill climbing capability while still maintaining passenger comfort and...
providing a smooth ride. The hybrid drive shall be rated to operate at the GVWR of the bus. Hybrid drive shall be an Allison E40 drive system or approved equal, including: two concentric AC induction motors; two mode compound split parallel architecture with infinitely variable gear rations; dual power inverter module; system controllers and a Ni-MH energy storage and management system. The dual power inverter module (DPIM) and battery pack shall be mounted on the roof of the bus.

3.53.3 Hybrid Drive Drain Plug

A drain plug of magnetic type attached to rear of oil pan near drain opening is furnished.

3.53.4 Hybrid Electrical

Operating voltage of the hybrid drive system is 600 to 900 volts. Redundant HVIL (high voltage interlock loop) systems protect all circuits and components. The electrical system provides and distributes power for all electrical components in the bus. The system supplies a nominal 12 volts to incandescent lights and instruments and 24 volts to all remaining circuits. Except for the engine starter circuit, all circuits are protected by circuit breakers or fuses.

Casual contact with components that have a sufficient voltage potential (emf) to cause bodily injury shall not be possible. No passenger, driver, or passerby shall be able to contact such equipment.

For maintenance purposes, all devices that contain high voltage circuits (maximum circuit operating voltages above 50 VDC or 50 VAC) shall be contained within protective enclosures. All access covers for such enclosures and compartments shall be permanently labeled with the "DANGER - HIGH VOLTAGE" signs. Appropriate warning signs and labels shall be used to alert maintenance personnel and/or emergency crews to the presence of high voltage batteries and cabling within the bus. High voltage cables and wires shall be installed in the dedicated harnesses, wire conduits, or raceways. High voltage harnesses shall be identified as such by the distinct color markers, tags or other approved method.

3.54 CNG ENGINE OPTION

The Proposer is to provide an option to replace the diesel engine in the base bid with a CNG engine, fuel cylinders and other necessary equipment for a fully functional CNG powered bus.

3.54.1 Engine

The engine shall be a Cummins ISL-G 8.9L compressed natural gas engine, or approved equal, rated at peak horsepower of 280 BHP @ 2,000 RPM and peak torque of 900 ft-lbs @ 1,300 RPM. The engine and emissions system must meet all EPA and CARB emissions requirements. The maximum operating speed of the engine will be governed at 55mph.
A low pressure fuel filter shall be provided with the engine and shall be installed at the rear curbside of the vehicle downstream from the vehicle fueling panel. A minimum of 8’ of hose shall be used to connect the filter to the fuel panel to allow for adequate heating of the gas.

The automatic engine shutoff circuit shall be the OEM system activated by each of the following warnings:

- Low Engine coolant
- Engine overheat (sensors shall be located low enough in cooling system that ensures full contact with coolant at all times).
- Low engine oil pressure

NOTE: Engine shut down devices for hot engine, low oil, and low coolant shall be of the latest current production design. A visual and audible indication will be provided in the driver’s area to indicate when a device has been activated. For safety, a 30-second over-rule switch shall be installed in the dash to permit the vehicle to be moved to a safe area.

### 3.54.2 Fuel System

All CNG systems must comply with the following standards and regulations: NFPA-52, FMVSS 304 and ANSI/IAS NGV2.

Each vehicle shall be identified with a diamond-shaped “CNG” label located on an exterior vertical surface at the rear curbside of the vehicle.

### 3.54.3 Tanks and Tank Enclosure

The CNG tanks shall be neck mounted and located on the roof of the vehicle in a purpose built tank mounting cradle. Tanks shall be Type 4 composite tanks with a high-density polyethylene (HDPE) liner and a structural shell wound from a hybrid of high strength carbon fiber blended with glass filament manufactured by Lincoln Composites, Inc. or approved equal. Tanks shall be designed for a settled pressure of 3,600psig and provide for a maximum filling pressure of 4,250psig. Total tank capacity shall be a minimum of 22,000scf and shall provide for a minimum operating range of 400 miles.

Each tank will be labeled “For CNG Only” in letters. Each tank shall be oriented on the vehicle so that the manufacturer’s label with a serial number, manufacture date and “For CNG Only” tag will be visible without rotating tank to obtain that information.

For the purpose of safety, the roof mounted tanks must be accessible to maintenance personnel without the requirement to walk on top of the closed tank enclosure to open the enclosure doors. The enclosure doors shall be secured with non-keyed twist latches and shall incorporate hand holds to assist in opening the enclosure doors once unlatched. When opened, the enclosure doors shall be secured to prevent from over-extension. The open enclosure doors shall also provide a certain degree of fall prevention. Once exposed, for safety purposes, maintenance personnel shall not have to walk on top of or over the tanks in order to inspect or service the tanks, valves,
regulators or Pressure Relief Devices (PRD). Access to the roof mounted tanks shall be through the rear roof hatch.

At a minimum, each tank must have an easily accessible and operable manual shutoff valve that will isolate the tank from the shared fuel supply piping system. The option to add electric solenoid valves to each tank shall be made available. Depending on the size of the tank, two (2) or three (3) PRDs will protect each tank. The PRDs will vent independently (not manifolded together) through cutouts in the tank enclosure. The PRD vents must be able to be inspected from ground level with the use of a mirror and shall be designed so as to not collect water.

3.54.4 Piping, Hoses, Valves, Filters and Regulators

All piping will be constructed of stainless steel and shall be sized appropriately. All fittings will be Swagelok or approved equal. The use of pipe threads is not acceptable. There shall only be one (1) crossover fuel line on the roof with a single stainless steel fuel supply line going into the engine compartment at the rear curbside of the vehicle. This fuel supply line shall be covered with a conduit vent to trap and expel any escaped gas that may accumulate in the fueling panel. All hoses in the fuel system shall be continuously marked with manufacturer’s name, CNG service and working pressure.

A single high pressure manually operated quarter-turn shutoff valve shall be installed in an accessible location which will permit isolation of the cylinders from the rest of the fuel system. This valve shall be located as close as possible to the fueling panel and be marked with the words “Manual Shutoff Valve”.

The vehicle fueling panel shall be located behind a hinged access door located at the rear curbside of the vehicle. The access door shall include an interlock sensor to disable the engine starter when the door is open. In the event of a failure to the sensor the engine will not start. The fueling panel shall incorporate a fast fill refueling connection (Sherex/OPW CR5000), slow fill refueling connection (Sherex/OPW 1000) and a defueling connection (Sherex/OPW 1000) or approved equals. All nozzles shall include a tethered dust cap. A Swagelok or approved equal high pressure gauge (7,000psig) and low pressure gauge (400psig) will be provided in close proximity to the fueling receptacle(s). A low fuel lamp will be provided in the driver’s area as standard with a fuel level gauge being made available as an option.

Each vehicle shall bear a label at the fueling panel that includes:

- CNG Fueled Vehicle
- System working pressure
- Installer’s name or company
- Cylinder retest date
- Total cylinder water volume in cubic inches

As part of the fueling panel a high pressure filter shall be provided in-line downstream from the main fuel supply line in the engine compartment at the rear curbside of the bus. The filter must be in a location that provides for ease of service.
A normally closed electric solenoid shall be provided downstream from the high pressure filter and prior to the high pressure regulator. The “shut-off” solenoid will stop the flow of gas when the ignition is in the “off” position.

A high-pressure regulator will be installed prior to the low pressure filter and will reduce the gas pressure from 3,600 PSI to the pressure required by the engine manufacturer. The regulator will be heated by engine coolant that will be delivered through appropriately sized hoses so as to avoid freezing of the gas/regulator. The regulator must be in a location that provides for ease of service.

The high pressure filter, electric solenoid and high pressure filter must be located in close proximity to each other and incorporated as part of the fueling panel. These components will be connected by stainless steel tubing; no flexible hose shall be used to make these connections. The components must be located so that they are all serviceable independently and through the same compartment.

3.55 BRT STYLING OPTION

The BRT styled bus shall be a modern aerodynamic looking, smooth sided, and aesthetically pleasing design.

The front cap shall be a composite material and shall have a single piece windshield glazing that includes an integrated destination sign glass and windshield defroster system. The front cap shall have a left and right front quarter window, with dedicated quarter window wipers for safety and to minimize accumulation of splash and spray. The front roof appearance shall be enhanced by a composite forward roof top fairing to provide an advanced aerodynamic look. The Headlamps shall be of a modern appearance, long life projection beam type. The front turn signals shall be of modern, LED style design, which complements the front headlamps.

The mirrors shall be Class A type and well suited to enhance and compliment the clean aerodynamic design. The mirrors need to be high mounted, aesthetically pleasing and aerodynamically styled.

The front close out / bumper shall also be of advanced / composite design to complement the front cap, wraparound the front corners of the bus, close out the chassis area and be able to support a bike rack if needed. The bumper and close out assembly needs to compliment the aerodynamic styling of the bus.

The rear of the coach will have a smooth, modern designed; composite body cap shall have an advanced aerodynamic shape that maintains and complements the aerodynamics of the coach.

The rear composite cap will have full opening engine and air conditioning compartment doors with door props suited to support and hold open the compartment doors. The rear appearance
shall be further complemented by an aerodynamically shaped upper roof fairing that is opposite in shape of the front fairing, maintaining the aerodynamic styling.

The rear tail lamps shall be cluster mounted in a triangular shape with body cladding around the cluster.

The rear tail lamps shall include three lamps, stop, turn and reverse, all of a 4” LED design along with a third center mounted LED brake lamp.

3.56 SUBURBAN BRT STYLING OPTION

The SUBURBAN BRT styled bus shall be identical in all exterior aspects to those called for in the BRT STYLING OPTION. Including all of the modern aerodynamic looking, smooth sided, and aesthetically pleasing design. These buses will have high – back individual padded seating, overhead luggage racks above the low floor section incorporating individual reading lights and HVCA outlets and no rear door.

A minimum of forty (40) seating positions on the standard forty (40) ft. low- floor bus, excluding the drivers position. The minimum hip to knee room at any seating position must not be less than twenty six and one – half (26.5) inches.

3.57 TROLLEY REPLICA STYLING OPTION

The “Trolley Replica” styling option should modify the exterior with a wood-looking trim and decals, along with a cosmetic cupola and a brass bell to convey the traditional trolley appearance. The interior should include solid oak passenger seating.
4. **OTHER TERMS AND CONDITIONS**

4.1 It is the intent of the Procuring transit agency for this project to start as soon as possible after the award of a contract or contracts to the successful proposer(s).

4.2 Terms of payment will be 30 days after receipt of invoice. The Procuring transit agency will not pay for goods until they have been delivered or for services until they have been performed. Invoices must be sent in a timely manner. Work not billed within 90 days of completion shall not be eligible for reimbursement.

4.3 The contract awarded to the successful proposer(s) will be for a term of five years.

5. **DOCUMENTATION TO BE SUBMITTED WITH PROPOSALS**

The proposer’s proposal should be presented in the format described below. The proposer shall supply the following with their proposal:

1. A letter offering the proposal in response to this request, signed by an authorized executive of the company.
2. Three references with addresses, phone numbers, contact persons and email addresses for the contact persons. These references shall include current and accurate contact information for personnel that can speak to the quality of the services that have been provided in the past by the proposer.
3. A list of the Proposer’s three most recent bus deliveries to include the number of buses, the expected/contracted delivery schedule along with the actual/final delivery schedule.
4. The following enclosures shall be completed and returned:
   - Proposer Information Page
   - Bus Description Forms (one for each type and length of bus proposed)
   - Pricing Form *(to be supplied in a separate envelope clearly marked “Pricing Form”)*
   - Buy America Certification
   - Certification of Restrictions on Lobbying
   - Certification of Contractor Regarding Debarment and Suspension
   - Non-Collusion Affidavit
   - Certificate of Procurement Integrity
   - Certification of Compliance with Bus Testing Requirement
   - DBE Approval Certification
   - Federal Motor Vehicle Safety Standards
   - Addenda Acknowledgement Form

6. **EVALUATION OF PROPOSALS**

The evaluations will be based on the criteria listed below. Evaluations shall be completed by an evaluation team established by the Procuring transit agency.
The evaluation team may elect to request a viewing of a demonstration vehicle from those proposers in the competitive range. The Procuring transit agency reserves the right to re-evaluate proposals based on the review of the demonstration vehicle.

In any event, the Procuring transit agency reserves the right to accept other than the lowest price proposal, reject any and all proposals, or to negotiate separately with any source whatsoever in any manner necessary to serve the best interest of the procuring transit agency. Additionally, the Procuring agency reserves the right to waive any informalities and minor irregularities in the proposal.

6.1 EVALUATION CRITERIA

The following evaluation criteria have been established by the Procuring agency for this procurement, the criteria are presented to allow the Procuring agency to analyze proposals received on an equal basis and to afford all Proposers the opportunity to know the basis upon which their proposals will be evaluated.

Award will be made to the Proposer whose final offer is most beneficial to the Transit Authorities after evaluation in accordance with these criteria. The following criteria are listed in order of importance with the most important criterion listed first.

6.1.1 Product Design and Performance

The information provided by the Proposer in its technical submittal relating to the product provided will be utilized to evaluate the proposal in relation to this factor. Failure to complete the required Bus Description Forms will impact the final point determination of this section. Vehicle construction and system design as well as documented reliability may be used in this in this evaluation, as well as other design and performance elements of the components which comprise those systems. At a minimum, test results, safety and maintenance factors and system components proposed may be considered in determining a final value for this factor.

6.1.2 Manufacturer’s Performance and Reputation

This factor will look mainly at the capability and reputation of the product manufacturer as presented in the proposal or as is determined by review of information available from references or other resources. The evaluation may look as the Proposer’s overall organizational and financial capabilities and consider key components such as organizational reporting structure, quality control, quality assurance, research and development, technical, training and parts support, response time, product capabilities, bonding capacity, and financial history, as well as other considerations in reaching a final point determination. The evaluation panel may also look at judgments, liens, fleet defect history, warranty claims, and the steps that the manufacturer took to resolve these concerns in assessing the overall reputation of the Proposer. The Proposer’s history of meeting expected delivery schedules and the time frame for contract performance/delivery will also be considered.

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6.1.3 Total Cost per Coach

This factor will be scored separately and after evaluation of the technical proposals. This factor will be a mathematical calculation, setting the lowest-priced base bus from a responsive proposer at 100% of possible points in this category. Points will be deducted from other proposers by the percentage difference of their price over the lowest-price bus. For example, a price that is 15% greater than the lowest-priced base bus will receive a deduction of 15% of the total possible points in this category.

6.1.4 Options

This factor will look at the Options information provided by the Proposer on the pricing form. This factor will be scored after evaluation of the technical proposals. The evaluation panel may consider the number of options available, the cost of the options, and other factors in determining its assessment of points to be awarded.

7. OPEN RECORDS NOTIFICATION

All information appearing within the proposal is subject to public inspection as per the Kentucky Open Records Act, KRS 61.870. Any proprietary information eligible to be excluded from an open records request must be clearly marked as such on each individual page on which proprietary information appears. Proposers may not make a blanket or all-inclusive confidentiality/proprietary statement. For the purpose of determining an eligible exclusion, KRS 61.878 describes proprietary information in the following manner: “Upon and after July 15, 1992, records confidentially disclosed to an agency or required by an agency to be disclosed to it, generally recognized as confidential or proprietary, which if openly disclosed would permit an unfair commercial advantage to competitors of the entity that disclosed the records”.

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49 CFR, Part 26 requires that all recipients of federal funds collect certain information from all proposers and Proposers submitting responses to solicitations. Please fill out this form completely. Any offer that does not contain a completed copy of this form will be ruled as non-responsive and dropped from further consideration in the procurement process for this solicitation.

COMPANY: ________________________________________________________________

ADDRESS: __________________________________________________________________

CITY: ______________________________________ STATE: _____ ZIP: ____________

CONTACT NAME: ___________________________________________________________

TELEPHONE: ___________________________ FAX: __________________________

EMAIL ADDRESS: _________________________________________________________

General Classification of Firm by Number of Employees:
___ Less Than 10    ___ 11 – 50    ___ 51 – 100    ___ 101 – 500
___ 501 – 1000    ___ 1001 – 5000 ___ More Than 5000

General Classification of Firm in Age of Existence:
___ 0 – 5 Years    ___ 6 – 10 Years    ___ 11 – 50 Years    ___ Over 50 Years

General Classification of Firm by Annual Gross Income:
___ Less than $100,000    ___ $100,000 - $250,000    ___ $250,001 - $500,000
___ $500,001 - $1,000,000 ___ $1,000,001 - $5,000,000 ___ Over $5,000,000

General Classification of Firm by Type:
___ Firm is a certified DBE    ___ Firm is a certified MBE
___ Firm is a certified WBE    ___ Firm is not certified as any of the previous types

I certify this information is accurate to the best of my knowledge.

SIGNATURE: ______________________________________ DATE: ______________

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BUS DESCRIPTION FORM

Complete a BUS DESCRIPTION for each model or length of bus. This BUS DESCRIPTION is for the following lengths and types of bus:

<table>
<thead>
<tr>
<th>Length</th>
<th>Diesel</th>
<th>CNG</th>
<th>Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>30'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. Bus Manufacturer  
B. Bus Model #:/Name

C. Dimensions

1. Overall Length
   a. Over Bumper _____Ft_____In
   b. Over Body _____Ft_____In

2. Overall Width
   a. Overall Body excluding mirrors _____In
   b. Overall Body including mirrors _____In

3. Overall Height
   a. At Front Centerline of Bus _____In
   b. At Rear Centerline of Bus _____In

4. Angle of Approach _____Deg

5. Breakover Angle _____Deg

6. Angle of Departure _____Deg

7. Doorway Clear Opening (including grab handles)
   a. Front Door Width _____In    Height _____In
   b. Rear Door Width _____In    Height _____In

8. Step Height from Ground, Step Riser Heights and Step Depth
Bus Floor _______ In (Height from Ground)

Step _______ In (Tread Depth) _______ In (Height from Ground)

Step _______ In (Tread Depth) _______ In (Height from Ground)

Ground _______ In

9. Interior Head Room (Centerline)
   a. Front Axle Centerline _______ In
   b. Rear Axle Centerline _______ In

10. Floor Height Above Ground (At each Door)
    a. Front Door _______ In
    b. Rear Door _______ In

11. Minimum Ground Clearance
    a. Excluding Axles _______ In
    b. Including Axles _______ In

12. Horizontal Turning Envelope
    a. Outside Body (Including Bumper) Turning Radius _______Ft _______In
    b. Inside Turning Radius _______Ft _______In

13. Wheelbase _______Ft _______In

14. Overhang (Centerline of axle over bumper)
    a. Front _______Ft _______In
    b. Rear _______Ft _______In

15. Seats

   Total Number of Seat Positions ______
   b. Minimum Knee-to-Hip Room ______In
   c. Minimum Aisle Width ______In
   d. Passenger Seat - Manufacturer and Model No./Name _______________________ / ____________
### D. Weight of Bus
with Full Complement Fluids (Fuel, Oil, Water) at GVWR

<table>
<thead>
<tr>
<th>Part</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. On Front Axle</td>
<td>_____ lbs.</td>
</tr>
<tr>
<td>2. On Rear Axle</td>
<td>_____ lbs.</td>
</tr>
<tr>
<td>3. Total</td>
<td>_____ lbs.</td>
</tr>
</tbody>
</table>

### E. Engine

<table>
<thead>
<tr>
<th>Part</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Manufacturer</td>
<td>____________________________________________</td>
</tr>
<tr>
<td>2. Type</td>
<td>____________________________________________</td>
</tr>
<tr>
<td>3. Model Number</td>
<td>____________________________________________</td>
</tr>
<tr>
<td>4. No. of Cylinders</td>
<td>____________________________________________</td>
</tr>
<tr>
<td>5. Net S.A.E. Horsepower</td>
<td>_____ HP at _____ RPM</td>
</tr>
<tr>
<td>7. Weight, Dry</td>
<td>_____ lbs.</td>
</tr>
<tr>
<td>8. Crankcase Oil Capacity</td>
<td>_____ qts</td>
</tr>
<tr>
<td>9. Turbocharger, Make &amp; Type</td>
<td>____________________________________________</td>
</tr>
<tr>
<td>10. Maximum RPM, no load</td>
<td>_____ RPM</td>
</tr>
<tr>
<td>11. Maximum RPM, full load</td>
<td>_____ RPM</td>
</tr>
<tr>
<td>12. RPM at Idle</td>
<td>_____ RPM</td>
</tr>
<tr>
<td>13. RPM at Fast Idle</td>
<td>_____ RPM</td>
</tr>
<tr>
<td>14. Exhaust Pipe Discharge Location</td>
<td>_____________</td>
</tr>
</tbody>
</table>

### F. Transmission

<table>
<thead>
<tr>
<th>Part</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Manufacturer</td>
<td>____________________________________________</td>
</tr>
<tr>
<td>2. Type</td>
<td>____________________________________________</td>
</tr>
<tr>
<td>3. Model Number</td>
<td>____________________________________________</td>
</tr>
</tbody>
</table>
4. # of Forward Speeds ______________________________

5. Gear Ratios ______________________________
   a. First Gear ______________________________
   b. Second Gear ______________________________
   c. Third Gear (if applicable) ______________________________
   d. Final Drive Gear ______________________________
   e. Reverse ______________________________

6. Shift Speeds
   a. 1st to 2nd ______ MPH ______ RPM
   b. 2nd to 3rd (if applicable) ______ MPH ______ RPM
   c. 2nd/3rd to Final Drive ______ MPH ______ RPM

7. Oil Capacity (including Heat Exchanger) ______ Qts

G. Alternator
   1. Manufacturer ______________________________
   2. Type ______________________________
   3. Model ______________________________
   4. Output at Idle ______ Amps ______ Volts
   5. Output at Max RPM ______ Amps ______ Volts
   6. Speed at Idle ______ RPM
   7. Drive Type ______________________________

H. Starter Motor
   1. Manufacturer ______________________________
   2. Type ______________________________
   3. Model ______________________________
I. Air Compressor(s)

1. Manufacturer ___________________________________

2. Type __________________________________________

3. Capacity at Idle __________ cfm

4. Capacity at Max RPM __________ cfm

5. Maximum Warranted RPM _______ RPM

6. RPM at Idle _________ RPM

7. Drive Type ______________________________________

J. Axle, Front

1. Manufacturer ___________________________________

2. Type __________________________________________

3. Model No. ______________________________________


5. Wheel Size and Mfr. ______________________________

K. Axle, Rear

1. Manufacturer ___________________________________

2. Type __________________________________________

3. Model No. ______________________________________

4. Axle Ratio ______________________________________

5. Gross Axle Weight Rating __________ lbs.

L. Steering, Power

1. Pump

   a. Manufacturer & Model No. _______________________

   b. Type ________________________________________

   c. Relief Pressure _________ psi
2. Booster
   a. Manufacturer & Model No. ______________________________________
   b. Type ______________________________________
   c. Ratio __________

3. Power Steering Fluid Capacity __________qtrs.

4. Effort at Steering Wheel (Unloaded stationary coach on dry asphalt pavement) __________lbs.

M. Brakes

1. Make of Fundamental Brake System ______________________________________

2. Brake Chamber – Vendor Size and Part No. ______________________________________
   a. Front Size _______  Part # __________
   b. Rear Size _______  Part # __________

3. Slack Adjuster – Vendor Type and Part No.
   a. Front ______________________
      1) Right ______________________
      2) Left ______________________
   b. Rear ______________________
      1) Right ______________________
      2) Left ______________________

4. Brake Drums
   a. Front
      1) Manufacturer ______________________
      2) Part Number ______________________
      3) Diameter _____In
   b. Rear
      1) Manufacturer ______________________
2) Part Number

3) Diameter _______In

5. Brake Block Manufacturer

6. Brake Blocks per Shoe ________
   a. Front _______In
   b. Rear _______In

7. Brake Block Widths
   a. Front _______In
   b. Rear _______In

8. Brake Block Lengths
   a. Front _______In
   b. Rear _______In

9. Brake Block Thickness _______In

10. Brake Block Area per Wheel
    a. Front _______Sq. In
    b. Rear _______Sq. In

N. Cooling System

1. Radiator
   a. Manufacturer
   b. Type
   c. Model Number
   d. Number of Tubes
   e. Number of fins per vertical inch

2. Total Cooling and Heating System Capacity _______Gals

3. Radiator Fan Speed Control Type

83
4. Surge Tank Capacity _______ Gals
5. Engine Thermostat Temperature Setting _______ Deg
6. Overheat Alarm Temperature Sending Unit Setting _______ Deg

O. Air Reservoir Capacity

1. Supply Reservoir _______ Cu In
2. Primary Reservoir _______ Cu In
3. Secondary Reservoir _______ Cu In
4. Parking Reservoir _______ Cu In
5. Accessory Reservoir _______ Cu In
6. Other Reservoir _______ Cu In

P. Heating and Ventilating Equipment

1. Heating System Capacity _______ BTU
2. Ventilating Capacity _______ cfm
3. Heater Cores
   a. Main Heater
      1) Manufacturer & Model No. ___________________________________________
      2) Number of Rows __________________________________________________
      3) Number of Fins per vertical inch _________
      4) Number of Heater Cores _________
   b. Driver Heater
      1) Manufacturer & Model No. ___________________________________________
      2) Number of Rows __________________________________________________
      3) Number of Fins per vertical inch _________
      4) Number of Heater Cores _________
4. Hot Water Pump
   a. Manufacturer & Model No. ______________________________________
   b. Type _____________________________

5. Controls
   a. Manufacturer & Model No. ______________________________________
   b. Type _____________________________

Q. Air Conditioning
   1. Cooling System Capacity ____________BTU
   2. Freon Capacity ____________ lbs.
   3. Compressor
      a. Manufacturer & Model No. ______________________________________
      b. Capacity _____________________________
   4. A/C Blower
      a. Manufacturer & Model No. ______________________________________
      b. Capacity _____________________________

R. Interior Lighting
   1. Type _____________________________
   2. Number of Fixtures _____________________________
   3. Size of Fixtures _____________________________
   4. Ballast _____________________________
      a. Manufacturer _____________________________
      b. Model No. _____________________________

S. Body Construction
   1. Wheel Well Material _____________________________
   2. Front Stepwell Material _____________________________
3. Rear Stepwell Material

4. Floor Construction Material
## PRICING FORM

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description/Manufacturer</th>
<th>Cost (base year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Diesel 30’ Bus (Base Price):</td>
<td>$______________</td>
<td>Base cost includes the following: (Model number/description)</td>
</tr>
<tr>
<td></td>
<td>Engine</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Transmission</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Driver seat</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Passenger Seat</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Wheelchair securement system</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Air Conditioning System</td>
<td>____________________</td>
</tr>
<tr>
<td>2) Diesel 35’ Bus (Base Price):</td>
<td>$______________</td>
<td>Base cost includes the following: (Model number/description)</td>
</tr>
<tr>
<td></td>
<td>Engine</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Transmission</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Driver seat</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Passenger Seat</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Wheelchair securement system</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Air Conditioning System</td>
<td>____________________</td>
</tr>
<tr>
<td>3) Diesel 40’ Bus (Base Price):</td>
<td>$______________</td>
<td>Base cost includes the following: (Model number/description)</td>
</tr>
<tr>
<td></td>
<td>Engine</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Transmission</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Driver seat</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Passenger Seat</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Wheelchair securement system</td>
<td>____________________</td>
</tr>
<tr>
<td></td>
<td>Air Conditioning System</td>
<td>____________________</td>
</tr>
<tr>
<td>4) CNG option (cost difference from diesel bus base bid)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) 30’ CNG</td>
<td>$______________</td>
<td></td>
</tr>
<tr>
<td>b) 35’ CNG</td>
<td>$______________</td>
<td></td>
</tr>
<tr>
<td>c) 40’ CNG</td>
<td>$______________</td>
<td></td>
</tr>
</tbody>
</table>
5) Hybrid option (cost difference from diesel bus base bid)
   a) 30’ Hybrid
      Allison H40EP Parallel Electric Drive System w/ Vanner HBA $____________________
      BAE Series HybriDrive System APS 1 $____________________
      BAE Series HybriDrive System APS 2 $____________________
   b) 35’ Hybrid
      Allison H40EP Parallel Electric Drive System w/ Vanner HBA $____________________
      BAE Series HybriDrive System APS 1 $____________________
      BAE Series HybriDrive System APS 2 $____________________
   c) 40’ Hybrid
      Allison H40EP Parallel Electric Drive System w/ Vanner HBA $____________________
      BAE Series HybriDrive System APS 1 $____________________
      BAE Series HybriDrive System APS 2 $____________________

6) BRT option
   a) 30’ BRT add-on $____________________
   b) 35’ BRT add-on $____________________
   c) 40’ BRT add-on $____________________

7) SUBURBAN BRT option
   a) 40’ BRT add-on $____________________

8) “Trolley Replica” option
   a) 30’ “Trolley Replica” add-on $____________________
   b) 35’ “Trolley Replica” add-on $____________________
   c) 40’ “Trolley Replica” add-on $____________________

Equipment Add-Ons / Options

1) Bike Rack
   a) Byk-Rak $____________________
   b) Sports Works - DL2 S/S $____________________
   c) Sports Works - VeloPorter (V2) $____________________
<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Farebox</td>
<td></td>
</tr>
<tr>
<td>a) Odyssey (GFI)</td>
<td>$___________</td>
</tr>
<tr>
<td>b) Cent-a-bill (GFI)</td>
<td>$___________</td>
</tr>
<tr>
<td>c) Cent-a-bill (GFI) and Trim</td>
<td>$___________</td>
</tr>
<tr>
<td>d) Fast Fare-e (GFI)</td>
<td>$___________</td>
</tr>
<tr>
<td>e) Spare Vault (GFI)</td>
<td>$___________</td>
</tr>
<tr>
<td>f) Cubic Fare Card Reader</td>
<td>$___________</td>
</tr>
<tr>
<td>g) Acufare Smart Card Reader</td>
<td>$___________</td>
</tr>
<tr>
<td>h) Main farebox</td>
<td>$___________</td>
</tr>
<tr>
<td>i) Diamond Model SV000</td>
<td>$___________</td>
</tr>
<tr>
<td>3) Radio (Voice)</td>
<td></td>
</tr>
<tr>
<td>a) Motorola XTL2500</td>
<td>$___________</td>
</tr>
<tr>
<td>b) Macom Model M7100</td>
<td>$___________</td>
</tr>
<tr>
<td>c) Motorola XLT1500</td>
<td>$___________</td>
</tr>
<tr>
<td>c) Kenwood TK8180</td>
<td>$___________</td>
</tr>
<tr>
<td>4) Destination Sign</td>
<td></td>
</tr>
<tr>
<td>a) Luminator (Front and Side)</td>
<td>$___________</td>
</tr>
<tr>
<td>b) Luminator (Front, Side and Rear)</td>
<td>$___________</td>
</tr>
<tr>
<td>c) Luminator Titan Spectrum 24x200</td>
<td>$___________</td>
</tr>
<tr>
<td>d) Luminator INFOLite</td>
<td>$___________</td>
</tr>
<tr>
<td>e) Twin Vision Smart Series (Front and Side)</td>
<td>$___________</td>
</tr>
<tr>
<td>f) Twin Vision Smart Series (Front, Side and Rear)</td>
<td>$___________</td>
</tr>
<tr>
<td>g) Hanover (Front, Side and Rear)</td>
<td>$___________</td>
</tr>
<tr>
<td>5) Video Camera Recording System</td>
<td></td>
</tr>
<tr>
<td>a) GE Mobile View V</td>
<td>$___________</td>
</tr>
<tr>
<td>(Eight camera digital recording system, GPS, Wi-Fi)</td>
<td></td>
</tr>
<tr>
<td>b) Safety Vision RR600 Pro</td>
<td>$___________</td>
</tr>
<tr>
<td>(Eight camera digital recording system)</td>
<td></td>
</tr>
<tr>
<td>c) Verint mDVR 12s (6 camera system)</td>
<td>$___________</td>
</tr>
<tr>
<td>d) Verint (5 camera system, 1TB HD)</td>
<td>$___________</td>
</tr>
<tr>
<td>e) Seon (11 camera system)</td>
<td>$___________</td>
</tr>
</tbody>
</table>
f) Seon TX-8 (8 camera system) $__________________
g) REI (6 camera system) $__________________
h) TSI Nexus HVR with 4TB HDD (8 camera sys.) $________
i) Apollo (8 camera sys.) $__________________

6) Automatic Stop Announcement System
   a) Digital Recorders DR600 Talking Bus System $__________________

7) AVL
   a) Avail (MDT) (Vector 9000) $__________________
   (full install) (includes APC, visual display, Wi-Fi, etc.)
b) Avail (MDT)(pre-wire only) $__________________
c) Trapeze Transitmaster $__________________
   (w/IVLU, MDT, APC, voice annunciation package & cabling)
d) Trapeze Pre-Wire Only $__________________
e) Conduent CAD/AVL $__________________
   (includes Xerox part# 110231-FF1BBDAB, TMS-005053,
   110345-1, 120029-2, 12004-5, 120039-3)
f) Conduent Pre-Wire Only $__________________
g) Clever Devices (MDT) (full install) $__________________
h) NextBus Transponder $__________________

8) Modine Radiator and Charge Air Engine Cooling Package, $_______________
   with a 450 amp brushless, sensor-less alternator
   a) Modine E-Fan System $__________________

9) Air Condition System (Alternative to base bid)
   a) Thermo King X426 $__________________

10) Passenger seats (Alternative to base bid)
    a) American Seating Co. Model- Insight $__________________

11) Other
    a) InMotion VAN Router $__________________
    (include product code: IMTOMG2041-01, IMTSUP100612F,
IMTOMM021, IMTANT4701 & IMTANT4001)

b) Towing Bar $____________________
c) 1x8 Demoinator $____________________
d) Globe Transfer Cutter $____________________
e) Globe Hole puncher $____________________
f) Transit Info Center (Webb & Associates) $____________________

(Obic 19/21 3P)
g) AM/FM/CD radio $____________________
h) Digital Clock $____________________
i) Outlet for cell phone charger $____________________
j) Recaro Driver Seat - Ergo Metro $____________________
k) USSC Driver Seat – G2A $____________________
l) Bode CADS Electric door $____________________
m) Alco Aluminum Wheels $____________________

(High polish machine finished with Durabrite)
n) Formed Inner Fender $____________________

(as would be found on automobiles to help in protecting the main frame structure against road dirt, salt etc.)
o) Infodev APC front & rear doors w/ analyzer $____________________
p) Alto Flooring $____________________
q) Map/Schedule Rack on media cabinet $____________________
r) Cup Holder $____________________
s) Interior Video Display for Ads/Messages $____________________
t) All Digital Multifunction Driver Display $____________________
u) Vanner Alternator $____________________
v) Adjustable Driver Pedals $____________________
w) Voith D864.5 Transmission $____________________
x) Passenger USB & 110V Ports $____________________
y) Driver’s area USB Port $____________________

12) Additional Training (block of 40 hours) $____________________

13) Extended Warranty (please list covered component and term)

<table>
<thead>
<tr>
<th>Component/Sub-System</th>
<th>Term</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$</td>
</tr>
</tbody>
</table>
Spare Parts: (Firm fixed price for 180 days following bid opening date)

1) Engine
   a) __________________________ $_______________________

2) Transmission
   a) __________________________ $_______________________
   b) __________________________ $_______________________

DELIVERY EXPECTED BY: ____________
(if order placed by Feb 28, 2018) # OF WEEKS ESTIMATED DATE

Proposer hereby acknowledges that the proposal pages have been completed and included. Proposer hereby acknowledges that the appendices have been completed and included.

______________________________________________________________________________
COMPANY NAME ADDRESS

______________________________________________________________________________
NAME/TITLE (PRINT) CITY/STATE/ZIP

______________________________________________________________________________
SIGNATURE DATE PHONE / EMAIL

SIGNED IN MY PRESENCE, THIS DAY OF , 20___ BY

SIGNATURE OF NOTARY _____________________________
BUY AMERICA CERTIFICATION

Certification requirement for procurement of buses, other rolling stock and associated equipment.


The Proposer or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(2)(C) and the regulations at 49 C.F.R. Part 661.11.

Date _________________________________________________________________

Signature __________________________________________________________________

Company Name __________________________________________________________________

Title __________________________________________________________________

OR

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(2)(C)

The Proposer or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11, but may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _________________________________________________________________

Signature __________________________________________________________________

Company Name __________________________________________________________________

Title __________________________________________________________________

Proposers shall fill out either the compliance form or the non-compliance form. Proposals that have both forms filled out shall be deemed to be non-responsive and shall not be considered for award.
TRANSIT AUTHORITY OF NORTHERN KENTUCKY AND PROCURING AGENCIES
CERTIFICATION OF RESTRICTIONS ON LOBBYING

THE UNDERSIGNED HEREBY CERTIFIES ON BEHALF OF

________________________________________ that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance is placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Executed this ____ day of ____, 20__

Name of Proposer:________________________________________

Address:________________________________________________

City, State, Zip:________________________________________

Signature of Authorized Official:__________________________

Title of Official:________________________________________

Telephone __________ Date: ______________________________

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The undersigned, an authorized official of the Proposer stated below, certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(If the undersigned is unable to certify to any of the statements in this certification, such official shall attach an explanation to this proposal).


Name of Proposer _____________________________________________

Address ___________________________________________________

City, State, Zip_______________________________________________

Signature of Authorized Official_______________________________

Title of Official______________________________________________

Telephone___________________ Date ____________________________
PROPOSAL REQUIREMENT

NOTE: Each proposer shall furnish this affidavit, properly executed and containing all required information, with his/her proposal. IF YOU FAIL TO COMPLY, YOUR PROPOSAL WILL NOT BE CONSIDERED.

NON-COLLUSION AFFIDAVIT

Commonwealth Of Kentucky

County of ________________________________

______________________________ SS: ____________________ being first duly sworn deposes and says:

Individual only: That he is an individual doing business under the name of __________________________ at __________________________ in the City of __________________________

State of __________________________.

Partnership only: That he is duly authorized representative of a partnership doing business under the name of __________________________ in the City of __________________________

State of __________________________.

Corporation only: That he is duly authorized, qualified and acting __________________________ of __________________________, a corporation organized and existing under the laws of the State of __________________________, and that said partnership or said corporation is filling herewith a proposal to the Transit Authority of NORTHERN KENTUCKY AND PROCURING AGENCIES in conformity with the foregoing Scope of Work:

Individual only: Affiant further says that the following is a complete and accurate list of the names and addresses of all persons interested in said proposed contract: Affiant further says that he is represented by the following attorney(s): and is also represented by the following resident agents:

Partnership only: Affiant further says that the following is a complete and accurate list of the names and addresses of the members of said partnership: Affiant further says that said partnership is represented by the following attorney(s): __________________________ and is also represented by the following resident agents:

Corporation only: Affiant further says that the following is a complete and accurate list of the officers, directors and attorneys of said corporations:

President: __________________________

Directors: __________________________

Vice President: __________________________
And that the following officers are duly authorized to execute contracts on behalf of said corporation:_____________________

Affiant further says that the proposal filed herewith is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation; that such proposal is genuine and not collusion or sham; that said proposer has not, directly or indirectly, induced or solicited any other proposer to put in a false or sham proposal, and has not directly or indirectly colluded conspired, connived or agreed with any proposer or anyone else to put in a sham proposal, or that anyone shall refrain from proposing; that said proper has not in any manner, directly or indirectly, sought by agreement, communication or conference with other proposer , or to fix any overhead, profit, or cost element of such proposal price or that any other proposer or to secure any advantage against the procuring transit agency, or anyone interested in the proposed contract; that all statements contained in such proposal are true; that said proposer has not directly, or indirectly , submitted his price or any break-down thereof or the contents thereof, or divulged information or data relative thereto, or paid or agreed to pay, directly or indirectly, any money or other valuable consideration , assistance or aid rendered or to be rendered in procuring or attempting to procure the contract above referred to, to any corporation, partnership, company, association, organization, or to any member or agent thereof, or to any other individual, except such persons as herein above disclosed to have a partnership or other financial interest with said proposer will not pay or agree to pay, directly or indirectly, any money or other valuable consideration to any corporation, partnership, company association, organization or to assistance in securing contract above referred to in the event the same is awarded to:

Further affiant saith not.

__________________________________________________
(Sign Here)

Sworn to before me and subscribed in the presence this_____day of_______, 20__.  

Notary Public: ________________________________

My Commission Expires: ________________________ ____, 20__
TRANSIT AUTHORITY OF NORTHERN KENTUCKY AND PROCURING AGENCIES

CERTIFICATE OF PROCUREMENT INTEGRITY

I, __________________________ am the officer or employee responsible

(Name of Certifier)

for the preparation of this proposal and hereby certify that, for the best of my knowledge and belief, with the exception of any information described in this certificate, I have no information concerning a violation or possible violation of Subsection 27(a), (b), (c), or (e) of the office of Federal Procurement Policy Act* (41 U.S.C. 423) (hereinafter referred to as "the Act"), as implemented in the Federal Acquisition Regulations (FAR), occurring during the conduct of this procurement. As required by Subsection 27(d)(1)(B) of the Act, I further certify that each officer, employee, agent, representative, and consultant of __________________________ (name of proposer) who has participated personally and substantially in the preparation or submission of this offer has certified that he or she is familiar with, and will comply with, the requirements of Subsection 27(a) of the Act, as implemented in the FAR, and will report immediately to me any information concerning any violation or possible violation of the Act, as implemented in the FAR, pertaining to this procurement.

Violations or possible violations: (Continue on plain bond paper if necessary and label Certificate of Procurement Integrity (Continuation Sheet). ENTER “NONE” IF NONE EXISTS)

__________________________________________________________________________

Signature of the Officer or Employee
Responsible for the Offer

Date ______________________________________________________________________

Typed Name of the Officer or Employee for the Offer

* Section 27 became effective on September 16, 1989.
THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKE SUBJECT TO PROSECUTION UNDER TITLE 18, UNITED STATES CODE SECTION 1001.
CERTIFICATE OF COMPLIANCE WITH BUS TESTING REQUIREMENT

The undersigned certifies that the vehicle offered in this procurement complies and will, when delivered, comply with 49 USC § 5323(c) and FTA’s implementing regulation at 49 CFR Part 665 according to the indicated one of the following three alternatives.

Mark one and only one of the three blank spaces with an “X.”

1. _____ The buses offered herewith have been tested in accordance with 49 CFR Part 665 on ____________ (date). If multiple buses are being proposed, provide additional vehicle testing information below or on attached sheet. The buses being sold should have the identical configuration and major components as the bus in the test report, which must be submitted with this Proposal. If the configuration or components are not identical, then the manufacturer shall provide with its Proposal a description of the change and the manufacturer’s basis for concluding that it is not a major change requiring additional testing. If multiple buses are being proposed, testing data on additional vehicles shall be listed on the bottom of this page.

2. _____ The manufacturer represents that the vehicle is “grandfathered” (has been used in mass transit service in the United States before October 1, 1988, and is currently being produced without a major change in configuration or components), and submits with this Proposal the name and address of the recipient of such a bus and the details of that vehicle’s configuration and major components.

3. _____ The bus is a new model and will be tested and the results will be submitted to TANK prior to acceptance of the first vehicle.

The undersigned understands that misrepresenting the testing status of a bus acquired with federal financial assistance may subject the undersigned to civil penalties as outlined in the Department of Transportation’s regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

Company name:

Name and title of the Proposer’s authorized official:

______________________________________________________________________________

Authorized signature

Date
DBE APPROVAL CERTIFICATION

I hereby certify that the Proposer has complied with the requirements of 49 CFR 26, Participation by Disadvantaged Business Enterprises in DOT Programs, and that its goals have not been disapproved by the Federal Transit Administration.

Name and title of the Proposer’s authorized official:

________________________________________________________________________________

Authorized signature

Date
FEDERAL MOTOR VEHICLE SAFETY STANDARDS

The Proposer and (if selected) Contractor shall submit (1) manufacturer’s FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS or (2) manufacturer’s certified statement that the contracted vehicles will not be subject to FMVSS regulations.

Company name:

Name of signer:

Title:

____________________________________________________________________________

Authorized signature

Date
ADDENDA ACKNOWLEDGEMENT FORM

Addenda Received (if none received check here) _____________ None Received

Addendum No. _________ Date Received:
Addendum No. _________ Date Received:
Addendum No. _________ Date Received:
Addendum No. _________ Date Received:
Addendum No. _________ Date Received:
Addendum No. _________ Date Received:

Name of Individual, partner or corporation: ____________________________________________

Street Address: ________________________________________________
City, State and Zip Code: __________________________________________
Telephone Number: _____________________________________________
Printed Name: _________________________________________________
Authorized Signature: __________________________________________
Title: _________________________________________________________
SECTION II
GENERAL PROVISIONS
REQUIRED FEDERAL CLAUSES

The Transit Authority of Northern Kentucky (TANK) and Procuring agencies are recipients of federal funds and is mandated to follow specific guidelines in the procurement of goods and services. The following clauses shall be incorporated by reference into any contract that results from this solicitation. Not all required clauses may pertain to this solicitation.

Definitions used herein:
• The terms “respondent, Proposer, proposer, and contractor” mean the offeror or vendor.
• The terms “the Authority”, “procuring transit agency” and “recipient” (as in recipient of FTA funds) mean the Transit Authority of Northern Kentucky (TANK).
• The term “USDOT” means the United States Department of Transportation.
• The term “FTA” means the Federal Transportation Administration.

1. Fly America Requirements

The Contractor agrees to comply with 49 U.S.C. 40118 (the “Fly America” Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

The Fly America requirements apply to the transportation of persons or property, by air, between a place in the U.S. and a place outside the U.S., or between places outside the U.S., when the FTA will participate in the costs of such air transportation. Transportation on a foreign air carrier is permissible when provided by a foreign air carrier under a code share agreement when the ticket identifies the U.S. air carrier's designator code and flight number. Transportation by a foreign air carrier is also permissible if there is a bilateral or multilateral air transportation agreement to which the U.S. Government and a foreign government are parties and which the Federal DOT has determined meets the requirements of the Fly America Act.
2. **Buy America Requirements**

The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 65 percent domestic content.

A Proposer or offeror must submit to TANK the appropriate Buy America certification with all proposals or offers on FTA-funded contracts, except those subject to a general waiver. Proposals or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

_The Buy America requirements apply to the following types of contracts: Construction Contracts and Acquisition of Goods or Rolling Stock (valued at more than $150,000)._  

_The Buy America requirements flow down from the Authority to first tier contractors, who are responsible for ensuring that lower tier contractors and subcontractors are in compliance. The $150,000 threshold applies only to the grantee contract, subcontracts under that amount are subject to Buy America._

3. **Cargo Preference Requirements**

_Use of United States-Flag Vessels -_ The contractor agrees: a. to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; b. to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the Authority (through the contractor in the case of a subcontractor's bill-of-lading.) c. to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

_The Cargo Preference requirements apply to all contracts involving equipment, materials, or commodities which may be transported by ocean vessels._
4. **Energy Conservation Requirements**

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

*The Energy Conservation requirements are applicable to all contracts.*

*The Energy Conservation requirements extend to all third party contractors and their contracts at every tier and subrecipients and their subagreements at every tier.*

5. **Clean Water Requirements**

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

*The Clean Water requirements apply to each contract and subcontract which exceeds $100,000.*

6. **Bus Testing**

The Contractor [Manufacturer] agrees to comply with 49 U.S.C. A 5323(c) and FTA's implementing regulation at 49 CFR Part 665 and shall perform the following:

1) A manufacturer of a new bus model or a bus produced with a major change in components or configuration shall provide a copy of the final test report to the recipient at a point in the procurement process specified by the recipient which will be prior to the recipient's final acceptance of the first vehicle.

2) A manufacturer who releases a report under paragraph 1 above shall provide notice to the operator of the testing facility that the report is available to the public.

3) If the manufacturer represents that the vehicle was previously tested, the vehicle being sold should have the identical configuration and major components as the vehicle in the test report, which must be provided to the recipient prior to recipient's final acceptance of the first vehicle. If the configuration or components are not identical, the manufacturer shall provide a description of the change and the manufacturer's basis for concluding that it is not a major change requiring additional testing.
4) If the manufacturer represents that the vehicle is “grandfathered” (has been used in mass transit service in the United States before October 1, 1988, and is currently being produced without a major change in configuration or components), the manufacturer shall provide the name and address of the recipient of such a vehicle and the details of that vehicle’s configuration and major components.

7. Pre-Award and Post Delivery Audits Requirement

The Contractor agrees to comply with 49 U.S.C. § 5323(l) and FTA's implementing regulation at 49 C.F.R. Part 663 and to submit the following certifications:

(1) Buy America Requirements: The Contractor shall complete and submit a declaration certifying either compliance or noncompliance with Buy America. If the Proposer/Offeror certifies compliance with Buy America, it shall submit documentation which lists 1) component and subcomponent parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and 2) the location of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and the cost of final assembly.

(2) Solicitation Specification Requirements: The Contractor shall submit evidence that it will be capable of meeting the bid specifications.

(3) Federal Motor Vehicle Safety Standards (FMVSS): The Contractor shall submit 1) manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS or 2) manufacturer's certified statement that the contracted buses will not be subject to FMVSS regulations.

8. Lobbying


Language in Lobbying Certification is mandated by 49 CFR Part 19, Appendix A, Section 7, which provides that contractors file the certification required by 49 CFR Part 20, Appendix A.

Modifications have been made to the Lobbying Certification pursuant to Section 10 of the Lobbying Disclosure Act of 1995.


bid for an award of $100,000 or more shall file the certification required by 49 CFR part 20, “New Restrictions on Lobbying”. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to TANK.

The Lobbying requirements apply to contracts of $100,000 or more.

9. Access to Records and Reports

The following access to records requirements apply to this Contract:

1. Since TANK is a local government and is an FTA Recipient in accordance with 49 C. F. R. 18.36(i), the Contractor agrees to provide TANK, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C. F. R. 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor’s records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.

2. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

3. The Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain same until the Purchaser, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).

4. FTA does not require the inclusion of these requirements in subcontracts.

10. Federal Changes

Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between TANK and FTA, as they may be amended or promulgated from time to time.
during the term of this contract. Contractor’s failure to so comply shall constitute a material breach of this contract.

11. Clean Air

(1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to TANK and understands and agrees that TANK will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

(2) The Contractor also agrees to include these requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

The Clean Air requirements apply to all contracts exceeding $100,000, including indefinite quantities where the amount is expected to exceed $100,000 in any year. The Clean Air requirements flow down to all subcontracts which exceed $100,000.

12. Contract Work Hours and Safety Standards Act

(1) Overtime requirements - No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in paragraph (1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

(3) Withholding for unpaid wages and liquidated damages – TANK shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.
(4) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

*This clause applies to construction contracts and, in very limited circumstances, non-construction projects that employ “laborers or mechanics on a public work.” These non-construction applications do not generally apply to transit procurements because transit procurements (to include rail cars and buses) are deemed “commercial items.” In all cases this clause only applies to contracts over $100,000.*

13. **No Government Obligation to Third Parties**

(1) TANK and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to TANK, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(2) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

14. **Program Fraud and False or Fraudulent Statements and Related Acts**

(1) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, “Program Fraud Civil Remedies”, 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

(2) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves

(3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

15. Termination

a. Termination for Convenience (General Provision) TANK may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government’s best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to TANK to be paid the Contractor. If the Contractor has any property in its possession belonging to TANK, the Contractor will account for the same, and dispose of it in the manner TANK directs.

b. Termination for Default [Breach or Cause] (General Provision) If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, TANK may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

If it is later determined by TANK that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, TANK, after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

c. Opportunity to Cure (General Provision) TANK in its sole discretion may, in the case of a termination for breach or default, allow the Contractor an appropriately short period of time in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions.

If Contractor fails to remedy to TANK’s satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within [ten (10) days] after receipt by Contractor of written notice from TANK setting forth the nature of said breach or default, TANK shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude TANK from also pursuing all available remedies against Contractor and its sureties for said breach or default.

d. Waiver of Remedies for any Breach In the event that TANK elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by
TANK shall not limit TANK’s remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

e. Termination for Convenience (Professional or Transit Service Contracts) TANK, by written notice, may terminate this contract, in whole or in part, when it is in the Government’s interest. If this contract is terminated, the Recipient shall be liable only for payment under the payment provisions of this contract for services rendered before the effective date of termination.

f. Termination for Default (Supplies and Service) If the Contractor fails to deliver supplies or to perform the services within the time specified in this contract or any extension or if the Contractor fails to comply with any other provisions of this contract, TANK may terminate this contract for default. TANK shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. The Contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner or performance set forth in this contract.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of TANK.

g. Termination for Default (Transportation Services) If the Contractor fails to pick up the commodities or to perform the services, including delivery services, within the time specified in this contract or any extension or if the Contractor fails to comply with any other provisions of this contract, TANK may terminate this contract for default. TANK shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of default. The Contractor will only be paid the contract price for services performed in accordance with the manner of performance set forth in this contract.

If this contract is terminated while the Contractor has possession of TANK goods, the Contractor shall, upon direction of TANK, protect and preserve the goods until surrendered to TANK or its agent. The Contractor and TANK shall agree on payment for the preservation and protection of goods. Failure to agree on an amount will be resolved under the Dispute clause.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of TANK.

h. Termination for Default (Construction) If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, TANK may terminate this contract for default. TANK shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, TANK may take over the work and compete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its
sureties shall be liable for any damage to TANK resulting from the Contractor’s refusal or failure to complete the work within specified time, whether or not the Contractor’s right to proceed with the work is terminated. This liability includes any increased costs incurred by TANK in completing the work.

The Contractor’s right to proceed shall not be terminated nor the Contractor charged with damages under this clause if-

1. the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, acts of TANK, acts of another Contractor in the performance of a contract with TANK, epidemics, quarantine restrictions, strikes, freight embargoes; and

2. the contractor, within [10] days from the beginning of any delay, notifies TANK in writing of the causes of delay. If in the judgment of TANK, the delay is excusable, the time for completing the work shall be extended. The judgment of TANK shall be final and conclusive on the parties, but subject to appeal under the Disputes clauses.

If, after termination of the Contractor’s right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of TANK.

i. Termination for Convenience or Default (Architect and Engineering) TANK may terminate this contract in whole or in part, for TANK’s convenience or because of the failure of the Contractor to fulfill the contract obligations. TANK shall terminate by delivering to the Contractor a Notice of Termination specifying the nature, extent, and effective date of the termination. Upon receipt of the notice, the Contractor shall (1) immediately discontinue all services affected (unless the notice directs otherwise), and (2) deliver to the Contracting Officer all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this contract, whether completed or in process.

If the termination is for the convenience of TANK, the Contracting Officer shall make an equitable adjustment in the contract price but shall allow no anticipated profit on unperformed services.

If the termination is for failure of the Contractor to fulfill the contract obligations, TANK may complete the work by contract or otherwise and the Contractor shall be liable for any additional cost incurred by TANK.

If, after termination for failure to fulfill contract obligations, it is determined that the Contractor was not in default, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of TANK.

j. Termination for Convenience of Default (Cost-Type Contracts) TANK may terminate this contract, or any portion of it, by serving a notice or termination on the Contractor. The notice
shall state whether the termination is for convenience of TANK or for the default of the Contractor. If the termination is for default, the notice shall state the manner in which the contractor has failed to perform the requirements of the contract. The Contractor shall account for any property in its possession paid for from funds received from TANK, or property supplied to the Contractor by TANK. If the termination is for default, TANK may fix the fee, if the contract provides for a fee, to be paid to the contractor in proportion to the value, if any, of work performed up to the time of termination. The Contractor shall promptly submit its termination claim to TANK and the parties shall negotiate the termination settlement to be paid the Contractor.

If the termination is for the convenience of TANK, the Contractor shall be paid its contract close-out costs, and a fee, if the contract provided for payment of a fee, in proportion to the work performed up to the time of termination.

If, after serving a notice of termination for default, TANK determines that the Contractor has an excusable reason for not performing, such as strike, fire, flood, events which are not the fault of and are beyond the control of the contractor, TANK, after setting up a new work schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

16. Government-Wide Debarment and Suspension (Nonprocurement)

This contract is a covered transaction for purposes of 2 CFR Part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) “Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)”, 2 C.F.R. Part 180. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 2 CFR 1200, or affiliates, as defined at 2 CFR 1200, are excluded or disqualified as defined at 2 CFR 1200.

The contractor is required to comply with 2 CFR 1200, and must include the requirement to comply with 2 CFR 1200 in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the Proposer or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by TANK. If it is later determined that the Proposer or proposer knowingly rendered an erroneous certification, in addition to remedies available to TANK, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The Proposer or proposer agrees to comply with the requirements of 2 CFR 1200 while this offer is valid and throughout the period of any contract that may arise from this offer. The Proposer or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

*This clause applies to all contracts over $25,000.*
17. **Privacy Act**

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

(1) The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

(2) The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

18. **Civil Rights Requirements**

The following requirements apply to the underlying contract:

(1) **Nondiscrimination** - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) **Equal Employment Opportunity** - The following equal employment opportunity requirements apply to the underlying contract:

(a) **Race, Color, Creed, National Origin, Sex** - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor”, 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, “Equal Employment Opportunity”, as amended by Executive Order No. 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity”, 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action
shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § § 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, “Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act”, 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(3) The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

Within Fayette County the Fairness Ordinance (no. 201-99) applies. This ordinance adds sexual orientation/gender identity as a protected class against discrimination in housing, employment and public accommodations.

In addition, the Contractor agrees to comply with any implementing requirements or applicable regulations the local government may issue.

19. Breaches and Dispute Resolution

Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the authorized representative of TANK’s General Manager. This decision shall be final and conclusive unless within [ten (10)] days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the General Manager. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the General Manager shall be binding upon the Contractor and the Contractor shall abide by the decision.

Performance During Dispute - Unless otherwise directed by TANK, Contractor shall continue performance under this Contract while matters in dispute are being resolved.

Claims for Damages - Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.
**Remedies** - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between TANK and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within Kentucky.

**Rights and Remedies** - The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by TANK, (Architect) or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

*This clause applies to all contracts in excess of $100,000.*

### 20. Disadvantaged Business Enterprise (DBE)

a. This contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs*. The national goal for participation of Disadvantaged Business Enterprises (DBE) is 10%. The agency’s overall goal for DBE participation is 1.68%. Please refer to the scope of work section of this RFP for information on the specific DBE goal for this procurement, if any.

b. The contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted contract. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as TANK deems appropriate. Each subcontract the contractor signs with a subcontractor must include the assurance in this paragraph (see 49 CFR 26.13(b)).

c. *If a separate contract goal has been established, use the following* Proposers/offerors are required to document sufficient DBE participation to meet these goals or, alternatively, document adequate good faith efforts to do so, as provided for in 49 CFR 26.53. Award of this contract is conditioned on submission of the following concurrent with and accompanying an initial proposal:

1. The names and addresses of DBE firms that will participate in this contract. The subcontractors/suppliers must be eligible DBEs, i.e. they are currently certified as a DBE in Kentucky or can be certified prior to award;

2. A description of the work each DBE will perform with an indication of the percentage of work to be done by the DBE’s own work forces, as compared with that which will be subcontracted by the DBE to other DBEs or non-DBEs;
3. The dollar amount of the participation of each DBE firm participating, including the dollar values of subcontracts to be awarded by the DBE subcontractor;

4. Written documentation of the Proposer/offeror’s commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;

5. Written confirmation from the DBE that it is participating in the contract as provided in the prime contractor’s commitment; and

6. If the contract goal is not met, evidence of good faith efforts to do so (see 28.1 below).

Proposers must present the information required above as a matter of responsiveness with initial proposals prior to contract award (see 49 CFR 26.53(3)).

{If no separate contract goal has been established, use the following} The successful Proposer/offeror will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.

d. The contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 30 days after the contractor’s receipt of payment for that work from TANK. In addition, is required to return any retainage payments to those subcontractors within 30 days after incremental acceptance of the subcontractor’s work by TANK and contractor’s receipt of the partial retainage payment related to the subcontractor’s work.

e. The contractor must promptly notify TANK, whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. The contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of TANK.

20.1 Good Faith Efforts

In order to be responsive, a Proposer must make good faith efforts to meet the DBE participation goal set forth in the contract. The Proposer must document the good faith efforts it made in that regard. Thus, the Proposal submitted to the Authority must be accompanied by written documentation prepared by the Proposer evidencing all of its sufficient and reasonable good faith efforts toward fulfilling the goal. These efforts must be active steps, and ones, which could reasonably be expected to lead to sufficient DBE participation to meet the contract DBE participation goal. Mere pro forma efforts are not acceptable and will be rejected by the DBE Officer.

Good Faith Efforts require that the Proposer consider all qualified DBEs, who express an interest in performing work under the contract. This means that the Proposer cannot reject a DBE as
unqualified unless the Proposer has sound reasons based on a thorough investigation of the DBE’s capabilities. Further, the DBE’s standing within its industry, membership in specific groups, organizations or associations and political or social affiliation (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor’s efforts to meet the contract DBE participation goal.

The following list, which is not exclusive or exhaustive, sets forth the types of actions, which indicate good faith efforts on the part of a Proposer to meet the DBE goal. The extent and type of actions required will vary depending on such things as industry practice; the time available for submitting a bid and the type of contract involved.

A. Attendance at a pre-proposal meeting, if any, scheduled by the Authority to inform DBEs of subcontracting opportunities under a given solicitation.
B. Advertisement in general circulation media, trade association publications, and minority-focus media for at least twenty (20) days before proposals are due. If 20 days are not available, publication for a shorter reasonable time is acceptable.
C. Written notification to capable DBEs that their interest in the contract is solicited.
D. Documentation of efforts to negotiate with DBEs for specific sub-contracts including at a minimum:
   1. The names, addresses, and telephone numbers of DBEs that were contacted and the date(s) of contact.
   2. A description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed.
   3. A statement explaining why additional agreements with DBEs were not reached.
E. For each DBE the Proposer contacted but rejected as unqualified, the reason for the Proposer’s conclusion.
F. Documentation of efforts made to assist the DBEs contacted that needed assistance in obtaining bonding or insurance required by the Proposer or the Authority.
G. Documentation of efforts to utilize the services of small business organizations, community and contractor groups to locate qualified DBEs.
H. Documentation that the Proposer has broken out contract work items into economically feasible units in fields where there are available DBE firms to perform the work.
I. Evidence that adequate information was provided to interested DBEs about the plans, specifications and requirements of the contract, and that such information was communicated in a timely manner.
J. Documentation of any efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services.

20.2 Good Faith Efforts Reconsideration

If it is determined that the apparent successful low Proposers have failed to meet the requirements of the contract goal/good faith efforts, the Authority will provide them with ONE
opportunity for administrative reconsideration, before the Authority awards the contract. This reconsideration will include the following:

A. The Proposer will be permitted to either provide written evidence or to present oral argument at a pre-scheduled time that the documentation it submitted with its bid met the DBE goal and/or showed good faith efforts to do so. No new evidence of good faith efforts may be presented after the bid submission deadline.

B. The Authority’s Reconsideration Officer will review the evidence presented by the Proposer and issue a written determination that the Proposer has: 1) met the DBE goal; 2) not met the DBE goal but has made adequate good faith efforts to do so; or 3) has not met the DBE goal and the good faith efforts made were not adequate.

C. The decision of the Authority’s Reconsideration Officer is final and may not be appealed to the Authority, its funding agencies or the USDOT.

D. The Authority will not award a contract to any Proposer who does not meet the contract DBE participation goal or show good faith efforts to meet that goal. Thus, it is essential that all Proposers submit ALL relevant documentation concerning the DBE goal and/or good faith efforts in the envelope or package containing their sealed bid.

20.3 Counting DBE Participation Toward the Contract Goal

The inclusion of any DBE by the Proposer in its bid documents shall not conclusively establish the Proposer’s eligibility for full DBE credit for the firm’s participation in the contract. The amount of DBE participation credit shall be based upon an analysis by TANK of the specific duties which will be performed by the DBE.

The Proposer may count toward its DBE goal only expenditures to firms which are currently certified by the KY UCP and which perform a commercially useful function. A firm is considered to perform a commercially useful function when it is responsible for the performance of a distinct element of the work and carries out its responsibilities by actually performing, managing and supervising the work involved.

To determine whether a firm is performing a commercially useful function, the DBE Officer will evaluate the amount of work subcontracted, industry practices and other relevant factors. The DBE Officer reserves the right to deny or limit DBE credit to the Proposer where any DBE is found to be engaged in substantial pass-through activities with others.

DBE participation shall be counted toward the DBE goal in the contract as follows:

A. Once a DBE is determined to be eligible in accordance with these rules, the total dollar value of the contract awarded to the DBE may be counted toward the DBE goal except as indicated below.

B. A Proposer may count toward its DBE goal that portion of the total dollar value of a contract with an eligible joint venture equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces.
C. Consistent with normal industry practices, a DBE may enter into subcontracts. If a DBE subcontracts more than thirty percent (30%) or a significantly greater portion of the work of the contract than would be expected on the basis of normal industry practices, the DBE shall be presumed not to be performing a commercially useful function. Evidence may be presented by the Proposer involved to rebut this presumption.

D. When a DBE subcontracts a part of the work under the contract to another firm, the value of the subcontracted work may only be counted towards the DBE goal if the DBE’s subcontractor is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count towards the DBE goal.

E. The Proposer may count one-hundred percent (100%) of its expenditures for materials and supplies required under the contract and which are obtained from a DBE manufacturer towards the DBE goal. The Proposer may count sixty percent (60%) of its expenditures for material and supplies under the contract obtained from a DBE regular dealer towards its DBE goal. The terms “manufacturer” and “regular dealer” are defined in 49 C.F.R. Part 26.55(e)(1)(ii) and (2)(ii).

F. The Proposer may count towards its DBE goal expenditures to DBEs which are not manufacturers or regular dealers, such as fees or commissions charged for services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies and transportation charges as set forth in 49 C.F.R. Part 26. However, the DBE Officer must determine the fee or charge to be reasonable and not excessive as compared with fees or charges customarily allowed for similar services.

G. The Proposer must use good business judgment when negotiating with subcontractors and take a DBE’s price and capabilities into consideration. The fact that there may be some additional costs involved in finding and using DBE firms is not sufficient reason to fail to meet the DBE goal set forth in the contract, as long as such costs are reasonable.

20.4 Remedies

Failure to comply with the terms of this DBE clause is considered to be a breach of contract. If the contractor fails or refuses to comply in the time specified, TANK will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the contractor still fails to comply, TANK may issue a termination for default proceeding.

In addition, the federal government has available several enforcement mechanisms that it may apply to firms participating in the DBE problem, including, but not limited to, the following:

1. Suspension or debarment proceedings pursuant to 49 CFR part 26
2. Enforcement action pursuant to 49 CFR part 31
3. Prosecution pursuant to 18 USC 1001.

20.5 DBE Program Definitions

A disadvantaged business enterprise is a business:
A. Which is at least 51% owned by one or more socially and economically disadvantaged individuals, or, in the case of any publicly-owned business, at least 51% of the stock of which is owned by one or more socially and economically disadvantaged individuals; and
B. Whose management and daily business operation are controlled by one or more of the socially and economically disadvantaged individuals who own it. OR
C. Which is at least 51% owned by one or more women individuals, or in the case of any publicly-owned business, at least 51% of the stock of which is owned by one or more women individuals; and
D. Whose management and daily business operations are controlled by one or more women individuals who own it.

“Small business concern” means a small business as defined by section 3 of the Small Business Act and Appendix B – Section 106(c) Determination of Business Size.

“Socially and economically disadvantaged individuals” means those individuals who are citizens of the United States (or lawfully admitted permanent residents) and who are Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, Asian-Indian Americans, or women, or any other minorities or individuals found to be disadvantaged by the Small Business Administration pursuant to Section 8(a) of the Small Business Act.

A. “Black Americans” includes persons having origins in any of the Black racial groups of Africa.
B. “Hispanic Americans” includes persons of Mexican, Puerto Rican, Cuban, Central or South America, or other Spanish or Portuguese culture or origin, regardless of race.
C. “Native Americans” includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians.
D. “Asian Americans” includes persons whose origins are from Japan, China, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Samoa, Guam, U.S. Trust Territories of the Pacific, and the Northern Marianas.
E. “Asian-Indian Americans” includes persons whose origins are from India, Pakistan, and Bangladesh.
F. “Women”, regardless of race, ethnicity, or origin.
G. “Other” individuals found to be socially and economically disadvantaged by the Small Business Administration (SBA) pursuant to Section 8(a) of the Small Business Act.

21. Incorporation of Federal Transit Administration (FTA) Terms

The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1E are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any TANK requests which would cause TANK to be in violation of the FTA terms and conditions.
22. **Non-Discrimination**

The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or other such remedy as the recipient deems appropriate.

23. **Transit Vehicle Manufacturer Compliance with DBE Requirements**

Before a transit vehicle manufacturer (TVM) may submit a bid or proposal to provide vehicles to be financed with FTA assistance, 49 CFR Section 26.49 requires the TVM to submit a certification that it has complied with FTA’s DBE requirements. The TVM shall certify in writing that it has complied with the requirements of 49 CFR Section 26.49.

24. **Access for Individuals with Disabilities**

TANK and contractors are required to comply with 49 U.S.C. § 5301(d), which states the Federal policy that elderly individuals and individuals with disabilities have the same right as other individuals to use public transportation services and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement transportation accessibility rights for elderly individuals and individuals with disabilities. TANK and contractors are also required to comply with all applicable provisions of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of disability in the administration of programs or activities receiving Federal financial assistance; with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires that accessible facilities and services be made available to individuals with disabilities; with the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to individuals with disabilities; and with other laws and amendments thereto pertaining to access for individuals with disabilities that may be applicable. In addition, TANK and contractors agree to comply with applicable implementing Federal regulations, and any later amendments thereto, and agrees to follow applicable Federal implementing directives, except to the extent FTA approves otherwise in writing. Among those regulations and directives are:

1. U.S. DOT regulations, “Transportation Services for Individuals with Disabilities (ADA),” 49 C.F.R. Part 37;


(9) U.S. ATBCB regulations, “Electronic and Information Technology Accessibility Standards,” 36 C.F.R. Part 1194;

(10) FTA regulations, “Transportation for Elderly and Handicapped Persons,” 49 C.F.R. Part 609; and

(11) Federal civil rights and nondiscrimination directives implementing the foregoing Federal laws and regulations, except to the extent the Federal Government determines otherwise in writing.

25. **Payment of Subcontractors**

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from TANK. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor’s work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of TANK. This clause applies to both DBE and non-DBE subcontracts.

The Contractor is required to include, in each subcontract, a clause requiring the use of appropriate arbitration mechanisms to resolve all payment disputes.

TANK will not pay the Contractor for work performed unless and until the Contractor ensures that the Subcontractors have been promptly paid for the work they have performed under all previous payment requests, as evidenced by the filing with TANK of lien waivers, canceled checks (if requested), and the Contractor’s sworn statement that it has complied with the prompt payment requirements. Prime Contractors must submit a prompt payment affidavit, (form to be
provided by TANK and reproduced below) which identifies each subcontractor (both DBE and non-DBE) and the date and amount of the last payment to such subcontractor, with every payment request filed with TANK, except for the first payment request, on every contract with TANK.

Failure to comply with these prompt payment requirements is a material breach of the Contract, which may lead to any remedies permitted under law, including, but not limited to, Contractor debarment.

**Reporting Requirements During the Term of the Contract**

The Proposer shall within thirty (30) business days of contract award, or prior to any work being performed, execute formal subcontracts or purchase orders with the DBE firms included in the bid. These written agreements shall be made available to TANK upon request. All contracts between the Proposer and its subcontractors must contain a prompt payment clause as set forth in this section above.

During the term of annual contracts, the Proposer shall submit regular “Status Reports of DBE Subcontract Payments” in a form acceptable to the Authority. The frequency with which these reports are to be submitted will be determined by TANK, but in no event will reports be required less frequently than quarterly. In the absence of written notice from TANK, the Proposer’s first “Status Report of DBE Subcontract Payments” will be due ninety (90) days after the date of contract award, with additional reports due quarterly thereafter.

In the case of a one-time procurement with either a single or multiple deliveries, a “Status Report of DBE Subcontract Payments”, in a form acceptable to the Authority, indicating final DBE payments shall be submitted directly to TANK. The information must be submitted prior to or at the same time as the Proposer’s final invoice to the Authority. Failure to follow these directions may delay final payment.
PROMPT PAYMENT AFFIDAVIT

Contractor will place a check in the appropriate box below that applies to this payment request.

Re: Payment Request No. ______

I, ________________________ (Name), the _________________________________ (Title - e.g., President, Vice President, etc.) of _________________________________ ("Company"), do state the following with regard to payments made under Contract No. _________________________________ ("Contract"):  

1. ___Subcontractors, at the first tier, both DBE and non-DBE, who completed work and were listed for payment on the prior Payment Request No. _______, were paid no later than thirty (30) business days after Company received payment from TANK.

2. ___Copies of invoices and cancelled checks for subcontractors at the first tier who were paid under the prior payment request have been delivered or mailed to the DBE Department. In addition, Company has attached to the current Payment Request all lien waivers for prior subcontractor payments and any other documentation required by TANK. (Failure to attach all required documentation to the Payment Request or forward cancelled checks and invoices to the TANK DBE Department may cause the Payment Request to be rejected by TANK.)

3. ___All retainage amounts withheld from any subcontractor who satisfactorily completed its portion of the contract work, including punch list items, were paid to the subcontractor(s) no later than thirty (30) business days after it satisfactorily completed its work, whether or not TANK has paid said retainage amounts to Company. Attach a copy of the cancelled check evidencing payment of each retainage amount.

4. ___There was no delay in or postponement of any payment owed to a subcontractor, whether periodic payment or retainage amount, except for good cause and after receipt of prior written approval from the TANK Purchasing Agent.

Attach a copy of the written approval from the TANK Purchasing Agent.

_______________________________________  
Company Name

_______________________________________  
Signature

_______________________________________  
Print Name

Date: _______________________

Subscribed and sworn to before me this ________day of ________ 20__.

_________________________________  
Notary Public
26. **Insurance**

Insurance: The contractor shall procure or maintain for the duration of any contact issued pursuant to this bid a policy or policies of insurance for the protection of the contractor. The Authority requires certification of insurance coverage from all vendors, contractors/subcontractors prior to commencing work.

Contractor shall provide and maintain, and shall require subcontractors, if any, to provide and maintain, with forms and insurers acceptable to TANK and having a Best Rating of not less than A+ (or another rating acceptable to the city) for the following insurance coverage’s:

(a) Insurance protection for Contractor’s employees to the extent required by the Workers’ Compensation Law of the states where this work will be performed and where same is not applicable or if necessary to provide a defense to TANK, Employers Liability Protection (covering both TANK and Contractor) for Contractor’s employees for no less than $1,000,000 per employee.

(b) If applicable, Longshoremen’s & Harbor Workers’ Compensation Act Insurance Coverage imposed by federal statutes having jurisdiction of Contractor’s employees while engaged in the performance of the services. The policy shall have a limit of no less than $1,000,000.

(c) Commercial General Liability Insurance, written on an occurrence basis only with a combined single limit of no less than $1,000,000 per occurrence. This insurance shall include coverage for bodily injury, broad form property damage, (including completed operations), personal injury (including contractual and employee acts), blanket contractual, contractor’s protective, and products and completed operations. Further, the insurance shall include coverage for the hazards commonly referred to as XCU (explosion, collapse and underground). This coverage should be obtained if the contract involves blasting, excavating, tunneling or other underground work. Said insurance shall contain a severability of interest’s provision. The products and completed operations coverage shall extend for (2) years past acceptance, cancellation, or termination of Services.

(d) Business Automobile Liability Insurance with a combined single limit for bodily injury and property damage of no less than $1,000,000 per occurrence, with respect to all vehicles used in performance of the services, whether owned, non-owned, leased, hired or assigned.

(e) If applicable, Aircraft Public Liability Insurance, covering fixed wing and rotorcraft aircraft, whether owned, non-owned, leased, hired or assigned with a combined single limit for bodily injury and property damage, including passenger liability coverage of no less than $5,000,000.

(f) If applicable, Builders Risk Insurance in the amount of 100 percent of the contract amount of the building or buildings to be constructed. Unless otherwise specified, the Contractor shall provide and maintain a builders risk policy inclusive of fire, extended coverage, vandalism and malicious mischief insurance. The policy will cover the interest of TANK and the contractor and a certificate of insurance.
evidencing such coverage shall be secured and presented to TANK prior to the start of construction.

The policies required by this section shall be endorsed to include TANK as additional insured’s and shall stipulate that the insurance shall be primary insurance and that any insurance carried by TANK, its directors, officers, public officials or employees shall not be contributory insurance.

Contractor and its insurers providing the required coverage’s shall waive all rights of recovery against TANK and its directors, officers, public officials, employees and agents.

Prior to commencing any services under this contract, Contractor will furnish TANK with certificates of insurance issued by Contractor’s insurer(s), as necessary, in a form acceptable to TANK, as evidence that the insurance policies, including all applicable endorsements, providing the required coverage’s, conditions, and limits required by the section are in full force and effect. TANK also reserves the right to request and receive certified copies of any and all such Insurance policies and or endorsements. TANK shall not be obligated however to review such insurance certificates, policies and endorsements, or to advise Contractor of any deficiencies in such documents, and such receipt shall not relieve Contractor from or be deemed a waiver of TANK’s right to insist on strict fulfillment of Contractor’s obligations herein. Contractor’s Certificates of Insurance shall provide for no less than thirty days advance notice of cancellation, termination or alteration. All such certificates, endorsements and notices shall be sent directly to TANK.

27. Indemnification

In matters under the sole control of the contractor the Contractor agrees to protect, defend, indemnify and hold the Authority, its officers, employees and agents free and harmless from and against any and all losses, penalties, damages, settlements, costs, charges, professional fees (including attorney’s fees) or other expenses or liabilities of every kind and character arising out of or relating to any and all claims, liens, demands, obligations, actions, proceedings or causes of action of every kind and character in connection with or arising directly or indirectly out of this agreement and/or the performance hereof. Without limiting the generality of the foregoing, any and all such claims, etc., relating to personal injury, infringement of any patent, trademark, copyright (or application for any thereof) or of any other tangible or intangible personal or property right, or actual or alleged violation of any other tangible or intangible personal or property right, or actual or alleged violation of any applicable statute, ordinance, administrative order, rule or regulation, or decree of any court, shall be included in the indemnity hereunder. The contractor further agrees to investigate, handle, respond to, provide defense for and defend any such claims, etc., at his/her sole expense and agrees to bear all other costs and expenses related thereto, even if such claim is groundless, false or fraudulent.
28. **Disclaimer of Liability**

The Authority will not hold harmless or indemnify any contractor for any liability whatsoever, except those arising out of circumstances under the sole control of the Authority or where it is determined there is a shared liability.

29. **Safety**

All practices, materials, supplies, and equipment shall comply with the Federal Occupational Safety and Health Act, as well as any pertinent Federal, State and/or local safety or environmental codes.

30. **Governing Law**

All contractual agreements shall be subject to, governed by, and construed according to the laws of the Commonwealth of Kentucky.

31. **Licenses and Permits**

The successful Contractor shall be appropriately licensed for the work required as a result of the contract. The cost for any required licenses or permits shall be the responsibility of the Contractor. Contractor is liable for any and all taxes due as a result of the contract.

32. **Assignment/Transfer of Interest**

There shall be no assignment/transfer of interests or delegation of Contractor's or Authority's rights, duties, or responsibilities of Contractor under the contract derived from this Proposal without the prior written approval of the/all contracting parties.

33. **Regulatory Requirements**

The Contractor shall comply with all Federal, State, and local licensing and/or regulatory requirements (including permits) for the provision of transit services.

34. **Severability**

In the event any provision of the contract is declared or determined to be unlawful, invalid or unconstitutional, such declaration shall not affect, in any manner, the legality of the remaining provisions of the contract and each provision of the contract will be and is deemed to be separate and severable from each other provision.

35. **Covenant Against Gratuities**

If awarded the contract the contractor will warrant that he/she has not offered or given gratuities (in the form of entertainment gifts, or otherwise) to any official or employee of the Authority
with a view toward securing favorable treatment in the award, amendment or performance evaluation of the contract.

36. Approved Equal

In all cases, materials must be furnished as specified. Where brand names or specific items are used in specifications, consider the term "or approved equal" to follow. Any unapproved deviations, exceptions, substitutions, alternates, or conditional qualifications contained in a bid may be cause for its rejection. If a potential Proposer feels that his product is an equal to the product specified, he must submit a written request to the Authority. Requests for approved equals, clarification of specifications, and protest of specifications must be received by the Authority in writing on or before Friday, January 12, 2018 at 5:00 p.m. EST to allow analysis of the request.

Any request for any approved equal or protest of the specifications must be fully supported with catalog information, specifications and illustrations or other pertinent information as evidence that the substitute offer is equal to or better than the specification's requirement. Where an approved equal is requested, the Contractor must demonstrate the equality of his product to the Agency and must furnish sufficient information to enable the Agency to determine whether the Contractor's product is or is not equal to that specified.

The Authority's replies to requests under this section above will be delivered, (via email, fax or other agreed-upon method) at least seven days before the date scheduled for proposal opening.

37. Single Proposal Response

If only one proposal is received in response to the request for proposals, a detailed cost proposal may be requested of the single proposer. A cost/price analysis and evaluation and/or audit may be performed of the cost proposal in order to determine if the price is fair and reasonable.

38. Eligibility for Award

In order to be eligible for award, offerors must be responsive and responsible.

a. Responsive offers are those complying in all material aspects of the solicitation, both as to the method and timeliness of submission and as to the substance of the resulting contract. Offers which do not comply with all the terms and conditions of the solicitation may be rejected as non-responsive.

b. Responsible offerors are those prospective contractors who must at a minimum: (1) have adequate financial resources or the ability to obtain such resources as required during performance of the contract; (2) are able to comply with the required or proposed delivery or performance schedule, taking into consideration all existing business commitments; (3) have a satisfactory record of past performance; (4) have necessary technical capability to perform.
39. **Prohibited Interest**

No member, officer, or employee of the public body, commission, or locality during their tenure or for one year thereafter will have any interests direct or indirect in this contract or the proceeds thereof.

40. **Interest of Member or Delegates to Congress**

No member of or delegate to the Congress of the United States will be admitted to any share or part of this contract or to any benefit arising therefrom.

41. **Non-Collusion**

The proposer guarantees that the proposal submitted is not a product of collusion with any other proposer and no effort has been made to fix the price of any proposal or to fix any overhead, profit or cost element of any proposed price.

42. **Pricing**

The price to be quoted in any proposal submitted shall include all labor, materials, tools, equipment, and other costs necessary to fully complete the manufacture, delivery and installation of the item pursuant to the specifications. Anything omitted from such specifications which are clearly necessary for the completion of the item and its appurtenances shall be considered a portion of the proposal although not directly specified or called for in these specifications. All parts shall be new and in no case will used, reconditioned, or obsolete parts be accepted unless otherwise specified. Proposer should note discounts, if any.

43. **Late Proposals and Modifications or Withdrawals**

Proposals received after the deadline designated in this RFP document shall not be considered and shall be returned unopened. The only exception to this policy shall be if it is demonstrated that the actions of TANK personnel were responsible for the delay in the receipt of the proposal. Proposals may be withdrawn or modified prior to the submission deadline. All such transactions must be submitted in writing and received prior to the submission deadline.

44. **Protest Procedures**

Protests will only be accepted from prospective Proposers whose direct economic interest would be affected by the award of a contract to the refusal to award a contract. The Procurement Manager will receive and then forward all bid protests to the General Manager who will consider the protest, whether submitted before or after the award of a contract. The only exception to this procedure is in the case where the selection of a management company is involved; in this instance the protests will be forwarded to the Chairman of the Authority Board. If oral objections
are raised and then cannot be resolved, the protest must then be made in writing before any further consideration can be given.

Protests must be concise, logically arranged, and clearly state the grounds for protest. Protests must include, at least, the following information:

- Name, address, and telephone number of protester
- Identification of the solicitation
- A detailed statement of the legal and factual grounds of the protest
- A statement as to what relief is requested

All protests documents received shall be stamped with the date and time by the Procurement manager and logged into a protest file.

TANK will respond, in detail, to each substantive issue raised in the protest. TANK’s determination will be final. TANK will allow a request for reconsideration if data becomes available that was not previously known, or there has been an error of law or regulation.

Protests Before Award: Protests before award must be submitted within the time frame as specified below. If the written protest is not received by the time specified, the evaluation process shall continue in the normal manner, unless the General Manager upon investigation finds that remedial action is desirable, in which event such action shall be taken.

The protests addressing the adequacy of invitation for Bids, RFPs, including, without limitation, the pre-award procedure, the instructions to Proposers, General Terms and Conditions, Specifications and Scope of work must be filed at 3375 Madison Pike, Ft. Wright, KY 41017 no later than three days before bid date. Thereafter, such issues are deemed waived by all interested parties.

Notice of a protest and the basis therefore shall be given to all Proposers or offerors. In addition, when a protest against the making of an award is received, and the General Manager determines to withhold the award pending disposition of the protest, the Proposers (whose bids might become eligible for award) shall be requested, before expiration of the time for acceptance of their bids, to extend the time for acceptance (with consent of sureties, if any) to avoid the need for re-advertising.

A written protest against the making of an award must be received by the Procurement Manager, at least, ten (10) days prior to the scheduled contract award date.

Where written protest against the making of an award is received, award shall not be made until five (5) days after the matter is resolved, unless the General Manager determines that:

- The items to be procured are urgently required; or
- Delivery or performance will be unduly delayed by failure to make the award promptly; or
- Failure to make prompt award will otherwise cause undue harm to the Authority or the State or the Federal Government.
In the event the General Manager determines that the award is to be made during the five-day period or during the pendency of a protest, he or she shall notify FTA prior to making such award. FTA reserves the right not to participate in such procurement.

If award is made, the Authority shall document the file to explain the need for an award and shall give written notice of the decision to proceed with the award to the protester and, as appropriate, to others concerned.

Protest After Award: Protest against award must be filed at the Authority’s office within five (5) days immediately following the award. The protest shall be received by the Procurement Manager. However, although the number of persons involved in or affected by the filing of a protest may be limited in instances where an award has been made, the Contractor shall in any event be furnished with the notice of protest and the basis therefore. Also, when it appears likely that an award may be invalidated and a delay in receiving the supplies or service is not prejudicial to the Authority’s interest, the General Manager shall consider a mutual agreement with the contractor to suspend performance on a no-cost basis.

Decision on the Protest: The General Manager shall render his or her decision in writing within fourteen (14) days from the receipt of the written protest and shall provide notice of such decision to all interested parties.

Following an adverse decision by the General Manager, the Protestor may file a protest with the Federal Transit Administration (FTA).

FTA’s Review of Protests: FTA will only review protests regarding the alleged failure of the authority to have written protest procedures or alleged failure to follow such procedures.

Alleged violations on other grounds are under the jurisdiction of the appropriate State or local administrative or judicial authorities. Alleged violations of a special Federal requirement that provides an applicable complaint procedure shall be submitted and processed in accordance with that Federal regulation. See, e.g., Buy America Requirements, 49 CFR Part 661 (Section 661.15); Participation by Minority Business Enterprise in Department of Transportation Programs, 49 CFR Section 23.73.

FTA will only review protests submitted by an interested party as defined below.

FTA’s Remedy: FTA’s remedy for the Authority’s failure to have written protest procedures or failure to follow such procedure is limited to requiring the Authority to develop such procedures, if necessary, and follow such procedures in reviewing the protest at issue, if the Authority desires FTA financial participation in the contract in question. In instances where the Authority has awarded to another Proposer or offeror, or prior to FTA’s decision on the protest, FTA may refuse to participate in funding the contract.

Definitions: For the purposes of this section, the following definitions apply:
“Days” refers to working days of the Federal Government.
“File” or “submit” refers to the date of receipt by the General Manager or RTA, as the case may be.
“Interested party” means an actual or prospective Proposer or offeror whose direct economic interest would be affected by the award of the contract or by failure to award the contract.

Time for Filing with FTA: Protestors shall file a protest with FTA no later than five (5) days after a final decision is rendered under protest procedure. In instances where the protestor alleges that the Authority failed to make a final determination on the protest, protestors shall file a protest with FTA no later than five (5) days after the protestor knew or should have known of Authority failure to render a final determination on the protest. The Authority shall not award a contract for five (5) days following its decision on a bid protest except in accordance with the provisions and limitations set forth above. After five (5) days, the Authority shall confirm with FTA that FTA has not received a protest on the contract in question.

Submission of Protest to FTA:
- Protests should be filed with the appropriate FTA Regional Office with a concurrent copy to: The Transit Authority of Northern Kentucky
  3375 Madison Pike
  Ft. Wright, KY 41017
- The protest filed with FTA shall:
  1. Include the name and address of the protestor;
  2. Identify the authority (the FTA grantee), project number (if applicable) and the number of the contract solicitation;
  3. Contain a statement of the grounds for protest and any supporting documentation. This should detail the alleged failure to follow protest procedures or the alleged failure to have procedures, and be fully supported to the extent possible; and
  4. Include a copy of the local protest filed with the Authority and a copy of the Authority’s decision, if any.

Authority’s Response:
- FTA shall notify the Authority in a timely manner of the receipt of a protest. FTA shall instruct the Authority to notify the contractor of the protest if an award has been made or, if no award has been made, to notify all interested parties. The Authority shall instruct all who receive such notice that they may communicate further directly with FTA.
- The Authority shall submit the following information to FTA no later than ten (10) days after receipt of notification by FTA of the protest:
  1) A copy of the protest procedure;
  2) A description of the process followed concerning the protestor’s protest; and
  3) Any supporting documentation.
- The Authority shall provide the protestor with a copy of the above submission to FTA.

Protestor’s Comments: The protestor must submit any comments on the Authority’s submission no later than ten (10) days after the protestor’s receipt of submission.
Withholding of Award: When a protest has been timely filed with the Authority before award, the Authority shall not make an award prior to five (5) days after the resolution of the protest, or if a protest has been filed with FTA, during the pendency of that protests, unless the Authority determines that:

- The items to be procured are urgently required;
- Delivery or performance will be unduly delayed by failure to make the award promptly; or
- Failure to make prompt award will otherwise cause undue harm to the Authority or the Federal Government.

In the event that the Authority determines that the award is to be made during the five-day period following the local protest decision or pendency of a protest, the Authority shall notify FTA prior to making such award. FTA will not review the sufficiency of the Authority’s determination to award during the pendency of a protest prior to FTA’s bid protest decision. FTA reserves the right not to participate in the funding of any contract awarded during the pendency of a protest.

FTA’s Action: Upon receipt of the submission, FTA will either request further information or a conference among the parties, or will render a decision on the protest.

45. Personal Information / Security

In accordance with KRS 61.932, if the Proposer, in carrying out the work of this contract, has access to, possesses, or maintains “personal information,” as a part of that contract, shall implement, maintain, and update security and breach investigation procedures and practices that are appropriate to the nature of the information disclosed. Such procedures and practices shall be designed to protect the personal information from unauthorized access, use, modification, disclosure, manipulation, or destruction and shall be at least as stringent as the security and breach investigation procedures and practices established by the Kentucky Department for Local Government in Protection of Personal Information, Security and Incident Investigation Procedures and Practices for Local Governmental Units, Fall 2014 edition.

A Proposer that is provided access to personal information by the procuring agency, or that collects and maintains personal information on behalf of the procuring agency as a part of this contract shall notify the procuring agency in the most expedient time possible and without unreasonable delay but within seventy-two (72) hours of determination of a security breach relating to the personal information in the possession of the Proposer. The notice to the procuring agency shall include all information the Proposer has with regard to the security breach at the time of notification. The cost of the notification and investigation of a security breach required by KRS 61.933 shall be borne by the Proposer.

The term "personal information" means an individual's first name or first initial and last name; personal mark; or unique biometric or genetic print or image, in combination with one (1) or more of the following data elements:
(a) An account number, credit card number, or debit card number that, in combination with any required security code, access code, or password, would permit access to an account;
(b) A Social Security number;
(c) A taxpayer identification number that incorporates a Social Security number;
(d) A driver's license number, state identification card number, or other individual identification number issued by any agency;
(e) A passport number or other identification number issued by the United States government; or
(f) Individually identifiable health information as defined in 45 C.F.R. sec. 160.103 except for education records covered by the Family Educational Rights and Privacy Act, as amended, 20 U.S.C. sec. 1232g.