# PART 1

## SOLICITATION, GENERAL REQUIREMENTS & CONDITIONS, CONTRACTUAL PROVISIONS

# Contract #TRIPS-09-MD-RFP

## Medium Duty Bus Type Vehicles

# PROPOSAL # TRIPS-09-MD-RFP

## SOLICITATION, GENERAL REQUIREMENTS & CONDITIONS, CONTRACTUAL PROVISIONS

## SOLICITATION

### 1.1 SCOPE

Notice is hereby given that the Transit Research Inspection Procurement Services (TRIPS) Program will receive sealed proposals on behalf of agencies within the state of Florida, herein referred to as the "Purchasers" to establish a statewide Purchasing Agreement for the manufacture and delivery of **2009** model year:

**MEDIUM DUTY TYPE PURPOSE BUILT TRANSIT VEHICLES**

In accordance with the terms and conditions set forth below. Sealed proposals, an original and eight (8) copies shall be submitted to:

**Henry J. Cusack**
**TRIPS Program Administrator**
**University of South Florida**
**Center for Urban Transportation Research**
**4202 East Fowler Avenue, CUT100**
**Tampa, Florida 33620-5375**

### 1.2 PROPOSAL REQUIREMENTS

Proposals will be received until **1:00 P.M. Friday, December 5, 2008.** Any proposal received after that time will not be considered and will be returned to the proposer unopened. All labor, equipment, and materials shall be furnished in strict accordance with the conditions of the Purchasing Agreement documents. The vehicles shall fulfill all of the requirements defined in **Part 2**: **Technical Specifications**, including addenda thereto. Compliance with these requirements shall be in accordance with the procedures defined in **Part 4: Quality Assurance**

**Provisions.** The Contractor shall accept the warranty provisions covering the vehicles as defined in **Part 5.**

Minimum and maximum quantities are established as follows:

| | MIN | MAX |
|---|---|---|
| **MEDIUM DUTY TYPE TRANSIT VEHICLES** | **0** | **500** |

These numbers reflect the immediate and foreseeable needs of agencies within Florida and were determined by using the most recent state of Florida Program of Projects, historical data from previous TRIPS Program Purchasing Agreements, and Agency(s) vehicle replacement schedules. All or part of the quantity of vehicles stated herein may be assigned to other public transit agencies desiring to purchase the same equipment specified in **Part 2** of this solicitation.

The Purchasers will be allowed to purchase this vehicle as long as current production year chassis are still available from manufacturer or suppliers, under the same terms and conditions stated in this initial Purchasing Agreement.

Following award of the initial production year the TRIPS Program will have an option to extend the Purchasing Agreement for four succeeding chassis production years. Any optional Purchasing Agreements shall be subject to the same pricing, terms and conditions of the original Purchasing Agreement. However, a chassis model price increase will be considered when a model year change is specific to the automotive or bus industry. The Contractor shall provide a certification from the manufacturer to justify the chassis model price increase. The price may be adjusted only in the same amount as the price increase to the Contractor. The Contractor must submit the request and all necessary documentation to the TRIPS Program Administrator. The Contractor may request an increase in the second stage production costs after, or in conjunction with, the chassis increase request being received by the TRIPS Program Administrator. The TRIPS will compute the second stage costs utilizing the formula explained in Exhibit 5. A final annual adjustment will then be authorized after combining the chassis increase with the second stage increase, if any. The date found on the Manufacturer's letter, stating the new chassis cost, shall be the month used as the future Recomp month as described in Exhibit 5.

Each proposal shall be submitted with the understanding that acceptance in writing by any Purchaser of the offer to furnish any or all of the units therein, shall constitute a contract between the proposer and that Purchaser only, and implies no duties or responsibilities on the part of the TRIPS or the FDOT. The terms and conditions of said contract are to be administered and enforced by and between the Purchaser and the proposer. The Purchaser is responsible for: providing the dealer with the properly completed forms and order information; resolution of issues relating to

liquidated damages, late payment penalties, etc; and adhering to the terms and conditions regarding Final Acceptance and Terms of Payment as stated in the Purchasing Agreement. The FDOT and TRIPS are responsible, and have an obligation to, oversee the proper use of Federal and State grant monies; to ensure that all Federal, State and Purchasing Agreement requirements and certifications are met; monitor warranty and dealer services; conduct on-line and/or dealer inspections and intercede on behalf of the Purchasers.

Any contract resulting from this solicitation shall include the following that are incorporated herein:

**Part 1** - Solicitation, General Requirements & Conditions, Contractual Provisions
**Part 2** - Technical Specifications
**Part 3** - Options
**Part 4** - Quality Assurance Provisions
**Part 5** - Warranty Provisions
**Part 6** - Paint Schemes

## 1.3 BASIS FOR AWARD

The TRIPS shall be using a Request for Proposal format for this procurement. The Purchasing Agreement shall be awarded to the proposer(s) who is in compliance with the conditions and requirements of this proposal and whose weighted criteria points designate the best value relative to the evaluation criteria discussed in Section 1.6 of the RFP document.

The TRIPS may award to more than one proposer whose proposal is in compliance with all State and Federal regulations. Awards based on Best Value represent an assessment of the evaluation criteria and scoring, consisting of technical specifications, price, after sales service, warranty and quality control program. Evaluation will include considerations of previous vendor performance with the TRIPS.

Each proposal shall consist of **three (3)** separate envelopes. **Envelope number 1**, Technical Proposal, shall contain the technical specifications of the proposed vehicle. This envelope will also include the items identified in **"Exhibit 1"** of this solicitation. Envelope number 1 shall be plainly marked with the company name and the words "Technical Proposal" and "Envelope Number 1."

**Envelope number 2**, Price Proposal, shall contain proposal forms A, B, C D, E, and F, identified in "Exhibit 2". Envelope number 2 shall be plainly marked with the company name and the words "Price Proposal" and "Envelope Number 2."

Envelope number 1, technical proposal, and Envelope number 2, price proposal,

shall be placed inside **Envelope (or box) number 3**. Envelope (or box) number 3 shall be plainly marked with the company name and the words "Envelope (or box) Number 3."

## 1.4 EVALUATION PROCESS FOR PROPOSALS

The TRIPS Program shall employ evaluation criteria in determining the award of Purchasing Agreement. These criteria are outlined below under **Evaluation Criteria,** and are listed in order of importance and value. Although we are requesting that pricing and technical specifications be separated when submitted, these documents will be reviewed and evaluated concurrently with all other aspects/documents of the proposal. The Purchasing Agreement awarded will be dependent upon the successful Proposer being able to comply with the provisions and requirements of the solicitation in a timely manner. All information to be submitted in the proposal must be correct, complete and verifiable. The proposer may be required to submit supporting documentation on the technical aspects and cost. The TRIPS may select a proposal for award without any discussions, negotiations, or requests for any Best and Final Offers (BAFO's). The TRIPS Program Administrator expects all proposers to fully cooperate with the evaluation process.

## 1.5 PRELIMINARY EVALUATION

The evaluation of Envelope number 1, technical proposal, and Envelope number 2, price proposal, shall be conducted together, and will be an internally consistent evaluation of price and technical factors.

A price evaluation shall be conducted by the TRIPS evaluation committee to establish that the proposal is within the competitive range. The technical evaluation will identify those proposals that meet the minimum technical requirements. It will also determine compliance to technical specifications and evaluate features of the proposed vehicle using established criteria.

Offerors of any proposals that have been determined as not in the competitive range, and cannot be reasonably made within the competitive range, will be notified in writing, including the shortcomings of their proposals, and these proposals will not be subject to the point tabulation method of evaluation described in Paragraph 1.7.

The evaluation process will use a pre-established ranking system.

## 1.6 EVALUATION CRITERIA

The specifications, as amended through the request for approval or exception process, and any addenda thereto, set forth the minimum requirements of the vehicle, components, warranty, service, support, and other deliverables required

through this procurement.

The award of this Purchasing Agreement shall be made to the offeror whose proposal, in the opinion of the TRIPS Program Evaluation Committee, best meets the established criteria listed herein. Consideration shall be given to such matters as Contractor integrity, record of past performance and financial and technical resources. Price shall be a factor in the award decision, although the award may not be necessarily made to the proposal with the lowest price. The award will be made to the proposer who is "most advantageous" with "price and other factors" considered. Technical superiority, warranty, delivery time, service support and training as well as price and technical aspects in order of priority are as follows:

a. Technical Specifications

Technical specifications are the most important determinant for award. The main design intents of the vehicle specifications are: safety, environmental tolerability, good ride and springing comfort, long life performance of mechanical and component function and high maintenance of value. Therefore, the TRIPS will consider the type of construction used in the bus body, how the cage and sub-floor is designed, and how subcomponent electrical systems are integrated into the OEM wiring system.

b. Price

Price is of utmost importance to the TRIPS Program, but not the sole consideration. Price shall be evaluated on its overall relationship to being most advantageous and favorable for the Purchasers. All respondents should be aware that the Purchasers are seeking to purchase as many new vehicles as possible with local, state and federal funding available.

c. After Sale Service

All parties should be aware that the TRIPS Program places value on after-sale field service support and quick replacement parts availability. Included with parts availability is whether the Contractor keeps price catalogs current and whether the Contractor pays for the cost of freight. The TRIPS will also consider the availability, location, and qualification of the field service support staff and engineering staff.

d. Warranty

The TRIPS Program expects all parties responding to this RFP to meet the warranty criteria outlined in part five. In addition to the specified warranty criteria, the TRIPS will review additional warranties that are offered. Warranties shall be evaluated in terms of longevity, cost, and overall relationship to being most advantageous and favorable for the Purchasers.

e. Quality Control Program

A Quality Control Program is of utmost importance to the TRIPS Program. The TRIPS has found that the lack of an effective Quality Control Program always negatively impacts our goal of a defect free product. All proposers should understand that failure to demonstrate an effective Quality Control Program will have a very negative impact on their evaluation for this criterion.

f. Training

Training is important to the TRIPS as this new vehicle may have components unfamiliar to the Purchasers' maintenance and operating personnel. The TRIPS is concerned with the type of training provided, qualifications of the instructors, and the amount of training provided. As a **minimum**, the TRIPS expect to receive:

| | |
|---|---|
| Driver Orientation/Certification | 4 hours @ 5 locations annually |
| Air Conditioning/Certification | 4 hours @ 5 locations annually |
| Securement Device/Certification | 4 hours @ 5 locations annually |
| Maintenance Familiarization | 4 hours @ 5 locations annually |
| Multiplex Electrical Familiarization | 4 hours @ 5 locations annually |
| Event Data Recorder Familiarization | 4 hours @ 5 locations annually |

Dealer Orientation Upon Delivery: The dealer shall provide a vehicle orientation with each vehicle delivered to an agency. If an agency orders more than one (1) unit of identical specifications; the orientation shall be provided on the first unit delivered. The orientation shall be conducted by the dealer for the maintenance and operations supervisory and training personnel. The orientation shall include, but not be limited to:

- Engine type and proper type of fuel
- How to check coolant level and type of coolant required
- Function of all controls on the OEM
- Function of all controls on the second stage driver control panel
- Identify location of and function of controls of all add-on equipment such as A/C, wheelchair ramp, restraint systems, etc.
- Locate and identify all alarms
- Locate and identify tire pressure ID plate

- Location of battery and how to service
- Location of Multiplexing components and their use

## 1.7 GUIDELINES FOR EVALUATION CRITERIA

Prior to the opening of proposals, a determination is made as to the proportional weight assigned to Envelope Number 1, technical proposal, and Envelope Number 2, price proposal. At the same time, a decision is made as to the criteria used under Envelope Number 1, technical proposal, and its respective value. The proportional weight assignments are not made public. However, the criteria factors are listed in the Request for Proposal under **1.6 Evaluation Criteria.**

In the Evaluation Criteria review of Envelope Number 1, Technical Proposal, a point tabulation method will be established for each criteria with the lowest points designated the worst and the highest points designating the best relative to the criteria. The other proposers in the competitive range will be allotted corresponding points based on the variance from the proposal best meeting the technical specifications. The Evaluation Committee will submit the achieved scores in its recommendation.

The Pricing Review of Envelope Number 2, conducted by the Evaluation Committee, follows a similar procedure. Using a point tabulation method, the lowest points designate the worst and the highest points designate the best relative to the criteria. The vehicle with the lowest price shall receive the maximum number of points for this factor. The other proposers in the competitive range will be allocated corresponding points based on the variance from the lowest cost submitted. The number of points achieved is then proportionally allotted to the pre-established weight for Envelope Number 2, price proposal.

The weighted scores for Envelope 1, Technical Proposal, and Envelope 2, Price Proposal, are combined to determine the total score for each proposal.

Unless all proposals are rejected, award shall be made to that proposer whose proposal, conforming to the solicitation, will be most advantageous to the Purchasers, price/cost or other factors considered.

A full description of the procurement process is provided herein with the major steps being identified as follows:

1. The TRIPS Program Administrator prepares a Request for Proposal (RFP), which includes the technical specifications defining the actual minimum needs and identifies all significant evaluating factors listed in their respective order of importance. For internal reference only, a memorandum to the file is prepared documenting the established criteria.

2. Evaluation Committee membership is determined by the TRIPS Program Manager. The Evaluation Committee may be comprised of representatives from the Florida Maintenance Training Program and Transit Research Inspection Procurement Services Advisory Committees, the Florida Department of Transportation (FDOT), or others determined by the TRIPS Program Manager to be appropriate for involvement in the evaluation process.

3. The RFP is issued to known potential proposers and advertised to assure a high degree of competition.

4. By an established date, the proposer submits proposals in three sealed envelopes, in accordance with paragraph 1.3 of this solicitation. Envelope Number 1 includes the technical and contractual proposal, while Envelope Number 2 includes the quoted price and cost data and other relevant information. Envelopes 1 & 2 will be sealed inside Envelope Number 3.

5. Proposals will not be publicly opened. All proposals will be kept strictly confidential throughout the evaluation, negotiation, and selection process. Only the Evaluation Committee, and the TRIPS Program Manager and Administrator will be provided access to the proposals and evaluation results during this period.

6. Proposals are evaluated by the Evaluation Committee in reference to the prioritized criteria published in the RFP. **NOTE: Only the criteria are published.**

7. No evaluation and/or price comparisons are allowed between proposals. Discussion will not disclose the strengths and weaknesses of competing proposals.

8. Recommendation is made to the TRIPS Advisory Committee for approval.

9. Award of Purchasing Agreement will be dependent upon the required Pre-Award and Buy-America Certification.

10. Florida Department of Transportation (FDOT) approval is obtained, if required.

11. All proposers will be advised in writing of the final decision.

## 1.8 PROPOSER REVIEW PROCEDURES

a. A **MANDATORY** pre-proposal meeting for manufacturer representatives and dealers considering submitting a proposal was conducted at 1:30 p.m. EST on Thursday, November 13, 2008 at Big Bend Transit, 2201 Eisenhower Street, Tallahassee, Florida 32399. The purpose of this meeting was to answer questions and discuss the specifications/clarifications and other addenda relative to this RFP. Subcomponent vendors were welcomed to attend the meeting, but attendance was not required.

b. Any person adversely affected by this solicitation shall file with Henry J. Cusack, TRIPS Administrator, University of South Florida, Center for Urban Transportation Research, 4202 E. Fowler Avenue, CUT100, Tampa, Florida, 33620-5375, a notice of Protest, in writing, at least 15 calendar days prior to the date on which proposals are to be received.

c. Any person adversely affected by a decision in connection with this solicitation shall file a Notice of Protest, in writing, within 72 hours of receipt of the decision. All Notices of Protest shall be accompanied by a "Protest Bond" in the amount of five thousand dollars ($5,000). The Protest Bond shall be a Surety Bond issued by an insurer with an agent or resident office in the state of Florida. Erin Schepers, Manager for the Florida Department of Transportation TRIPS, or her designee, shall be the custodian of the Protest Bond. The Protest Bond shall reference this proposal and shall be payable to the State of Florida, Department of Transportation, 605 Suwannee Street, Mail Station 26, Tallahassee, FL 32399-0450. If the Notice of Protest is withdrawn or a Formal Written Protest is not filed in accordance with step 7, the Protest Bond will be forfeited.

d. All protestors shall file a Formal Written Protest with the TRIPS Program Administrator within 10 calendar days after the date of filing the Notice of Protest. The formal written protest shall state with particularity the facts and law upon which the protest is based.

e. Upon receipt of a formal written protest which has been timely filed, the TRIPS Program Administrator shall stop the proposal solicitation process or the Purchasing Agreement award process until the subject of the protest is resolved by mutual agreement or by final action of the Florida Department of Administration.

f. The TRIPS Program Administrator shall provide an opportunity to resolve the protest by mutual agreement between the parties within 7 working days of receipt of a formal written protest. If the protest is not resolved by mutual agreement within 7 days the TRIPS Program Administrator and/or the protestor shall refer the protest to: Erin Schepers, TRIPS Manager, Florida

Department of Transportation, Public Transit Office, 605 Suwannee Street, Mail Station 26, Tallahassee, FL 32399-0450.

g. The Florida Department of Transportation will review the protest, and the TRIPS Program Manager's decision and either concur or reverse the decision in writing within seven (7) working days.

h. Any appeal of the decisions of the Florida Department of Transportation shall be filed and administered by the "Administrative Procedures Act," Chapter 120, Florida Statutes.

i. Failure to file a protest within the time prescribed in Section 120.53 (5), Florida Statutes, shall constitute a waiver of proceedings under Chapter 120, Florida Statutes. It is the responsibility of the protestor to obtain complete information and legal counsel as appropriate.

## 1.9 PREPARATION OF PROPOSALS

Each proposal shall be made only on the forms provided and in accordance with procedures delineated in the section titled **Basis for Award**. Each complete proposal shall be enclosed in a sealed envelope or box capable of holding Envelope 1, Technical Proposal, and Envelope 2, Price Proposal, with the name and address of the proposer marked on the outside. All blank spaces in the proposal attachments must be filled in and no changes shall be made in the wording.

## 1.10 PROPOSAL POSTPONEMENT AND AMENDMENT

The TRIPS Program Administrator reserves the right to revise or amend the specifications up to the time set for the opening of the proposals. Such revisions and amendments, if any, shall be announced by amendments to this solicitation. Copies of such amendments shall be furnished to all prospective proposers.

If the revisions and amendments require changes in quantities or price offered, or both, the date set for opening the proposals may be postponed by such number of days as in the opinion of the TRIPS Program Administrator shall enable proposers to revise their proposals. In any case, the proposal opening shall be at least five (5) working days after the last amendment, and the amendments shall include an announcement of the new date, if applicable, for opening proposals.

## 1.11 PROPOSAL REJECTION

The TRIPS Program Administrator reserves the right to waive any minor proposal informalities or irregularities received which do not go to the heart of the proposal or prejudice other proposers, or to reject, for good and compelling reasons, any and all proposals submitted.

## 1.12 SUBMISSION OF SINGLE PROPOSAL

If only one proposal is submitted in response to this 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.

## 1.13 WITHDRAWAL OF PROPOSAL

After the proposals are opened, the proposals may not be withdrawn for ninety (90) calendar days. Prior to the date/time set for the proposal submission; however, proposals may be modified or withdrawn by the proposer's authorized representative in person or by written notice. If the proposals are modified or withdrawn in person, the authorized representative shall make his identity known and shall sign a receipt for the proposal. Written or telegraphic notices shall be received in the office designated in Section 1.1 no later than the exact date/time for the proposal opening. A telegraphic modification or withdrawal received in the designated office by telephone from the receiving telegraph office no later than the date/time set for the proposal opening shall be considered if such a message is confirmed by a copy of the telegram.

## 1.14 AWARD PROCEDURE

Within thirty (30) calendar days after completing successful negotiations, the TRIPS Program Manager shall sign the Solicitation Offer and Award Form submitted by the successful proposer and shall deliver the executed Purchasing Agreement documents specified within fifteen (15) calendar days after the signing. Delivery of the Purchasing Agreement documents shall be determined by the Contractor's signature on the return receipt request.

## 1.15 PROPOSER QUALIFICATION

The proposer must be a person, firm, or corporation that:

a. Has in operation, or has the capability to have in operation, a manufacturing plant adequate to assure delivery of all equipment within the time specified under this Purchasing Agreement.

b. Has adequate engineering and service personnel, or has the capability to have such personnel, to satisfy any engineering or service problems that may arise during the warranty period.

c. Has adequate working capital or the ability to obtain working capital to finance the manufacturer of the vehicle.

d. Has the ability to comply with all federal, state, and local regulations including, but not limited to, Buy America (49 CFR 661), New Bus Testing, Chapter 287 of the Florida Statutes, and the Americans with Disabilities Act.

e. Has the ability to certify by completing Certification of Compliance with Disadvantaged Business Regulations Form that acknowledges that this procurement is subject to the provisions of 49 CFR Section 23 .67.

f. Has a current in-plant Quality Assurance Program and "fully meets" the OEM body-builders program requirements.

## GENERAL REQUIREMENTS AND CONDITIONS

### 1.16 DELIVERY AND ACCEPTANCE

a. *Please fill in the two blanks that follow:* Completed units, for orders of 0 to 10 units, are to be delivered to purchaser within _____ months from receipt of chassis or purchase order, whichever occurs last. Orders of 11 or more units are to be delivered to purchaser within _____ months from receipt of chassis or purchase order, whichever occurs last. *Add any comments and/or explanations here!*

b. Upon completion of a Pre-Delivery Inspection by the licensed Florida dealer who is awarded this Purchasing Agreement, that dealer will be required to deliver the vehicles to the Purchaser. The dealer shall notify both the purchaser and the FDOT District Office a minimum of 48 hours in advance to arrange a delivery time. The name, address, telephone number, and contact person for each FDOT District Office is listed in Part 1, Exhibit 3.

c. Failure to coordinate delivery may result in delay of vehicle being "signed for" as delivered. The vehicles shall be delivered clean and in first class condition, complete and ready for service. Workmanship throughout shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a complete, neat, and finished appearance.

d. The Contractor shall assume all costs and responsibility incident to said delivery to purchaser.

e. The vehicle shall be delivered with all Contractor/manufacturer's quality control checklists including road test and final inspection (properly completed

and signed by an authorized plant representative). Other documents/items required at delivery include:

A copy of the Manufacturer's Certificate of Origin
Application for Certificate of Title
Bill of Sale
Warranty Papers (forms, policy, procedures)
Maintenance Schedule
Operators' manual
Invoice (To include contract number, P.O. number, VIN#, and agency name)

f. If any of the items listed above are missing, defective, altered, incorrect, and incomplete, etc., the vehicle will be automatically rejected. Part I, Exhibit 4 contains a list of the minimum required items at delivery.

g. Delivery to Purchaser is to be completed within ten (10) calendar days of receipt of vehicle at Contractor's site. Delivery shall be determined by signed receipt of the contact person or their designee, at the point of delivery. Further, since a common carrier is an independent concern, any delay in delivery resulting from the common carrier's operations, accident, or mechanical failures on route will be considered a cause beyond the control of the Contractor, provided vehicles were delivered to said carrier in ample time for delivery within normal operating conditions. Odometer readings cannot exceed 2,000 miles at time of final delivery of completed buses to agency(s). There will be one dollar ($1.00) per mile charge for each vehicle with an odometer reading in excess of 2,000 miles. Under NO circumstances are tow vehicles to be attached to any buses.

h. In case delivery of completed units under this Purchasing Agreement shall be necessarily delayed because of weather, strike, injunctions, government controls, or by reason of any cause or circumstances beyond control of the Contractor, the time for completion of delivery shall be extended by the number of days to be determined in each instance in writing and by mutual agreement between the parties.

i. All units shall consist of new parts and materials and in no case will used components or reconditioned or obsolete parts be accepted. Any one part or component shall be an exact duplicate in manufacture and design as well as construction as all others proposed for each unit. Manufacturers must incorporate, in the units proposed, the newest technological advancement in order to achieve maximum service life and an attractive modern appearance.

j. The FDOT reserves the right to require that some vehicles be weighed by the

Contractor at Florida Department of Agriculture certified scales prior to delivery to purchaser. If required, Contractor shall upon delivery, provide to purchaser weight certification receipts showing individual gross axle weights and overall gross vehicle weight.

k Each vehicle purchased through the TRIPS shall be routed to the FDOT's Springhill Inspection and Testing Facility located in Tallahassee, Florida for an inspection prior to delivery to the manufacturer's dealer. Each vehicle delivered to the Springhill inspection facility shall contain a copy of the sales order, the build order and a complete set of **"as built"** wiring diagrams. The Dealer should see that all noted write-ups are corrected prior to final delivery to the procuring agency. This inspection by the TRIPS is not represented as being "all inclusive" and in no way relieves the dealer from the required PDI.

l. Any vehicle delivered by the Contractor that does not comply with specifications, conditions, and requirements shall be considered not accepted.

m. If a vehicle is delivered incomplete or contains any defective or damaged parts, said parts shall be removed and new parts furnished and installed by the Contractor at no cost to the Purchaser. In the event work is involved, whether warranty or otherwise, in repairing or placing the vehicle(s) in proper condition, then such repairs shall be made by an approved firm.

n. Delivery of vehicle(s) by the Contractor does not constitute acceptance by the Purchaser. Vehicle(s) shall be considered "accepted" upon the inspection by the Purchaser and the issuance of a "Letter of Acceptance" to the Contractor. Purchaser will perform a post-delivery inspection and issue either a "Letter of Acceptance" or a "Letter of Rejection" to Contractor, stating areas found to be in non-compliance with the proposal specifications, within ten (10) calendar days from receipt of vehicle(s). Placing any new vehicle into revenue service will automatically constitute acceptance of vehicle by Purchaser. However, a Letter of Acceptance should still be sent to the Contractor prior to placing vehicle into revenue service.

o. Acceptance of the vehicles shall not release the Contractor from liability for faulty workmanship or materials.

## 1.17 FEDERAL AND STATE TAX

The Purchaser's are exempt from payment of Federal Excise Tax and Florida State Tax. Said taxes must not be included in the proposal price. Any other sales tax, use tax, imports, revenues, excise or other taxes which may now or hereafter be imposed by Congress, by the State, or any political subdivision thereof and

applicable to the sale and delivery of the product as a result of this proposal, and which by terms of the tax law, may be passed directly to a Purchaser, will be paid by the Purchaser. Such taxes, as may be included, must be identified as to amount(s) and type of tax.

## 1.18 ON-LINE INSPECTIONS

The TRIPS reserves the right to perform an on-line inspection of any vehicles procured as a result of this proposal. If any defective or non-compliance items are found during the on-line inspection, the TRIPS may choose to perform subsequent on-line inspections at a date agreeable to both parties.

## 1.19 INDEMNIFICATION

Proposer must agree to save, keep, and bear harmless and fully indemnify any Purchaser and any of its officers, or TRIPS personnel from all damages, costs, or expenses in law or equity, that may at any time arise or to be set up, for any infringement of the patent rights of any person or persons in consequence of the use by a Purchaser or by any of its officers or proposal coordinators, of articles supplied under contract, arising from proposals submitted and which a Purchaser gives the Contractor notice in writing of any such claims or suit and provides necessary cooperation for the defense of said claim or suit.

## 1.20 MOTOR VEHICLE SAFETY STANDARDS

All vehicles covered by these specifications shall be in compliance with applicable Federal Motor Vehicle Safety Standards established by the National Highway Traffic Safety Administration. The manufacturer must include in their proposal package, either a letter stating the information that will be provided on the FMVSS sticker or a letter stating that the vehicles are not subject to FMVSS. Vehicles must be in compliance with all the requirements of the laws of the State of Florida as to lighting equipment, and all warning and safety devices. In the event there are changes in the Federal Motor Vehicles Safety Standards between date of proposal and date of manufacture, any new requirements applicable at time of manufacture will be considered separately and the price for same determined by mutual agreement. In granting this, the Contractor is not relieved of the responsibility of providing the Purchaser with all available information relative to the engineering structure, and design change so affected and the impact (if any) these changes may have on the durable-useful life and attractive appearance of the vehicle to be provided per these specifications.

## 1.21 LIQUIDATED DAMAGES

In the event of delay in completion of the delivery of vehicles beyond the date

specified, in addition to any granted extensions agreed to in writing by the Purchaser, any affected Purchaser shall assess as liquidated damages, twenty five dollars ($25.00) per calendar day per vehicle.

## 1.22 PARTS AND MANUALS

A supply of replacement parts for the vehicles specified must be guaranteed by the Contractor for a ten-year period from date of purchase. The Contractor shall provide Purchaser with complete **"as built"** wiring diagrams for the entire vehicle, a current service manual and a current parts manual *("as-built" drawings, service manual and parts manual may be on a CD, as determined by the Purchaser)*. These should be provided for each vehicle with a maximum of two (2) sets per Purchaser if they are purchasing more than two (2) vehicles. One (1) Operator's Manual shall be provided for each vehicle, regardless of the number of vehicles ordered by a given Purchaser. A list of any special tools or equipment will also be provided. The supplied operator's and maintenance manuals and wiring diagrams shall incorporate the options ordered on purchaser's vehicles.

## 1.23 ALTOONA TEST

Either a final report from the Altoona Bus Testing Center or documentation from the Federal Transit Administration stating that the vehicles are not required to undergo Altoona testing must be submitted with each proposal.

## 1.24 TITLING VEHICLES

Unless specified otherwise, Vehicles shall be titled to the Purchaser with the Florida Department Transportation, 605 Suwannee Street, Mail Station 26, Tallahassee, Florida 32399-0450 listed as the only lien holder.

**The Contractor shall be responsible for applying for Title and purchasing a license tag on behalf of the Purchaser.**

# CONTRACTUAL PROVISIONS

## 1.25 FEDERAL TRANSIT ADMINISTRATION FUNDING

Any contract resulting from proposal submitted is subject to financial reimbursement by the Federal Transit Administration. Accordingly, federal requirements may apply to that contract and if those requirements change then the changed requirements shall apply as required.

## 1.26 INCLUSION OF PROVISIONS

All provisions stated in this Invitation to Proposal and Vehicle Specifications, including any addenda, shall be considered to be included in the contract between the Purchaser(s) and the successful proposer.

## 1.27 REQUIREMENTS OF PROPOSERS

a. Compliance With Regulations

The successful proposer, hereinafter called the Contractor, shall comply with regulations relative to nondiscrimination in Federally-assisted programs of the United States Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), as incorporated by reference and made a part of this Purchasing Agreement.

b. Nondiscrimination

The Contractor, with regard to the work performed by it during the Purchasing Agreement, shall not discriminate on the grounds of race, religion, color, sex, national origin or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by the regulations, including employment practices.

c. Equal Employment Opportunity

In connection with the execution of this Purchasing Agreement, the Contractor shall not discriminate against any employee or applicant for employment because of disability, race, religion, color, sex, or national origin. The Contractor shall take affirmative action to insure that applicants are employed and that employees are treated during their employment without regard to their disability, race, religion color, sex or national origin. 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.

d. Solicitations From Subcontracts, Including Procurement of Materials And Equipment

In all solicitations either by competitive proposals or negotiation made by the Contractor for work to be performed under this proposed Purchasing Agreement, including procurement of materials or leases of equipment, each

potential subcontractor or supplier shall be notified by the Contractor of the obligations relative to nondiscrimination on the grounds of disability, race, color, sex, religion, or national origin.

e. Information and Reports

The Contractor shall provide all information and reports required by the regulations or directives issued pursuant thereto, and shall permit reasonable access to all its books, records, accounts, other sources of information, and its facilities as may be determined by the Proposal Administrator to be pertinent to ascertain compliance with said regulations, orders, and instructions. Included in this information shall be the manufacturer's certification of compliance with Federal Motor Vehicle Safety Standards, or if inapplicable, a written statement documenting that these standards do not apply.

Where any information is required or a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the Proposal Administrator, as appropriate, and shall set forth that efforts have been made to obtain the information.

f. Sanctions For Noncompliance

In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Purchasing Agreement, the Purchaser shall impose such contract sanctions as it may determine to be appropriate, including but not limited to:

(1) Withholding of payments to the Contractor until compliance; and/or

(2) Cancellation, termination, or suspension of the Purchasing Agreement, in whole or in part.

## 1.28 BUY AMERICA

The Contractor agrees to comply with 49 U.S.C. 5323(j) and 49 CFR 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 CFR 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, microcomputer equipment, software, and small purchases (currently less than $100,000) made with capital, operating, or planning funds. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49

CFR 661.11. Rolling stock not subject to a general waiver must be manufactured in the United States and have a 60 percent domestic content.

## 1.29 CARGO PREFERENCE-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 loading 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 FTA recipient (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 Purchasing Agreement when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

## 1.30 ENERGY CONSERVATION

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

## 1.31 CLEAN WATER

a. 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.

b. 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.

## 1.32 BUS TESTING

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

a. 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.

b. 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.

c. 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.

d. If the manufacturer represents that the vehicle is "grand fathered" (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.

## 1.33 PRE-AWARD AND POST-DELIVERY AUDIT REQUIREMENTS

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:

a. 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.

b. Solicitation Specification Requirements: The Contractor shall submit evidence that it will be capable of meeting the proposal specifications.

c. 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.

## 1.34 BYRD ANTI-LOBBYING AMENDMENT, 31 U.S.C. 1352, AS AMENDED BY THE LOBBYING DISCLOSURE ACT OF 1995, P.L. 104-65 [TO BE CODIFIED AT 2 U.S.C.§ 1601, ET SEQ.]

Contractors who apply or propose 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 the recipient.

## 1.35 ACCESS TO RECORDS AND REPORTS

The following access to records and reports requirements applies to this Purchasing Agreement:

a. Where the Purchaser is not a State but a local government and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C. F. R. 18.36(I), the Contractor agrees to provide the Purchaser, the FTA Administrator, the Comptroller General of the Unites States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this Purchasing Agreement 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. 5303(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.

b. Where the Purchaser is a State and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 633.17, Contractor agrees to provide the Purchaser, the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Contractor's records and construction sites pertaining to a major capital project, defined at

49 U.S.C. 5303(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at $100,000.

c. Where the Purchaser enters into a negotiated contract for other than a small purchase or under the simplified acquisition threshold and is an institution of higher education, a hospital or other non-profit organization and is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 C.F.R. 19.48, Contractor agrees to provide the Purchaser, FTA Administrator, the Comptroller General of the Unites States or any of their duly authorized representatives with access to any books, documents, papers and records of the Contractor which are directly pertinent to this Purchasing Agreement for the purposes of making audits, examinations, excerpts and transcriptions.

d. Where any Purchaser which is the FTA Recipient or a subgrantee of the FTA Recipient in accordance with 49 U.S.C. 5325(a) enters into a contract for a capital project or improvement (defined at 49 U.S.C. 5303(a)1) through other than competitive proposing, the Contractor shall make available records related to the contract to the Purchaser, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

e. 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.

f. The Contractor agrees to maintain all books, records, accounts and reports required under this Purchasing Agreement for a period of not less than three years after the date of termination or expiration of this Purchasing Agreement, except in the event of litigation or settlement of claims arising from the performance of this Purchasing Agreement, 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).

## 1.36 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 Agreement (Form FTA MA (2) dated October, 1995) between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this Purchasing Agreement. Contractor's failure to so comply shall

constitute a material breach of this Purchasing Agreement.

## 1.37 CLEAN AIR

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 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.

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.

## 1.38 RECYCLED PRODUCTS

The Contractor agrees to comply with all the requirements of Section 6003 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

## 1.39 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

a. **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.

b. **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 therefore 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.

c. **Withholding for unpaid wages and liquidated damages** - The purchaser(s) 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.

d. **Subcontracts** - The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in 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 this section.

e. **Payrolls and basic records** - Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the

applicable programs.

## 1.40 NO OBLIGATION BY THE FEDERAL GOVERNMENT

The Purchaser 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 Purchasing Agreement and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that Purchasing Agreement) pertaining to any matter resulting from the underlying Purchasing Agreement.

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.

## 1.41 PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS

a. 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 Purchasing Agreement, 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 Purchasing Agreement or the FTA assisted project for which this Purchasing Agreement 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.

b. 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 the right to impose the penalties of 18 U.S.C.§ 1001 and 49 U.S.C.§ 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

c. 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.

## 1.42 TERMINATION

a. If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or 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, the TRIPS may terminate this Purchasing Agreement 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.

b. If it is later determined by the TRIPS 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, the TRIPS, 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.

## 1.43 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - Lower Tier Covered Transactions (Third Party Contracts over $100,000).

a. By signing and submitting this proposal or proposal, the prospective lower tier participant is providing the signed certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the TRIPS may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the TRIPS if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower

tier covered transaction," :"participant," "persons," "lower tier covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact the TRIPS for assistance in obtaining a copy of those regulations.

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the TRIPS.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List issued by U.S. General Service Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under Paragraph (e) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the TRIPS may pursue available remedies including suspension and/or debarment.

**1.44 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION -** Lower Tier Covered Transaction

a. The prospective lower tier participant certifies, by submission of this proposal

or proposal, that neither it nor its "principals" [as defined at 49 C.F.R.§ 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

b. When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## 1.45 CIVIL RIGHTS

The following requirements apply to the underlying contract:

a. 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. § 6103, section 203 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.

b. Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(1) 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.

(2) 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.

(3) Disabilities - In accordance with section 103 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.

c. 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.

## 1.46 BREACHES AND DISPUTE RESOLUTION

Disputes arising in the performance of this Purchasing Agreement which are not resolved by agreement of the parties shall be decided by the Florida Department of Transportation. 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 Florida Department of Transportation. Any appeal of decisions of the Florida Department of Transportation shall be filed and administered by the “Administrative Procedures Act,” Chapter 120, Florida Statues.

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 therefore shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.

Unless this Purchasing Agreement provides otherwise, all claims, counterclaims, disputes and other matters in question between the TRIPS 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 the State of Florida.

The duties and obligations imposed by the contract documents and the rights and remedies available hereunder 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 the TRIPS or the 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 there under, except as may be specifically agreed in writing.

## 1.47 DISADVANTAGED BUSINESS ENTERPRISE (DBE)

It is the policy of the TRIPS that Disadvantaged Business enterprises as defined in 49 CFR Part 23 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds under this agreement. Consequently the DBE requirements of 49 CFR part 23 apply to this agreement.

The TRIPS Program Administrator on behalf of the Purchasers, or their Contractor, agree to ensure Disadvantaged Business Enterprises as defined in 49 CFR part 23 have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds provided under this agreement. In this regard, the Purchasers, or their Contractors, shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that Disadvantaged Business Enterprises have the maximum opportunity to compete for and perform contracts. The TRIPS Program Administrator on behalf of the Purchasers and their Contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of DOT assisted contracts.

## 1.48 STATE AND LOCAL LAW DISCLAIMER

The use of many suggested clauses are not governed by Federal law, but are significantly affected by State law. The language of the suggested clauses may need to be modified depending on state law. Before the suggested clauses are used in the grantees procurement documents, the grantees should consult their local attorney.

## 1.49 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 4220.1D, dated April 15, 1996, 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 grantees' requests that would cause the grantee to be in violation of the FTA terms and conditions.

## LIST OF EXHIBITS

1. Required Forms/Certifications

2. Price Proposal Forms/Payment terms

3. FDOT District Offices

4. Vehicle Delivery Checklist

# EXHIBITS

# EXHIBIT 1

## TECHNICAL PROPOSAL SUBMISSION REQUIREMENTS & DOCUMENTS

THE ITEMS LISTED BELOW SHALL BE INCLUDED IN ENVELOPE NUMBER 1, TECHNICAL PROPOSAL:

1. PROPOSAL ACKNOWLEDGMENT
2. PROPOSERS RESPONSE TO TECHNICAL SPECIFICATIONS
3. DESCRIPTION OF PROPOSED VEHICLE (INCLUDING PICTURES)
4. TECHNICAL DRAWINGS OF BUS BODY DESIGN
5. DESCRIPTION OF AFTER SALE SERVICE SUPPORT
6. MANUFACTURER'S PROPOSED TRAINING PROGRAM
7. DESCRIPTION OF WARRANTY PROGRAM
8. DESCRIPTION OF HOW MANUFACTURER ENSURES QUALITY
9. STANDARD ASSURANCES
10. CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL, IRON, OR MANUFACTURED PRODUCTS
11. CERTIFICATION REQUIREMENT FOR PROCUREMENT OF BUSES, OTHER ROLLING STOCK AND ASSOCIATED EQUIPMENT
12. BUY AMERICA CERTIFICATE
13. FTA BUS TESTING CERTIFICATION
14. LOBBYING CERTIFICATION
15. TVM CERTIFICATION
16. MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION
17. TITLE VI CIVIL RIGHTS CONTRACTOR AGREEMENT
18. CERTIFICATION OF COMPLIANCE WITH THE ADA
19. DEBARRED PROPOSER/INTEGRITY CERTIFICATION
20. REFERENCE OF PRIOR FLORIDA CUSTOMERS WITH PROPOSED BUSES

**PROPOSERS MUST USE THE FORMS PROVIDED. FAILURE TO DO SO WILL RESULT IN A NON-RESPONSIVE PROPOSAL.**

## 1. PROPOSAL ACKNOWLEDGMENT

## DEALER

Gentlemen:

The undersigned, as proposer, hereby declares that the only person interested in this Proposal as principal are named herein and that no person other than herein mentioned has any interest in this Proposal or in the Purchasing Agreement to be entered into; that this Proposal is made without connection with any other person, company or parties making a Proposal; and that it is in all respects fair and in good faith without collusion or fraud.

The proposer further declares that they have examined the Proposal documents and informed themselves of all conditions pertaining to this requirement and have also examined other contract documents relative thereto and has read all of the addenda furnished before the opening of the Proposal, as acknowledged below; and that they have satisfied themselves about the work to be performed.

The proposer agrees, if this Proposal is accepted, to contract with the Purchasers, to furnish all necessary materials, equipment, apparatus, means of transportation and labor necessary to provide the units covered by this Proposal and other contract documents of this project entitled:

**Transit Research Inspection Procurement Services**

TRIPS PROPOSAL #TRIPS-09-MD-RFP

It is understood that the prices stated by the undersigned in the Price Proposal are one of the considerations in determining award of the Purchasing Agreement.

Acknowledgment is hereby made of the following addenda (identified by number)
received since issuance of Specifications:

_____

_____

_____

Date _____

Signature_____

Company Name_____

Title_____

## 1. PROPOSAL ACKNOWLEDGMENT

## MANUFACTURER

Gentlemen:

The undersigned, as proposer, hereby declares that the only person interested in this Proposal as principal are named herein and that no person other than herein mentioned has any interest in this Proposal or in the Purchasing Agreement to be entered into; that this Proposal is made without connection with any other person, company or parties making a Proposal; and that it is in all respects fair and in good faith without collusion or fraud.

The proposer further declares that they have examined the Proposal documents and informed themselves of all conditions pertaining to this requirement and have also examined other contract documents relative thereto and has read all of the addenda furnished before the opening of the Proposal, as acknowledged below; and that they have satisfied themselves about the work to be performed.

The proposer agrees, if this Proposal is accepted, to contract with the Purchasers, to furnish all necessary materials, equipment, apparatus, means of transportation and labor necessary to provide the units covered by this Proposal and other contract documents of this project entitled:

**Transit Research Inspection Procurement Services**

TRIPS PROPOSAL #TRIPS-09-MD-RFP

It is understood that the prices stated by the undersigned in the Price Proposal are one of the considerations in determining award of the Purchasing Agreement.

Acknowledgment is hereby made of the following addenda (identified by number) received since issuance of Specifications:

_____

_____

_____

Date _____

Signature_____

Company Name_____

Title_____

## 9. STANDARD ASSURANCES

## DEALER

### Federal Requirements for Invitation for Proposal

I, _____, representing the Proposer, certify that I have read and understand all terms and conditions of the Federal Requirements for Invitation for Proposal and, if awarded this proposal, will comply with all terms and conditions contained therein.

### Comptroller General's Proposer's Certification

_____hereby certifies that they are NOT on the Comptroller General's list of ineligible Contractors. Manufacturers appearing on said list will be considered ineligible.

### Other Assurances

I, _____, representing the Proposer, assure that the Proposer is licensed to sell vehicles in the State of Florida, under license # _____.

_____ assures that equipment proposal will meet or exceed all specifications, and that all equipment and items specified in the vehicle specifications arrive with the vehicle at time of delivery to the Purchaser.

_____ assures that local representation of the manufacturer has been secured and will be liable for warranty work on the vehicle(s).

Date _____

Signature_____

Company Name_____

Title_____

## 9. STANDARD ASSURANCES

## MANUFACTURER

### Federal Requirements for Invitation for Proposal

I, _____, representing the Proposer, certify that I have read and understand all terms and conditions of the Federal Requirements for Invitation for Proposal and, if awarded this proposal, will comply with all terms and conditions contained therein.

### Comptroller General's Proposer's Certification

_____hereby certifies that they are NOT on the Comptroller General's list of ineligible Contractors. Manufacturers appearing on said list will be considered ineligible.

### Other Assurances

I, _____, representing the Proposer, assure that the Proposer is licensed to sell vehicles in the State of Florida, under license # _____.

_____ assures that equipment proposal will meet or exceed all specifications, and that all equipment and items specified in the vehicle specifications arrive with the vehicle at time of delivery to the Purchaser.

_____ assures that local representation of the manufacturer has been secured and will be liable for warranty work on the vehicle(s).

Date _____

Signature_____

Company Name_____

Title_____

## 10. CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL, IRON, OR MANUFACTURED PRODUCTS

## DEALER

**Certificate of Compliance with 49 U.S.C. 5323(j)(1)**

The proposer or Offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.

Date _____

Signature_____

Company Name_____

Title_____

**Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)**

The proposer or Offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1), but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(B) or (j)(2)(D) and the regulations in 49 CFR 661.7.

Date _____

Signature_____

Company Name_____

Title_____

## 10. CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL, IRON, OR MANUFACTURED PRODUCTS

**MANUFACTURER**

**Certificate of Compliance with 49 U.S.C. 5323(j)(1)**

The proposer or Offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.

Date _____

Signature_____

Company Name_____

Title_____

**Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)**

The proposer or Offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1), but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(B) or (j)(2)(D) and the regulations in 49 CFR 661.7.

Date _____

Signature_____

Company Name_____

Title_____

## 11. CERTIFICATION REQUIREMENT FOR PROCUREMENT OF BUSES, OTHER ROLLING STOCK AND ASSOCIATED EQUIPMENT

*(Applicable to purchases over $100,000.00)*

**DEALER**

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

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 CFR Part 661.

Date _____

Signature _____

Company Name_____

Title _____

**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), but may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(B) or (j)(2)(D) and the regulations in 49 CFR 661.7.

Date _____

Signature _____

Company Name _____

Title _____

## 11. CERTIFICATION REQUIREMENT FOR PROCUREMENT OF BUSES, OTHER ROLLING STOCK AND ASSOCIATED EQUIPMENT

*(Applicable to purchases over $100,000.00)*

**MANUFACTURER**

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

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 CFR Part 661.

Date _____

Signature _____

Company Name_____

Title _____

**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), but may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(B) or (j)(2)(D) and the regulations in 49 CFR 661.7.

Date _____

Signature _____

Company Name _____

Title _____

## 12. BUY AMERICA CERTIFICATE OF COMPLIANCE WITH FTA REQUIREMENTS FOR BUSES, OTHER ROLLING STOCK, OR ASSOCIATED EQUIPMENT

*(To be submitted with a proposal or offer exceeding the small purchase threshold for Federal assistance programs, currently set at $100,000.)*

**DEALER**

**Certificate of Compliance**

The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. Section 5323(j)(2)(C), Section 165(b)(3) of the Surface Transportation Assistance Act of 1982, as amended, and the regulations of 49 C.F.R. 661.11:

Date:_____

Signature:_____

Company Name:_____

Title:_____

**With this certification Manufacturer must also submit a listing of all USA Content and percentage by system for the base vehicle being proposed.**

## 12. BUY AMERICA CERTIFICATE OF COMPLIANCE WITH FTA REQUIREMENTS FOR BUSES, OTHER ROLLING STOCK, OR ASSOCIATED EQUIPMENT

*(To be submitted with a proposal or offer exceeding the small purchase threshold for Federal assistance programs, currently set at $100,000.)*

**MANUFACTURER**

**Certificate of Compliance**

The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. Section 5323(j) (2) (C), Section 165(b)(3) of the Surface Transportation Assistance Act of 1982, as amended, and the regulations of 49 C.F.R. 661.11:

Date:_____

Signature:_____

Company Name:_____

Title:_____

**With this certification Manufacturer must also submit a listing of all USA Content and percentage by system for the base vehicle being proposed.**

## 13. CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

## DEALER

The undersigned [Contractor/Manufacturer] certifies that the vehicle offered in this procurement complies with 49 U.S.C. A 5323© and FTA's implementing regulation at 49 CFR Part 665.

The undersigned understands that misrepresenting the testing status of a vehicle 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.

Date: _____

Signature: _____

Company Name: _____

Title: _____

## 13. CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

## MANUFACTURER

The undersigned [Contractor/Manufacturer] certifies that the vehicle offered in this procurement complies with 49 U.S.C. A 5323© and FTA's implementing regulation at 49 CFR Part 665.

The undersigned understands that misrepresenting the testing status of a vehicle 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.

Date: _____

Signature: _____

Company Name: _____

Title: _____

## 14. CERTIFICATION REGARDING LOBBYING

*To be submitted with each proposal or offer exceeding $100,000)*

**DEALER**

The undersigned [Contractor] certifies, to the best of his or her knowledge and belief, 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 an 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 making lobbying contacts to 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 [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq* .)]

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

This certification is a material representation of fact upon which reliance was 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 31, U.S.C.§ 1352 (as amended by the Lobbying Disclosure Act of 1995). 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.

[Note: Pursuant to 31 U.S.C.§ 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq., apply* to this certification and disclosure, if any.

**Signature of Contractor's Authorized Official:**

_____

**Name and Title of Contractor's Authorized Official:**

_____

**Date**_____

## 14. CERTIFICATION REGARDING LOBBYING

*To be submitted with each proposal or offer exceeding $100,000)*

**MANUFACTURER**

The undersigned [Contractor] certifies, to the best of his or her knowledge and belief, 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 an 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 making lobbying contacts to 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 [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, *et seq*.)]

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 was 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 31, U.S.C.§ 1352 (as amended by the Lobbying Disclosure Act of 1995). 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.

[Note: Pursuant to 31 U.S.C.§ 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, *et seq., apply* to this certification and disclosure, if any.

**Signature of Contractor's Authorized Official:**

_____

**Name and Title of Contractor's Authorized Official:**

_____

**Date**_____

## 15. TRANSIT VEHICLE MANUFACTURERS (TVM) CERTIFICATION

## DEALER

The proposer, if a transit vehicle manufacturer, hereby certifies that it has complied with the requirements of 49 CFR, Section 26.49 (a)(b) that, each Transit Vehicle Manufacturer, as a condition of being authorized to bid or propose on FTA-assisted transit vehicle procurements, certify that it has complied with requirements of this section.

The proposer, if a non-manufacturer supplier, hereby certifies that the manufacturer of the transit vehicle to be supplied has complied with the above-referenced requirement of 49 CFR, Section 26 and its applied sub-sections.

Date _____

Signature_____

Company Name_____

Title_____

## 15. TRANSIT VEHICLE MANUFACTURERS (TVM) CERTIFICATION

**MANUFACTURER**

The proposer, if a transit vehicle manufacturer, hereby certifies that it has complied with the requirements of 49 CFR, 26.49 (a)(b) that, each Transit Vehicle Manufacturer, as a condition of being authorized to bid or propose on FTA-assisted transit vehicle procurements, certify that it has complied with requirements of this section.

The proposer, if a non-manufacturer supplier, hereby certifies that the manufacturer of the transit vehicle to be supplied has complied with the above-referenced requirement of 49 CFR, Section 26 and its applied sub-sections.

Date _____

Signature_____

Company Name_____

Title_____

## 16. MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION

## DEALER

Certification of Compliance with all safety related items contained in **Part 2**: **Technical Specifications.**

The Proposer hereby certifies that it shall comply with the safety related requirements contained in **Part 2**: **Technical Specifications** (reference Federal Register Vol. 47, No. 195, Oct. 7, 1982 FTA Docket Nov. 81-3).

Date _____

Signature_____

Company Name_____

Title_____

## 16. MOTOR VEHICLE SAFETY STANDARDS CERTIFICATION

## MANUFACTURER

Certification of Compliance with all safety related items contained in **Part 2**: **Technical Specifications.**

The Proposer hereby certifies that it shall comply with the safety related requirements contained in **Part 2**: **Technical Specifications** (reference Federal Register Vol. 47, No. 195, Oct. 7, 1982 FTA Docket Nov. 81-3).

Date _____

Signature_____

Company Name_____

Title_____

## 17. TITLE VI CIVIL RIGHTS ACT OF 1964

### CONTRACTOR AGREEMENT

### DEALER

During the performance of this Purchasing Agreement, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

(1) Compliance with Regulations: The Contractor shall comply with the Regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 2 l, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Purchasing Agreement.

(2) Nondiscrimination: The Contractor, with regard to the work performed by it during the Purchasing Agreement, shall not discriminate on the grounds of race, religion, color, sex, age, national origin, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

(3) Solicitations for Subcontracts, including procurement of materials and equipment: In all solicitations either by competitive Proposal or negotiation made by the Contractor for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this Purchasing Agreement and the Regulations relative to nondiscrimination on the grounds of race, religion, color, sex, age, national origin, or disability.

(4) Information and Reports: The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FTA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information is required or a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the TRIPS, or the FTA, as appropriate, and shall set forth what efforts it has made to obtain the information.

## 17. TITLE VI CIVIL RIGHTS ACT OF 1964

## CONTRACTOR AGREEMENT

(Continued)

**DEALER**

(5) Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Purchasing Agreement, the TRIPS shall impose such Contract sanctions as it or the FTA may determine to be appropriate, including but not limited to:

(a) Withholding of payments to the Contractor under the Contract until the Contractor complies, and/or

(b) Cancellation, termination or suspension of the Purchasing Agreement, in whole or in part.

(6) Incorporation of Provisions: The Contractor shall include the provisions of paragraph (1) through (6) of this section in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the TRIPS or the FTA may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the TRIPS to enter into such litigation to protect the interests of the TRIPS, and in addition, the Contractor may request the services of the Attorney General in such litigation to protect the interests of the United States.

Date _____

Signature_____

Company Name_____

Title_____

## 17. TITLE VI CIVIL RIGHTS ACT OF 1964

## CONTRACTOR AGREEMENT

## MANUFACTURER

During the performance of this Purchasing Agreement, the Contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "Contractor"), agrees as follows:

(1) Compliance with Regulations: The Contractor shall comply with the Regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 2 l, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Purchasing Agreement.

(2) Nondiscrimination: The Contractor, with regard to the work performed by it during the Purchasing Agreement, shall not discriminate on the grounds of race, religion, color, sex, age, national origin, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

(3) Solicitations for Subcontracts, including procurement of materials and equipment: In all solicitations either by competitive Proposal or negotiation made by the Contractor for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this Purchasing Agreement and the Regulations relative to nondiscrimination on the grounds of race, religion, color, sex, age, national origin, or disability.

(4) Information and Reports: The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the FTA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information is required or a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the TRIPS, or the FTA, as appropriate, and shall set forth what efforts it has made to obtain the information.

## 17. TITLE VI CIVIL RIGHTS ACT OF 1964

## CONTRACTOR AGREEMENT

(Continued)

## MANUFACTURER

(5) Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Purchasing Agreement, the TRIPS shall impose such Contract sanctions as it or the FTA may determine to be appropriate, including but not limited to:

(a) Withholding of payments to the Contractor under the Contract until the Contractor complies, and/or

(b) Cancellation, termination or suspension of the Purchasing Agreement, in whole or in part.

(6) Incorporation of Provisions: The Contractor shall include the provisions of paragraph (1) through (6) of this section in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the TRIPS or the FTA may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the TRIPS to enter into such litigation to protect the interests of the TRIPS, and in addition, the Contractor may request the services of the Attorney General in such litigation to protect the interests of the United States.

Date _____

Signature_____

Company Name_____

Title_____

## 18. CERTIFICATION OF COMPLIANCE WITH

## THE AMERICANS WITH DISABILITIES ACT OF 1990

## DEALER

The Proposer hereby certifies that it shall comply with all requirements contained in **Part 2: Technical Specifications** relating to bus design or special equipment required by the Americans with Disabilities Act of 1990.

Date _____

Signature_____

Company Name_____

Title_____

## 18. CERTIFICATION OF COMPLIANCE WITH

## THE AMERICANS WITH DISABILITIES ACT OF 1990

## MANUFACTURER

The Proposer hereby certifies that it shall comply with all requirements contained in **Part 2: Technical Specifications** relating to bus design or special equipment required by the Americans with Disabilities Act of 1990.

Date _____

Signature_____

Company Name_____

Title_____

## 19. DEBARRED BIDDERS / INTEGRITY CERTIFICATION

## DEALER

Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion

1. Lower tier participant certifies, by submission of this bid proposal, that neither it nor its "principals" (as defined at 49 CFR Part 29) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in this transaction by any Federal department or agency.

2. When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Date _____

Signature_____

Company Name_____

Title_____

## 19. DEBARRED BIDDERS / INTEGRITY CERTIFICATION

## MANUFACTURER

Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion

1. Lower tier participant certifies, by submission of this bid proposal, that neither it nor its "principals" (as defined at 49 CFR Part 29) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in this transaction by any Federal department or agency.

2. When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Date _____

Signature_____

Company Name_____

Title_____

## 20. REFERENCE OF FLORIDA CUSTOMERS

## MANUFACTURER

Provide references of all customers in the State of Florida currently using the type public transit bus being proposed. Provide contact information and number of units sold.

# EXHIBIT 2

## PRICE PROPOSAL FORMS

**INSTRUCTIONS FOR COMPLETING PRICE PROPOSAL FORMS:**

The following proposal forms must be completed by proposer and submitted in

**ENVELOPE 2, PRICE PROPOSAL:**

1. Price Proposal Form A - Base Vehicle Price
2. Price Proposal Form B - Seating Prices
3. Price Proposal Form C - Paint Scheme Prices
4. Price Proposal Form D - Individual Prices of Options
5. Price Proposal Form E - Summary of Proposed Totals from Forms A, B, C, and D
6. Price Proposal Form F - Terms of Payment

Proposers must enter a dollar amount in the appropriate spaces on ALL proposal forms. Entries such as “not applicable” or “not available” are not acceptable and will cause your proposal to be non-responsive. If there is no charge for a particular option, a zero (0) should be entered in the appropriate space. An option’s availability / applicability to this proposal will be determined by the FDOT.

**Price Proposal Form A**

Proposal Form A shows the pricing of the base vehicle. The proposal price of the base vehicle will be entered in the “Price per Item” column. This figure will be carried to Proposal Form E for the Total Proposal Price.

**Price Proposal Form B**

Because various Purchasers have different needs and preferences, seating will be ordered per person. The prices for the individual seating types are inserted in the “Price per Item” column. Figures in the price per item column will then be used to determine the total cost of the seating configuration provided. This total will be entered in “Box A” and carried to Proposal Form E. Purchasers may select gray, blue, or tan for seating colors and black, gray, blue, or tan for flooring colors.

**Price Proposal Form C**

Proposal prices for the individual paint schemes are inserted in the "Price per Item" column. All amounts in the "Price per Item" column will be summed and entered at the bottom of the form in the "Total" line. If an agency requires paint and lettering scheme that is not generally covered by one of those listed in this proposal, they may make separate arrangements either with the manufacturer or a local vendor to provide these services.

**Price Proposal Form D**

Proposal Form D is a list of all of the available options as explained in Part 3. The proposer will simply provide the amount that each option will cost (per item) in the "Price per Option" column. All amounts in the "Price per Option" column will be summed and entered at the bottom of the form in the "Total" line. This total will be carried to Proposal Form E for the Total Proposal Price.

**Price Proposal Form E**

Proposal Form E is a summary of the total proposal prices from Proposal Forms A, B, C and D. The information is inserted on the designated line and summed to produce the "Total Proposal Price."

**Price Proposal Form F**

Proposal Form F is the Terms of Payment and must be completed by the Proposer.

**NOTE:**

***Complete and separate price proposal forms and packages should be submitted for each type of vehicle the proposer wishes to be considered by the TRIPS.***

***Each Proposer shall submit a separate list of selected standards and features for mechanical, chassis, interior, exterior and safety and security of the vehicle being proposed. This is in addition to the standards requested in this RFP.***

***Operational features being requested in this RFP and additional optional features being offered by the Proposer shall be reflected in Part 3 OPTIONS with related pricing reflected in Part 1, Exhibit 2, Form D INDIVIDUAL PRICES OF OPTIONS.***

# PRICE PROPOSAL FORM A

# BASE GAS VEHICLE PRICE

| ITEM | PRICE |
|---|---|
| **Medium Duty Type Purpose-Built Bus:**<br><br>☐ **High Floor** ***OR*** ☐ **Low Floor**<br><br>*****************************************<br><br>☐ **Rear Engine** ***OR*** ☐ **Front Engine**<br><br>**Chassis Manufacturer** _____<br>**Minimum Chassis GVW** *(pounds)* _____<br>**Vehicle Length** *(inches)* _____ | *List Only One Chassis Price*<br>v<br>v<br>v<br>v<br>v<br>v<br>V<br>V |
| **TOTAL** | **$** |

**NOTE:**

Interested proposers should submit separate and complete packets for each type of bus they wish to be considered by the TRIPS.

## PRICE PROPOSAL FORM B

## SEATING

| ITEM | PRICE PER PERSON |
|---|---|
| Standard Seat | |
| Flip-type Seat | |
| Fold-away Seat | |
| Children's Seat | |

Multiply the prices indicated above for the configuration listed below. Enter the total in Box A and on Proposal Form E.

| No. | Type | |
|---|---|---|
| | Standard Seat | $ |
| | Flip-type Seat | $ |
| | Fold-away Seat | $ |

**TOTAL**

**Box A**

**This seating configuration is for Proposal Tabulation purposes only. Agencies will select floor plans from TRIPS approved floor plans when placing orders. Each proposer shall submit the floor plans which will be made available to the TRIPS. Floor plans are to be the detailed drawings and shall be accompanied by a sample of the proposer's standard four wheel weight analysis as a pre-build projection. The finished vehicle cannot exceed GVWR, GAWR or four wheel weight limitations as established by the chassis manufacturer. Proposer, if successful, will be limited to offering TRIPS agencies only those floor plans submitted with their proposal.**

# UPHOLSTERY INFORMATION

## STANDARD VINYL COLORS

**BLUE CMI VINYL - Center insert of seat to be print CMI #1002907, outside wrap and back of seat to be solid CMI #844996.**

**BEIGE CMI VINYL - Center insert of seat to be print CMI #1002853, outside wrap and back of seat to be solid CMI #547468.**

## PRICE PROPOSAL FORM C

## EXTERIOR PAINT SCHEME PRICING

| | |
|---|---|
| Base Paint and reflective stripping | $ |
| V<br>V | V<br>V |
| V<br>V | V<br>V |
| **TOTAL** | $ |
| **If an agency requires Vinyl Wrap, paint and lettering scheme that is NOT GENERALLY covered by one of those listed above, they may make separate arrangements either with the manufacturer or a local vendor to provide these services. Agencies will select colors (2) for background and stripes when orders are placed. *Exterior paint pricing shall reflect white base coat and reflective 6" white stripping.*** | |
| **Proposer shall submit detailed drawing of its paint scheme (see Part 6).** | |

# PRICE PROPOSAL FORM D *(Page one)*

## INDIVIDUAL PRICES OF OPTIONS

| ITEM | DESCRIPTION | PRICE |
|---|---|---|
| 3.1.0 | Rear and front passenger doorways *(single front door standard)* | |
| 3.2.0 | Alternative body styling | |
| 3.3.0 | Alternative diesel engine | |
| 3.4.0 | Engine coolant filter | |
| 3.5.0 | Engine air cleaner restrictor gauge | |
| 3.6.0 | Stainless steel exhaust system | |
| 3.7.0 | Hybrid drive-train package | |
| 3.8.0 | Alternative Transmission | |
| 3.9.1 | Amerex Amgads III Vehicle Fire Suppression System | |
| 3.9.2 | JoMar Firestick Clear Liquid Vehicle Fire Suppression System | |
| 3.10.0 | 90-Gallon diesel fuel tank | |
| 3.11.1 | Brushed aluminum wheels | |
| 3.11.2 | Polished aluminum wheels | |
| 3.12.1 | Transign curtain roller type destination signs *(front & side)* | |
| 3.12.2 | TwinVision Elyse electronic destination signs *(front, side & rear)* | |
| 3.13.1 | Driver seat - USSC Model 9100ALX | |
| 3.13.2 | Driver seat - USSC Model 9100ALX-3 point belt | |
| 3.14.1 | Two (2) position bike rack with tell-tale notification | |
| **FORM D CONTINUED NEXT PAGE** | | |

# PRICE PROPOSAL FORM D *(Page two)*

## INDIVIDUAL PRICES OF OPTIONS

| ITEM | DESCRIPTION | PRICE |
|---|---|---|
| 3.14.2 | Three (3) position bike rack with tell-tale notification | |
| 3.15.0 | Ignition and door key locks, multiple buses keyed alike | |
| 3.16.0 | Luggage racks overhead, above passenger seats on both sides of bus | |
| 3.19.0 | Passenger compartment overhead luggage racks | |
| 3.17.1 | Braun wheel chair lift | |
| 3.17.2 | Maxon wheel chair lift | |
| 3.17.3 | Ricon wheel chair lift | |
| 3.17.4 | Lift-U Ramp | |
| 3.17.5 | Braun Ramp | |
| 3.18.0 | Mobility Aid Retractor System | |
| 3.19.0 | Additional seat belt extensions *(two supplied as standard)* | |
| 3.20.0 | Block/Run Number Box | |
| 3.21.0 | AM/FM CD Stereo & MP3 Player System | |
| 3.22.0 | Rear backing camera system | |
| 3.23.0 | Driver's fan | |
| 3.24.0 | Hub meter (2.15.4) | |
| 3.25.0 | Alternative floor covering | |
| 3.26.1 | Public Address System | |
| 3.26.2 | Microphone cable 10' extension | |
| 3.27.0 | Special tools and Spare parts *(combined total of all Parts; submit individual prices separately- see Part 3)* | |
| 3.28.0 | Digital Security Camera System | |

# PRICE PROPOSAL FORM D

## TOTAL OF INDIVIDUAL PRICES OF OPTIONS

***TOTAL PRICE OF TWO PAGES***

**$**_____

## PRICE PROPOSAL FORM E

## SUMMARY OF PROPOSED TOTALS FROM

## PRICE PROPOSAL FORMS A, B, C, AND D

The undersigned Proposer agrees to furnish the equipment in accordance with the specifications and proposal requirements contained in this package.

All seating and securement, paint schemes, options and vehicle specifications have been carefully examined and the costs shown in Proposal Forms A, B, C and D of this proposal. These combined costs, as shown below, constitute the Total Proposal Price for this package.

**DESCRIPTION OF THE TOTAL PRICE**

TOTAL FROM PRICE PROPOSAL FORM A _____

TOTAL FROM PRICE PROPOSAL FORM B, BOX A _____

TOTAL FROM PRICE PROPOSAL FORM C _____

TOTAL FROM PRICE PROPOSAL FORM D _____

TOTAL PROPOSAL PRICE _____

Date _____

Signature_____

Company Name_____

Title_____

**EXHIBIT 2**

# PRICE PROPOSAL FORM F

# TERMS OF PAYMENT

The following terms of payment are proposed:

1. The agencies will submit their portion of the purchase price (local match) to the 5310 administrator at CUTR when the vehicle order is placed.
2. A 2% (24% per annum) service charge will be added to all past due accounts.
3. Total proposal price is based on payment terms of net sixty (60) days after acceptance of each vehicle. If Contractor has not received payment in full within the 60 day period following acceptance of vehicle, agencies will incur the 2% monthly service charge beginning on day 61.

The undersigned understands that any condition stated above, clarification made to the above or information submitted on or with this form, other than that requested, will render the proposal unresponsive.

Date _____

Signature_____

Company Name_____

Title_____

# EXHIBIT 3

## FDOT DISTRICT OFFICES

**Julia Davis**
**FDOT District One**
**PO Box 1030**
**Fort Meyers, FL 33902-10**
**(239) 461-4300**

**Gwendolyn Pra**
**FDOT District Two**
**2198 Edison Avenue, MS 2813**
**Jacksonville, FL 32204**
**(904) 360-5687**

**Kathy Rudd**
**FDOT District Three**
**1074 Hwy 90**
**Chipley, FL 32428-0607**
**(850) 638-0250 x549**

**Carolyn Geck**
**FDOT District Four**
**3400 W. Commercial Blvd.**
**Ft. Lauderdale, FL 33309**
**(954) 777-4491**

**Karen Paul**
**FDOT District Five**
**133 S. Semoran Blvd.**
**Orlando, FL 32807**
**(407) 482-7858**

**Ed Carson**
**FDOT District Six**
**1000 N. W. 11th Ave., Room 6105**
**Miami, FL 33172**
**(305) 470-5255**

**Nicole Mathis**
**FDOT District Seven**
**11201 N. McKinley Dr.**
**Tampa, FL 33612-6403**
**(813) 975-6195**

# EXHIBIT 4
# VEHICLE DELIVERY CHECKLIST

The below items must be presented at time of delivery of vehicle to agency or vehicle will be considered non-acceptable.

- Vehicle properly serviced, clean and in first class operating condition. Includes front end and headlight alignments, wheels balanced, unnecessary stickers removed
- Proper "Application for Registration"
- GVWR - either on Certificate of Origin or Registration
- Four Wheel Weight Analysis Certification
- Odometer Certification
- "As Built" Wiring diagrams and chassis electrical manuals
- Service, chassis service and "As Built" Parts manuals
- Operator's manual
- Dealer Invoice
- Spare key(s)
- Bill of sale
- Warranty papers (forms, policy, procedures)
- Maintenance schedule
- Post-Delivery Audit documents-
    - Buy America Certificate and documentation annotating percentage breakdown and percentages, location and items present during final assembly (post-delivery breakdown document)
    - FMVSS
    - Specifications
    - Blank Acceptance / Rejection Notification

# EXHIBIT 5

## FORMULA FOR COMPUTATION OF SECOND STAGE PRICE ESCALATION

Escalation will be calculated based on the following formula which utilizes the U.S. Department of Labor/Bureau of Labor Statistics Producer Price Index (PPI) Category PCU3713#2, Truck and Bus Bodies, "Complete vehicles produced on purchased chassis:" ******, not seasonally adjusted. In no event will the prices for any purchase release exceed, by more than 5%, the price(s) that would have been in effect twelve (12) months prior to the date of the release or the base price of the purchase order release if less than twelve (12) months after the initial contract award.

| **Index Point Change** | **Examples** |
|---|---|
| PPI Index: Future Recomp Month …….. | 141.1 |
| Less PPI Index: Base Award Month …… | 137.5 |
| Equals Index Point Change …….. | 3.5 |

| **Index Percent Change** | **Examples** |
|---|---|
| Index Point Change …….. | 3.5 |
| Divided by PPI Index: Base Award Month …… | 137.5 |
| Equals ……. | 0.0254 |
| Results multiplied by 100 equals Percent Change …….. | 2.54% |

| | | |
|---|---|---|
| Total price of standard bus | = | $42,850.00 |
| Minus price of chassis | = | $27,050.00 |
| Equals total second stage price | = | $15,800.00 |

"Certain Dollar Amount" = Cost of second stage price divided by 100

Certain Dollar Amount = 15,800 / 100 = 158

Price of second stage will change $158.00 per 1 percent movement in the producer price index (PPI)

In this example, 2.54% times $158.00 equals $401.32. This could be added to the total cost of the add-ons per bus. Chassis increase would be added separately per instructions in Section 1.2. Once recompilation of second stage pricing is completed, the last recomp month becomes the new award month.

*** = If discontinued, Category PCU3713, "Truck and bus bodies" will be used*.

***NOTE:* These figures provided for illustrative purposes only.**

# PART 2

## TECHNICAL SPECIFICATIONS

# Contract #TRIPS-09-MD-RFP

### Medium Duty Bus Type Vehicles

# TECHNICAL SPECIFICATIONS

# MEDIUM DUTY < >30' PUBLIC TRANSIT BUS

# CONTRACT #TRIPS-09-MD-RFP

## 2.0.0 SCOPE AND PURPOSE

FDOT seeks to purchase the most modern medium duty transit buses available that will provide maximum passenger appeal in appearance, comfort, and safety, combined with excellence in reliability, operating characteristics and economy of operation. This Request For Proposal (RFP) is for the procurement of a purpose built general medium duty bus, 28' – 31' in length. A multiple of drive trains will be considered including front engine and rear engine diesel powered standard drive or hybrid drive; or a combination of hybrid and standard drive public transit bus. This proposed-built bus must have a minimum Altoona Test Certification of 10 years and 350,000 miles. Proposals for Low Floor bus with wheel chair ramp and Conventional Floor bus with wheel chair lift will be considered. This proposal will describe general technical specifications desired for the manufacture of a vehicle to provide public transportation in fixed route and paratransit service by public transit systems in the State of Florida. The standard seating capacity of this vehicle shall be for approximately 32 ambulatory passengers. Seating shall include a minimum of two wheel chair securement stations, and when both stations are occupied, there would remain ambulatory seating for approximately 26 passengers. The vehicle proposed shall be designed for passengers in excess of seated capacity.

Upon request, the contractor shall present test reports which substantiate the vehicle being offered complies with all applicable regulations described with this request for proposal. A summary of any side, rear and front impact testing shall be available for review upon request.

In submitting a proposal to this RFP, an Original and eight (8) copies must be submitted in hard copy. Please note after each numbered section whether your proposal Exceeds, Meets, Does Not Meet, and all related comments, as per the following format:

***On above specifications, this Proposal*** *(circle one below)*
***EXCEEDS*** ***MEETS*** ***DOES NOT MEET***
***COMMENT:***

## 2.1.0 GENERAL DIMENSIONS

| | | |
|---|---|---|
| 2.1.1 | Overall body length - Max. | 31' |
| 2.1.2 | Overall body width – Max. | 102" |

| | | |
|---|---|---|
| 2.1.3 | Wheelbase | 139” |
| 2.1.4 | Seated Knee Room- Min. | 26" |
| 2.1.5 | Cushion Depth - Min. | 16" |
| 2.1.6 | Seat Width per Person - Min. | 17" |
| 2.1.7 | Cushion Height Above Floor-Min. (Max.) | 17.5" (18") |
| 2.1.8 | Aisle Width - Min. (In 102" wide body) | 20” |
| 2.1.9 | Headroom - Min. | 80” |
| 2.1.10 | Door Width - Min. (clear) | 34” |
| 2.1.11 | Door Height - Min | 77” |
| 2.1.12 | Overall Height @ highest point - Max | 128" |
| 2.1.13 | Floor Height @ level | 13.5” |
| 2.1.14 | Floor Height Kneeling | 10.5” |
| 2.1.15 | GVWR | _____ pounds |
| 2.1.16 | Turning Radius Curb-to-curb | _____ feet & inches |

2.1.17 The proposed bus shall conform in all respects to State of Florida Motor Vehicle Laws (including, but not limited to, Chapter 316, Florida Statutes, Safety rules of the Department of Transportation, Chapter 14-90, promulgated under the Requirements of Chapter 341, Florida Statutes) and the American with Disabilities Act, Title 49 Code of Federal Regulations, parts 38, Accessibility Specifications for Transportation Vehicles, Subpart B-Buses, Vans and Systems. This vehicle shall also comply with 40 CFR Parts 85 & 86 Air Pollution and Emission Standards for New Vehicles. Compliance with all Applicable Federal Motor Vehicle Safety Standards shall also be required. The successful proposer shall be required to provide any and all results of testing. Accomplished under the final rules issued by the Federal Transit Administration, 49 CFR Part 655 Bus Testing Program. The tests include the Evaluation of maintainability, reliability, safety, performance, structural Integrity, fuel economy and noise. Altoona Test shall be based on 10 year / 350,000 miles manufacture.

2.1.18 The first bus delivered related to each contract under this RFP shall be considered a *Prototype Bus* and shall be subject to detailed inspection. Defects, changes, improvements, relocation of wiring and conduit, required Performance Standards Testing and other items identified and agreed to by the Contractor and the TRIPS staff shall be instituted on the Prototype Bus and on subsequent vehicles order under this contract.

## 2.2.0 MATERIALS GENERAL SPECIFICATIONS

2.2.1 Workmanship throughout the vehicles shall conform to the highest standards of accepted commercial practice and shall result in a neat and finished appearance. The complete vehicles furnished must be of substantial and durable construction in all respects.

2.2.2 Welding procedures and materials shall be in accordance with standards of the American Society of Testing Materials and the American Welding Society. Welds not meeting these standards will be rejected. Rejection will result in the total replacement of sub-floor assemblies. All exterior skin side welded surfaces shall be ground smooth and free of unfriendly surfaces as a standard production process. All welds shall be inspected for quality and subject to on line inspection. All welding shall be performed using MIG wire welding machines utilizing Argon gas. All steel body/floor structure shall be coated with zinc base primer to prevent rust.

2.2.3 All parts components and accessories shall be new. All exposed surfaces and edges shall be smooth, free from burrs and other projections and shall be neatly finished. All parts shall be primed with zinc primer; this zinc primer shall include the bottom of such steel structures allowing the finished zinc based primer to cover all metal surfaces. The exhaust system and drive line shall be free from zinc primer. The proposer shall certify that it has the equipment necessary to accomplish this task. **Any sub-component installed underneath the vehicle shall not be primed**.

2.2.4 Any subcomponent installed such as but not limited to wheelchair lifts, restraint systems, event data recorders, alternators and any other subcomponent installed by the bus manufacturer shall be installed per the subcomponent manufacturer's instructions. Manufacturer must certify that said components have been installed per the instructions provided and a copy of all installation instructions shall be provided to the TRIPS; with changes and/or updates to installation instructions being immediately forwarded to the TRIPS.

2.2.5 All fasteners used in the vehicles shall be backed by a Certificate of Quality by the manufacturer and have been found to be in accordance with all SAE and ANSI specifications. All steel bolts, nuts, screws and washers shall be coated with zinc, cadmium or phosphate. The thickness and method of

cadmium coating shall conform to ASTM specifications #A165, latest revision for Type TS coating.

2.2.6 All cap screws, nuts and bolts shall be of SAE grade 5 material unless the application requires a higher grade material.

2.2.7 All sheet metal screws shall comply with ASTM and SAE recommendations relative to quality and installation.

2.2.8 All copper tubing shall be industry standard. The same fittings must be used in the same location throughout the order of buses. Long tubing nuts shall be applied where space conditions permit.

2.2.9 All piping, tubing, cables, and wiring shall be properly bracketed, air lines to be color-coded.

2.2.10 All mounting of assemblies and sub-assemblies including the power plant and accessories shall be mechanically isolated to minimize the transmission of vibration of the body structure.

2.2.11 All pipe fittings shall be of heavy-duty type and shall be designed to withstand the maximum pressure that could be generated under normal or overload conditions within the air or fluid system of which they are a component.

2.2.12 All burrs and sharp edges shall be dressed so as to prevent injury to passengers, operators and maintenance personnel.

2.2.13 All clevises shall be removable and not welded to the rods. Exceptions require the concurrence of the Agency.

2.2.14 Drain and filler plugs on rear axle, transmission drain and engine drain plugs shall be of the magnetic type, have hexagon heads and be of high strength material.

2.2.15 All air conditioning hosing to be one piece from compressor to condenser and condenser to evaporation and return.

2.2.16 All plastics and synthetic material shall meet the requirements of FMVSS 302.

2.2.17 All grease and oil fittings shall be readily accessible for lubrication.

2.2.18 Bosses on units of light construction, with threaded sections in which fittings or pipes are connected, shall have hexagon or square shoulders which can be held with a wrench so as to eliminate damage to the unit.

2.2.19 All air, oil and water lines and openings into equipment units shall be sealed plugged or adequately protected against entrance of contaminants until connected.

2.2.20 Installation of major assemblies including engine (including hybrid drive system if proposed), transmission, axles, power steering and suspension components shall be such that removal shall be easily carried out by conventional and standard shop methods.

2.2.21 Tee fittings shall be installed in all air lines regulated by an air pressure regulator for the purpose of testing for proper pressure.

2.2.22 All components, assemblies, and sub assemblies shall be readily accessible for service, repair, removal and replacement. Components and systems have the maximum access available in this configuration.

2.2.23 One set of bus maintenance manuals, bus parts manuals, "as built" wiring schematics, "as built" ladder charts (for multiplex equipped buses), "as built" air system schematics and bus operations manuals shall be provided with each group of four (4) buses upon delivery. The Proposer shall provide electronic copies of each manual if requested by the purchaser.

2.2.24 All vehicles shall be weighed "as built" before release and manufacturer's engineering department shall perform a four corner weight analysis on each vehicle that indicates the weight of the vehicle and any attachments, the maximum weight of the occupants, and the weight of a full tank of fuel for GAWR and GVWR evaluation. A copy of the "as built" weight certification, four corner weight analysis and an "as built" floor plan shall be on each vehicle shipped to the TRIPS, for the TRIPS. The "as built" weight certification shall provide the following information:

+ Bus VIN
+ Manufacturer Identification
+ Body Serial Number
+ A description (type) of the bus
+ Date of manufacture
+ Maximum number of ambulatory passengers including driver
+ Maximum number of wheelchairs and remaining capacity for ambulatory seating
+ Four wheel weight distribution of the actual completed weight of the vehicle including all attachments
+ Four wheel weight distribution of the weight of the ambulatory passengers including driver
+ Four wheel weight distribution of the weight of the wheelchairs
+ Four wheel weight distribution of the weight of the fuel

+ Four wheel weight distribution of the total weight of the vehicle.
+ Weight analysis must have signature and title of person submitting it.

2.2.25 In addition to the manufacturer's weight calculations and documents, TRIPS will require that the manufacturer's complete and submit weight calculations on TRIPS Form #TRIPS-09-MD*.* The TRIPS will perform random four wheel weight analysis at the Springhill Inspection, Testing & Research Facility in Tallahassee.

2.2.26 The total loaded weight at each wheel must not exceed 50% of the GAWR for that axle and GVWR must not be exceeded. Any bus that exceeds either condition will be rejected.

2.2.27 Manufacturer shall supply a copy of a detailed quality control program. The program shall address at a minimum issues concerning capacity and how quality assurance is provided through each phase of construction. Manufacturer will be required to submit weekly reports which track the progress of vehicles through the procurement/production process from receipt of order through delivery and acceptance of the vehicle by the agency. This report shall be coordinated with the local dealer's report and must be submitted on a timely basis.

2.2.28 Dealer will be required to enter vehicle identification data into the TRIPS database upon receiving an order and continuing throughout the warranty of the bus and its components. The Dealer will also submit weekly reports which track the progress of vehicles through the procurement/production process from receipt of order through delivery and acceptance of the vehicle by the agency. This report shall be coordinated with the local manufacturer's report and must be submitted on a timely basis. Dealer shall be responsible for delivering vehicles that are properly serviced, clean, and in first class operating condition. Pre-delivery service, at a minimum, shall include the following:

1. Complete lubrication of chassis, engine, and operating mechanisms with manufacturer's recommended grades of lubricants.

2. All fluid levels filled to proper capacities.

3. Adjustment of drive-train for expected operating condition.

4. Inflate tires to proper pressure.

5. Check to insure proper operation of all accessories, gauges, lights, and mechanical and hydraulic features.

6. Cleaning of vehicle, and removal of all unnecessary stickers.

7. Full front-end alignment conducted by a professional alignment shop equipped with the machines, heavy equipment and experience to perform proper alignment. All wheels shall be balanced, including spare tire. This alignment is to be performed only after vehicle is built complete and is at full curb weight. Vehicle shall be delivered with fully adjustable front end components installed to allow alignment in the field without replacing any components.

8. Focusing of headlights utilizing a machine certified and designed for this purpose.

9. Correct and repair all deficiencies noted in the TRIPS Post-Delivery Inspection of each vehicle at its Springhill Bus Inspection and Research and Testing facility in Tallahassee.

2.2.29 Manufacturer certifies that it:

1. Has in operation or has the capacity to have in operation, a manufacturing plant.

2. Has adequate engineering personnel, or has the capability to have such personnel, to satisfy any engineering or service problem that may arise during the warranty period. Bidder must supply in proposal the number of engineers along with their designated areas of responsibilities.

3. Has the necessary facilities and financial resources, or has the capability to obtain such facilities and resources, to complete the contract in a satisfactory manner within the required time.

4. Has in operation a comprehensive detailed in-plant quality assurance program that examines at a minimum; body construction, sub-floor construction, flooring, electrical, air conditioning, seating, and safety equipment. As part of this program each phase, department, step, or station, of the manufacturing process must have a detailed quality control procedure. These procedures shall describe the inspection process for each department, step, or station and shall have a corresponding checklist used by the line employee responsible for quality control. This procedure shall cover quality, function, specification compliance, and any applicable industry standard that exist for that designated part of the manufacturing process. Each phase, department, step, or station quality control inspection must take place prior to the vehicle being advanced to the next phase of the production line. This procedure shall include a final inspection and road test and each vehicle must pass all

inspections prior to deliver. A copy of the checklist must accompany each bus as it moves from each phase, department, step, or station and shall be included with the bus at delivery. An on-staff Quality Assurance Director performs on-line and completed vehicle random audits that are recorded and discussed at regular quality meetings, holding production staff accountable for overall vehicle quality. Quality Assurance Program documented as part of Uplifter Guide Certification, or approved equal. Production processes inspected by on-line inspector qualified for this task in several production locations. In addition, a copy of the build order shall be included with each vehicle.

## 2.3.0 ENGINE

2.3.1 All engines proposed must be in compliance with current emission requirements.

2.3.2 FDOT prefers that the rear engine and transmission is cradle mounted to facilitate maintenance service to power train. Proposers shall provide detailed description of engine and transmission mount design including time required to replace major components by skilled mechanic. Each proposer's design will be evaluated by the TRIPS Proposal Committee against the FDOT engine and transmission mount.

2.3.3 Standard engine shall be Medium Heavy Duty Diesel. Engine shall produce a minimum of 200 brake horsepower at 2300 RPM and 456 ft. lbs of torque at 1600 RPM.
The rear-mounted engine shall be a Medium Heavy Duty Diesel engine that is 6.7 liter (409 cubic inches) displacement, four stroke, 6 cylinder 24 valve diesel powered design. The engine system shall feature a full authority electronic control management system, electronic oil level sensing, electrically actuated variable geometry turbocharger air-to-air after cooling, and electronic fuel injection. The engine shall deliver 200 brake horsepower at 2300 R.P.M., and 520 lb-ft of torque at 1600 R.P.M. with a no load governed speed of 2800 R.P.M. The engine proposed will be the current design at the time of production and will be a fifty- (50) state engine that meets all EPA requirements.

2.3.4 The engine shall meet all requirements of technical specifications when operating on No. 2 ultra low sulfur diesel fuel, as certified by the engine manufacturer and specified by the Procuring Agency. Durability of the engine and its components shall not be seriously reduced and the requirements shall be met by operation on commercially available diesel fuel. The engine shall meet all applicable Federal and State emission regulations. Mountings are designed to reduce low frequency vibrations.

2.3.5 A rear liquid tight control/junction box shall be located in the rear engine compartment within easy view and reach of the maintenance staff. The box shall contain a rear engine Start/Kill Switch along with SAE J1587 and J1939 ports and an hour meter.

2.3.6 All filler caps shall be easily accessible for funnels, pour spouts, automated equipment, and feature spring loaded caps and function labeling. All lubricant sumps shall be fitted with magnetic drain plugs.

2.3.7 The engine shall be equipped with one full flow spin-on oil filter, and shall incorporate a plate type oil cooler and a by-pass valve assuring lubrication during cold starts or filter blockage.

2.3.8 All fluid fill locations shall be properly labeled to help ensure correct fluid is added and all filler locations shall be easily accessible.

2.3.9 All metal lines shall be pre-formed to the extent practical prior to installation, using a fixture that prevents local strain or tube flattening, and shall not be bent more than once at the same point. Rigid lines shall be supported at no more than 5-foot intervals, and shall make contact with only their support bracket. Nylon lines may be grouped and supported at 2-foot intervals or less. The air compressor discharge line shall be convoluted stainless steel or copper line, or flexible Teflon line with a braided stainless steel jacket, between compressor and stationary terminal point. Teflon lines with braided stainless steel jackets and sleeved with flex guard loom shall be used for all flexible lines on the vehicle. Such lines shall be individually supported and as short as practicable, and shall not touch one another or any other part of the vehicle except their supporting clamps and/or grommets. All Teflon hoses with braided stainless steel jackets shall be further protected by flex guard loom. Insulated clamps or grommets shall protect all lines where they pass through structural members. All compressed air lines shall slope downward toward a reservoir and routed to prevent water traps.

2.3.10 The fuel system shall include a fuel filter and water separator. The flexible fuel lines within the engine compartment shall be high temperature Teflon core with a stainless steel braided jacket and sleeved with flex guard loom. The supply and return fuel lines outside the engine compartment may be color-coded nylon approved for diesel fuel usage.

2.3.11 Engine-driven accessories shall be unit mounted for quick removal and repair. Accessory drive systems shall operate for not less than 50,000 miles, without adjustment, on the design operating profile. These accessories shall be driven at speeds sufficient to assure adequate system performance during extended periods of idle operation and at the low route speed portion of the design operating profile. In order to keep drive belts to a minimum number,

the air compressor and the hydraulic pump shall be gear driven. The alternator and water pump shall be driven with a single serpentine belt. The air conditioning compressor shall be driven by matched V-belts. All belts shall be equipped with an automatic belt tension device. Serpentine belts will be considered for all systems noted above.

2.3.12 The engine control system shall protect the engine against progressive damage. The system shall monitor conditions critical for safe operation and automatically de-rate power and/or speed and initiate engine shutdown as needed. The on-board diagnostic system as described shall trigger a visual and audible alarm to the operator when the engine control unit detects a malfunction and the engine protection system is activated. Automatic shutdown shall only occur when parameters established for the functions below are exceeded:

> Engine Coolant Temperature
> Engine Oil Pressure

2.3.13 A control shall be available to the operator, to allow temporary override (30-45 seconds) of the engine protection/shutdown system if engine power is required to move the bus in emergency conditions.

2.3.14 The starter shall be a 24 volt Delco Remy, Model 1113277, Series 28MT, Type 171 provided on the engine by Cummins, or approved equal. A split system is preferred, but not required.

2.3.15 A Williams Electronic Throttle control system, or approved equal, shall be used for accelerator control. The accelerator system shall also be interlocked with doors by means of the engine electronics holding the accelerator control to the idle position.

2.3.16 The engine shall be equipped with an operator-controlled fast idle device. The fast idle control shall be a two-way toggel switch mounted on the dash or side console and shall activate only with the transmission in neutral and the parking brake applied. This device may be used to help meet the requirements of bus cool down. The fast idle device shall only operate when the transmission selector is in the neutral position. If the operator shifts to a forward or reverse gear without returning the fast idle to the off position the system shall automatically return the throttle to the idle position and shall automatically return it to fast idle when the next time the operator selects the neutral position.

## 2.4.0 COOLING SYSTEM

2.4.1 The cooling system shall be of sufficient size to maintain all engine and

transmission fluids, including retarder, and engine intake air at safe, continuous operating temperatures during the most severe operations possible for the State of Florida and in accordance with engine and transmission manufacturers' cooling system requirements. The cooling system hydraulic fan control shall sense the temperatures of the operating fluids and the intake air, and if either is above safe operating conditions, the cooling fan should be engaged. The cooling system in new condition shall have an ambient capacity of at least 110° F with water as coolant and at sea level operation. The engine shall be cooled by a water-based, pressure type, cooling system that does not permit boiling or coolant loss during the operations described above. Engine thermostats shall be easily accessible for replacement. Shutoff valves shall allow filter replacement without coolant loss. Valves shall permit complete shutoff of lines for the heating units and water booster pumps. The water boost pump shall be a magnetically coupled, brushless design.

2.4.2 The engine shall be cooled by a water-based, pressure type, cooling system that does not permit boiling or coolant loss during the operations described above. Engine thermostats shall be easily accessible for replacement. When the engine manufacturer recommends coolant filter(s), shutoff valves shall allow filter replacement without coolant loss. All low points in the water-based cooling system shall be equipped with drain cocks. Air vent valves shall be fitted at high points in the cooling system unless it can be demonstrated that the system is self-purging.

2.4.3 A sight glass to determine satisfactory engine coolant level shall be provided and shall be accessible by opening one of the engine compartment's access doors. A valve to safely release pressure or vacuum in the cooling system shall be provided with both it and the water filler no more than 60 inches above the ground and both shall be accessible through the same access door.

2.4.4 The radiator and air to air charge air cooler shall be mounted on two point rubber isolators. The radiator shall utilize bolt on stainless steel tanks and the charge air cooler shall be corrosion resistant aluminum. The engine cooling system (radiator) shall utilize a stainless steel coolant recovery tank and shall have sight glass to indicate low coolant and full coolant levels. The tank shall utilize a spring loaded push type pressure relief valve and a hinged filler cap. The radiator shall utilize thermostatically controlled hydraulic fans and the charge cooler shall utilize a constant speed hydraulic fan. . The fan shroud shall be one-piece venturi type. As is practical, the use of rubber hose shall be minimized. Those hoses used shall be SAE 100R14, with wide band, constant torque stainless steel hose clamps with a collared screwdriver slot. Gate valves shall be installed in the heating and defroster lines. With the engine compartment doors closed there shall be no-access to the compartment and the doors shall provide ventilation for cooling air cross flow.

2.4.5 Coolant provided shall be permanent type antifreeze with rust inhibitor, mixed as 50 /50 water and coolant.

2.4.6 All coolant hoses shall be Silicone hose with constant torque clamps. All heater hose shall be routed below floor level to ensure passenger safety. Auxiliary heater coolant fluid shut-off valves shall be included as standard equipment.

2.4.7 The charge air cooling system also referred to as after-coolers or inter-coolers shall provide maximum air intake temperature reduction with minimal pressure loss. The charge air radiator shall be sized and positioned to meet engine manufacturer's requirements. The charge air radiator shall not be stacked ahead or behind the engine radiator and shall be positioned as close to the engine as possible unless integrated with the radiator. Air ducting and fittings shall be protected against heat sources, and shall be configured to minimize restrictions and maintain sealing integrity.

2.4.8 The transmission shall be cooled by a separate heat exchanger sized to maintain operating fluid within the transmission manufacturer's recommended parameters of flow, pressure and temperature. The transmission cooling system shall be matched to retarder and engine cooling systems to ensure that all operating fluids remain within recommended temperature limits established by each component manufacturer.

## 2.5.0 ENGINE AIR CLEANER

2.5.1 An air cleaner with a dry filter shall be provided. The air cleaner element shall be capable of being changed without the use of tools. The system will utilize a self-aligning and self sealing technology to insure proper installation. The filter shall be removable by a skilled mechanic in 10 minutes or less. The location of the air intake system shall be designed to minimize the entry of dust and debris and maximize the life of the air filter. The engine air duct shall be designed to minimize the entry of water into the air intake system. Drainage provisions shall be included to allow any water/moisture to drain prior to entry into air filter.

## 2.6.0 ENGINE OIL SYSTEM

2.6.1 The engine shall be equipped with a full flow, spin-on type oil filter. The dip stick and oil filler shall be in a readily accessible location and shall not be obstructed by any wiring or hoses. The engine shall be equipped with an air-to-oil or water-to-oil type oil cooler.

## 2.7.0 EXHAUST SYSTEM

2.7.1 The exhaust system from the turbo charger through the muffler/diesel oxidation catalyst and a catalyzed soot filter shall be stainless steel. From the muffler to the roof exhaust tip the exhaust pipe shall be aluminized steel. The exhaust tip shall be chrome and curved to the rear of the bus roof and designed to prevent rain, snow or water generated from high-pressure washing systems from entering into the exhaust pipe and causing damage to the system. Exhaust gases and waste heat shall be discharged from the roadside rear corner of the roof. The exhaust pipe shall be of sufficient height to prevent exhaust gases and waste heat from discoloring or causing heat deformation to the bus roof. The entire exhaust system shall be adequately shielded to prevent heat damage to any bus component. The exhaust pipes and muffler/diesel oxidation catalyst and a catalyzed soot filter will be encapsulated with an exhaust blanket.

2.7.2 Bus tailpipe shall terminate at the rear upper (roof) street side of the bus.

2.7.3 Exhaust shall be securely attached to the chassis frame.

## 2.8.0 TRANSMISSION

2.8.1 The transmission shall be Allison B210 (or approved equal) multiple speed, automatic shift with torque converter, retarder and electronic controls. Gross input power, gross input torque and rated input speed shall be compatible with the engine. A skilled mechanic, with optional assistance, shall be able to remove and replace the transmission assembly for service in less than 20 total combined man-hours. The transmission shall be designed to operate for not less than 300,000 miles on the design operating profile without replacement or major service.

## 2.9.0 RETARDER

2.9.1 A Telma electronic retarder, or approved equal, shall be provided. The retarder shall be mounted on the rear axle third member and sized to meet the requirements of a fully loaded coach.

## 2.10.0 DRIVE SHAFT

2.10.1 The drive shaft shall be rated capable of transmitting the torque multiplication of the power units to the drive wheels.

2.10.2 The drive shaft shall be a minimum of 3 inches in diameter and heavy-duty type utilizing
one or more Spicer needle bearing universal joints or equivalent.

2.10.3 Protective metal guards (as needed) for the shaft shall be provided within 3" of the shaft to prevent a broken shaft from touching the ground, contacting any brake line, or whipping through the floor. The drive shaft guards shall conform to 49 CFR.

## 2.11.0 FRONT AXLE

2.11.1 The front (steering) axle shall be an I-beam type with a 6.5" center drop, oil filled hubs, and shall be rated at 12,300 pounds. Front axle shall be equipped with oil bath seals. This axle shall provide maximum maneuverability.
**Proposer must provide GAWR for bus type submitted for consideration.**

## 2.12.0 REAR AXLE

2.12.1 The bus shall be driven by a 21,000 lb. single heavy-duty axle at the rear with oil filled hubs and a load rating sufficient for the bus loaded to GVWR. Transfer of gear noise to the bus interior shall be minimized. The rear axle shall be designed to operate for not less than 300,000 miles on the design operating profile without major failure. The lubricant drain plug shall be magnetic type, external hex head.
**Proposer must provide GAWR for bus type submitted for consideration.**

## 2.13.0 BRAKES

2.13.1 Service brakes shall be **S-Cam** controlled and actuated by a compressed air system. Force to activate the brake pedal control shall be an essentially linear function of the bus deceleration rate and shall not exceed 50 pounds at a point 7 inches above the heel point of the pedal to achieve maximum braking. The heel point is the location of the driver's heel when foot is rested flat on the pedal and the heel is touching the floor or heel pad of the pedal. A microprocessor controlled Automatic Braking System (ABS) **with Automatic Traction Control** shall be provided. The microprocessor for the ABS system shall be protected yet in an accessible location to allow for ease of service. The total braking effort shall be distributed between all wheels in such a ratio as to ensure equal friction material wear rate at all wheel locations. Actuation of ABS shall override the operation of the brake retarder.

2.13.2 Brakes should be capable of stopping a fully loaded vehicle at a deceleration rate equivalent to a 22 foot stop from a speed of 20 miles per hour. They must

be capable of this type of stop 3 times in a rapid succession from a speed of 20 miles per hour without brake fade.

2.13.3 Braking system shall comply with FMVSS-121 or FMVSS-105 as applicable.

2.13.4 The parking brake shall be capable of holding a fully loaded vehicle on a 15% incline. The system shall incorporate a warning light on the instrument panel to indicate to the driver when the brake is on. Each proposer shall state type of parking brake proposed and will be subject to the FDOT Park Brake Test Procedure (see Exhibit 3).

2.13.5 The controls for a wheelchair ramp or lift shall be interlocked with the vehicles parking brake and transmission to ensure the vehicle cannot be moved when the ramp or lift is not stowed and so the ramp or lift cannot be deployed unless the interlocks are engaged. The interlock must meet ADA Title 49 Lift Interlock requirements and be FMVSS 403 and 404 compliant.

2.13.6 The rear brake system shall be interlocked with the passenger door, front and rear, if rear door offered. The system shall use a zero motion detector connected to the door(s), which will not allow the door(s) to open until the coach is brought to a complete stop. When the door(s) is open, the rear brakes shall apply and stay applied until the door(s) is closed. The brake system will meet all standard FMVSS-121 regulations. An option shall be available to a purchaser to exclude the front door interlock, but not a rear door if offered, with resultant price change.

## 2.14.0 STEERING

2.14.1 All friction points on the front axle shall be equipped with replaceable bushings or inserts and lubrication fittings easily accessible from a pit or hoist.

2.14.2 Fatigue life of all steering components shall exceed 1,000,000 miles. No element of the steering system shall sustain a Class I failure when one of the tires hits a curb or strikes a severe road hazard. Inadvertent alternations of steering as a result of striking road hazards shall not result in steering failures.

2.14.3 Outside body corner turning radius including the bumper for a standard configuration 30-foot long bus shall not exceed 31 feet.

2.14.4 Power steering shall be provided. The steering gear shall be an integral type with flexible lines. With the bus on dry, level, commercial asphalt pavement, and tires inflated to recommended pressure and the front wheels positioned straight ahead, the torque required to turn the steering wheel 10 degrees shall be no less than 5 foot pounds and no more than 10 foot pounds. Steering torque may increase to 70 foot pounds when the wheels are approaching the steering stops,

as the relief valve activates. Steering effort shall be measured with the bus at GVWR, stopped with the brakes released and the engine at normal idling speed on clean, dry, level, commercial asphalt pavement and the tires inflated to recommended pressure. Power steering failure shall not result in loss of steering control. With the bus in operation the steering effort shall not exceed 55 pounds at the steering wheel rim and perceived free play in the steering system shall not materially increase as a result of power assist failure. Gearing shall require no more than seven turns of the steering wheel lock-to-lock.

Caster angle shall be selected to provide a tendency for the return of the front wheels to the straight position with minimal assistance from the driver.

2.14.5 The steering wheel diameter shall be no less than 20"; the rim diameter shall be 7/8" to 1 1/4"and shaped for firm grip with comfort for long periods of time.
The steering wheel shall be removable with a standard or universal puller. Steering wheel spokes and wheel thickness should be such as to insure that visibility is within the range of a 95-percentile range as described in SAE 1050a, section 4.2.2 and 4.2.3. Placement of steering column must be as far forward as possible, but either in-line or behind the instrument cluster.

2.14.6 The steering wheel shall have a rearward tilt adjustment range of no less than 40 degrees as measured from the horizontal and upright position. The steering wheel shall also include a telescoping capability.

2.14.7 Measurement - From the top of the rim of the steering wheel in the horizontal position to the cab floor at the heel point. The steering wheel shall adjust to maximum height of 5" and a minimum low-end adjustment of 29".

## 2.15.0 TIRES AND WHEELS

2.15.1 Buses shall be equipped with single front and dual rear wheels. Wheels shall be hub-piloted steel with a white powder coat finish. ALCOA Aluminum wheels, with a machine finished on both sides, will be offered as an “add all aluminum” option and be priced separately.

All wheels shall be interchangeable and shall be removable without a puller. Wheels shall be compatible with tires in size and load-carrying capacity. Front wheels and tires shall be balanced as an assembly per SAE J1986. Wheel size shall be19.5” x 7.5” and wheels shall be interchangeable from front to rear and appropriate for the bus design.
**Proposer to provide size being submitted for consideration.**

2.15.2 Tires shall be suitable for the conditions of transit service and sustained operation at the maximum speed capability of the bus. Load on any tire at GVWR shall not exceed the tire supplier's rating. Tires shall be low profile

(265/70R19.5) tires, Load range "G" as appropriate for the bus.
**Proposer to provide size being submitted for consideration.**

2.15.3 All tires front and rear shall be equipped with a tire pressure monitoring system to warn the driver if a specific tire has low air pressure. One component manufacturer known to meet these requirements is the E.J. Ward Pressure Track System, or approved equal.

2.15.4 Proposers should offer a hubometer as a separately priced option. This hub-ometer should be calibrated for the tire proposed and mounted on the right rear (curb-side) wheel hub of each bus. Components known to meet these requirements include Fleetwatch model 392, Veeder Root Hub Meter, and the E.J. Ward Data System to include CANceiver, display unit and antennae, or approved equal.

2.15.5 A mounted and balanced spare tire and wheel assembly shall be provided and shipped loose with each vehicle. Manufacturer shall ship spare tire with a pad between spare and floor covering to protect floor from scuffing.

## 2.16.0 ELECTRICAL SYSTEM

2.16.1 The electrical system shall provide and distribute power to ensure satisfactory performance of all electrical components. The system shall supply a nominal 12 and/or 24 volts of direct current (DC) that does not present an electrical shock hazard. Electrical power provided for the ITS accessories shall be 12 and/or 24 volts DC as specified. Precautions shall be taken to minimize hazards to service personnel. Optronics, Inc. LED lighting, or approved equal, throughout the interior shall be standard, except for wheel chair lift lights as per FAC 14-90 regulations. The power generating system shall be rated sufficiently higher than the total possible electrical load to maintain the charge on the batteries at all operating conditions including the engine at idle. All circuits, except for those involved in propulsion system start-up, shall be protected by circuit breakers. Fuses shall be used only where it can be demonstrated that circuit breakers are not practicable, and they shall be easily accessible for replacement. All electrical systems and components shall be properly identified and labeled.

2.16.2 Redundant grounds shall be used for all electrical equipment, except where it can be demonstrated that redundant grounds are not feasible or practicable. One ground may be the bus body and framing. Grounds shall not be carried through hinges, bolted joints (except those specifically designed as electrical connectors), or power plant mountings. Electrical equipment shall not be located in an environment that will reduce the performance or shorten the life of the component or electrical system. To the extent practicable, wiring shall not be located under the bus floor. Wiring and electrical equipment

necessarily located under the bus shall be insulated from water, heat, corrosion, and mechanical damage.

2.16.3 Design of the electrical, electronic and data communication systems shall be modular so that each major component, apparatus panel, or wiring bundle is easily separable with standard hand tools or by means of connectors. Each module, except the main body wiring harness, shall be removable and replaceable in less than 1 hour by a skilled mechanic. Power plant wiring shall be an independent wiring module. Replacement of the engine compartment wiring module(s) shall not require pulling wires through any bulkhead or removing any terminals from the wires.

2.16.4 All wiring between electrical components and terminations, shall have double electrical insulation, be waterproof, and conform to specification requirements of SAE Recommended Practice J1127 and J1128. Except as interrupted by the master battery disconnect switch, battery and starter wiring shall be continuous cables, grouped, numbered, and/or color-coded with connections secured by bolted terminals; and shall conform to specification requirements of SAE Standard J1127-Type SGT or SGX and SAE Recommended Practice J541. Installation shall permit ease of replacement. All wiring harnesses over 5' in length and containing at least five wires shall include 5% excess for spares that are the same size, exclusive of battery cables and modular harnesses, as the largest wire in the harness.

2.16.5 Wiring harnesses shall not contain wires of different voltages unless all wires within the harness are sized to carry the current and insulated for the highest voltage wire in the harness. Double insulation shall be maintained as close to the terminals as possible. The requirement for double insulation shall be met by wrapping harnesses with plastic electrical tape or by sheathing all wires and harnesses with non-conductive, rigid or flexible conduit. Strain-relief fittings shall be provided at points where wiring enters all electrical components. Grommets of elastomeric material shall be provided at points where wiring penetrates metal structures outside of electrical enclosures. Wiring supports shall be protective and non-conductive at areas of wire contact and shall not be damaged by heat, water, solvents, or chafing. Wiring length shall allow end terminals to be replaced twice without pulling, stretching, or replacing the wire. Except for large wires such as battery cables, terminals shall be crimped to the wiring and may be soldered only if the wire is not stiffened above the terminal and no flux residue remains on the terminal. Terminals shall be corrosion-resistant and full ring type or interlocking lugs with insulating ferrules. “T” splices may be used when there is less than 25,000 circular mills of copper in the cross section and a mechanical clamp is used in addition to solder on the splice; the wire supports no mechanical load in the area of the splice; and the wire shall be supported to prevent flexing. All wiring shall be numbered or color-coded so as to be identical between all buses.

2.16.6 All relays, controllers, flashers, circuit breakers, and other electrical components shall be grouped according to voltage; and mounted in easily accessible junction boxes. The boxes shall be sealed to prevent moisture from normal sources, including engine compartment cleaning, from reaching the electrical components and shall prevent fire that may occur inside the box from propagating outside the box. The components and circuits in each box shall be identified and their location permanently recorded on a schematic drawing attached to or printed on the inside of the box cover or door. The drawing shall be protected from oil, grease, fuel, and abrasion. The front junction box shall be completely serviceable from the vestibule. A rear start and run control box shall be mounted in an accessible location in the engine compartment.

2.16.7 A Multiplex Electrical System shall be proposed. The Proposer shall provide a detailed description of the multiplex system to be provided. **If conventional wiring is proposed a detailed description and sample wiring schematics shall be provided.**

2.16.8 The manufacturer shall provide training on programming of components and report formatting and usage of the system.

2.16.9 All electrical components, including switches, relays, flashers, and circuit breakers, shall be heavy-duty designs with either a successful history of application to heavy-duty vehicles, or design specifications for an equivalent environment. All relays, controllers, flashers, circuit breakers, and other electrical components exposed to the outside environment shall be corrosion resistant and sealed . These components shall be replaceable in less than 5 minutes by a skilled mechanic.

2.16.10 All electric motors shall be heavy-duty permanent magnet motors and have a constant duty rating of no less than 40,000 hours (except cranking motors). All electric motors shall be easily accessible for servicing.

2.16.11 An alternator to service the 24-volt system shall be C.E. Niehoff 300 amp 24 volt or Penntex PX833 330 amp 24V air-cooled type, or approved equal. ***Proposer must provide price of both alternators and any approved equal submitted for consideration*.** The alternators proposed must meet or exceed the alternator manufacturer performance standards and the TRIPS Alternator Output Test Procedure (see Exhibit 4).

2.16.12 Batteries shall be mounted on a swing out stainless steel tray below the operator's workstation on the roadside of the coach. Batteries shall be separated and secured to the tray. Two 8D batteries with 1150 CAA shall be provided. Terminals shall be of the stud type with different sizes for the + and – terminals. Cables shall be 2/0 extra flexible with neoprene jackets sleeved with flexguard loom. A master switch on the battery positive (+) shall be

provided in the battery compartment near the batteries for complete disconnecting from all bus electrical systems except for safety devices such as fire suppression system and other systems as specified. The location of the rotary type master battery switch shall be clearly identified on the access panel and be accessible in less than 10 seconds for activation. The master switch shall be capable of carrying and interrupting the total circuit load. Opening the master switch with the power plant operating shall not damage any component of the electrical system.

2.16.13 All electrical compartments exposed to the outside environment shall be corrosion resistant and sealed. The components and circuits in each electrical compartment shall be identified and their location permanently recorded on a drawing attached to the inside of the access panel or door. The drawing shall be protected from oil, grease, fuel, and abrasion. The front compartment shall be completely serviceable from the operator's seat, vestibule, or from outside. Rear engine start and run controls shall be mounted in an accessible location in the engine compartment.

## 2.17.0 LIGHTING AND OPERATOR CONTROLS

2.17.1 All exterior lights shall be Optronics, Inc. LED's or approved equal (except headlights) and be designed to prevent entry and accumulation of moisture or dust, and each lamp shall be replaceable in less than 5 minutes by a skilled mechanic helper. Lights mounted on the engine compartment doors shall be protected from the impact shock of door opening and closing. Lamps, lenses and fixtures shall be interchangeable to the extent practicable. Two hazard lamps at the rear of the bus shall be visible from behind when the engine service doors are opened. Light lenses shall be designed and located to prevent damage when running the vehicle through an automatic bus washer. Lights located on the roof and sides of the bus shall have protective shields or be of the flush mount type to protect the lens against minor impacts.

2.17.2 Lamps at the front passenger door shall comply with ADA requirements and shall activate only when the doors open. These lamps shall illuminate the street surface to a level of no less than 1 foot-candle for a distance of 3 feet outward from the outboard edge of the door threshold equipped with the loading system. The lights may be positioned above or below the lower daylight opening of the windows and shall be shielded to protect passengers' eyes from glare.

2.17.3 Front headlights are to be 12 volt Halogen, or approved equal, rectangular sealed beam type, four (4) in total and located horizontally. The outboard headlight shall be dual type; with low beam and high beam capacity. The adjacent or inboard headlight shall be capable of high beam only. High beam, low beam functions shall be controlled by a driver's footswitch, sealed and

protected from moisture. Sealed beam units shall be of latest type and low beam rating of 320-hour rack life, at 12 volts. Headlights shall be wired to operate on reduced voltage in the *"Run"* position.

2.17.4 Directional signal lights shall be 12 or 24 volt and provided on front, rear, and both sides of the bus. All directional lights shall be Optronics, Inc. LED or approved equal. Front lights to be amber reflective lenses, and rear lenses to be amber also. Activation shall be by *Right* and *Left* floor mounted switches for left foot operation. Pressure must be maintained on switches for signal to operate. Removal of foot from switch will discontinue signal operation.

2.17.5 Separate stop and tail lights will be 7 inch Optronics, Inc. LED or approved equal, mounted on outside corner of body to be visible even when engine compartment door is open, and to maximize access when door is open. The top lights on each side will shall be one red stop/tail light and the bottom on each side shall be one amber turn. One 4 inch Optronics, Inc. LED or approved equal back up light shall be mounted between the stop and turn lights on each side.

2.17.6 Optronics, Inc. LED or approved equal marker lights shall be provided:

+ Two amber near front side roof line.
+ Two amber near center side roof line.
+ Two red near rear side roof line.

2.17.7 Optronics, Inc. LED (or approved equal) individual I.D. lights to be mounted: 3 amber at front center roof crown, 3 red at rear center roof crown.

One amber Optronics, Inc. LED or approved equal marker type light to be mounted forward of curbside entrance door and in the same location on the left side of the coach. One red Optronics, Inc. LED or approved equal marker light will be mounted at the rear on each side of the coach.

2.17.8 One amber Optronics, Inc. LED or approved equal light to be mounted center on both sides and wired to operate in conjunction with *Right* and *Left* directional signals when activated. These lights shall be visible 180 degrees and in protective fixtures.

2.17.9 Reflectors shall be size, type color and location required to comply with the requirements of both FMVSS - 108 and the regulations established by the State of Florida.

2.17.10 A switch shall be provided for operator control that will enable all directional light to flash in unison to indicate a hazard condition.

2.17.11 A 2-candlepower LED light shall be provided to illuminate the rear license

plate.

2.17.12 Lights shall be provided in the engine compartment and all other compartments where service may be required, to generally illuminate the area for night emergency service or repairs. A sealed lamp assembly will be provided in the engine compartment, the lamp will be on a reel with 18' of cord to allow the light to be placed where needed and has a magnetic back and shall be controlled by a switch located on the light housing near the rear start controls in the engine compartment. Necessary lights, located in other service compartments, shall be provided with switches on the light fixture or convenient to the light.

2.17.13 Interior lighting shall be Optronics, Inc. LED and designed to minimize reflections on the interior glass surfaces. The lighting panels shall incorporate the air conditioning air ducts, and airflow shall be sufficient to meet the most stringent U.S. test. The level of illumination and control shall be U.S. standard. Lighting fixtures shall be designed to present a smooth interface to the other components of the bus interior. Entire ceiling area shall convey the illusion that it is a single, aesthetically pleasing unit. Entire interior shall be finished in an aesthetically pleasing manner, with no exposed open tracks or access areas.

2.17.14 A switch, independent of the *"RUN"* switch shall be provided. When this switch is in *"ON"* position, and when the door is open, all LED lighting shall turn on. When door is closed the two forward most LED light fixtures on the curbside and the forward-most light fixtures on the roadside shall be extinguished. When the master switch is in the *"RUN"* or *"NITE/RUN"* mode, these same light modules on each side of the coach shall slowly fade to darkness when the front door is in the closed position, and light output shall gradually illuminate to reach maximum light level when the door is opened. Solid state LED lighting shall have unlimited on-off cycles. When switch is in "OFF" position, all lights are off, when in "Normal" position, and door closed, all lights are on.

2.17.15 The operator's area shall have a swivel-mounted ceiling light to provide general illumination and it shall capable of illuminating the area between the lower half of the steering wheel nearest the operator and the operators seat, to a level of 10 to 15 foot-candles. This light shall be controlled by the operator through a switch on the front or side console.

2.17.16 All switches and controls necessary for the operation of the bus shall be conveniently located in the operator's area and shall provide for ease of operation. Switches and controls shall be essentially within the hand reach envelope described in SAE Recommended Practice, J287, and Driver Hand Control Reach. Controls shall be located so that boarding passengers may not easily tamper with control settings. All switches are illuminated for night

vision. The four-way light hazard switch shall be a toggle switch extended in length, and located next to the passenger door operator switch, convenient in location and touch to the driver's left hand.

2.17.17 Accelerator and brake pedals shall be designed for ankle motion. Foot surfaces of the pedals shall be faced with wear-resistant, nonskid, replaceable material. Driver's foot operated switches shall be protected from moisture and dirt. Foot switches and other controls shall be installed to prevent entry of drafts. A heel wear plate shall be mounted at the base of the throttle and brake pedals. Controls for engine operation shall be closely grouped within the operator's compartment. These controls shall include separate master run switch and start switch or button. The run switch shall be a four-position rotary switch with the following functions:

**OFF:** All electrical systems off, except power available for the passenger interior lighting, stoplights, turn lights, hazard lights, silent alarm, horn, farebox, transfer machine, two-radio and other ITS accessories.

**CL/ID** - All electrical systems off, except those listed in engine stop and parking lights.

**RUN** - All electrical systems and engine on, except headlights, parking lights, and marker and taillights.

**NITE/RUN** - All electrical systems and engine on.

2.17.22 The Teleflex Morse, or approved equal, adjustable brake and accelerator pedal shall be offered as an option and priced separately.

2.17.18 The door control, kneel control, windshield wiper/washer controls, and run switch shall be in the most convenient operator locations. They shall be identifiable by shape, touch, and permanent markings. Doors shall be operated by a single control, conveniently located and operable in a horizontal plane by the operator's left hand. The setting of this control shall be easily determined by position and touch. Turn signal controls shall be floor-mounted, and shall also activate the illumination of the lighted directional outside mirrors.

2.17.19 All panel-mounted switches and controls shall be marked with easily read identifiers and shall be replaceable. The wiring at these controls shall be serviceable from the vestibule or the operator's seat. Switches, controls, and instruments shall be dust- and water-resistant.

2.17.20 The speedometer, air pressure gauge(s), and certain indicator lights shall be located on the front cowl immediately ahead of the steering wheel. The steering wheel spokes or rim shall not obstruct the operator's vision of the instruments when the steering wheel is in the straight-ahead position. Illumination of the instruments shall be simultaneous with the marker lamps.

Glare or reflection in the windshield, side window, or front door windows from the instruments, indicators, or other controls shall be minimized. Instruments and indicators shall be easily readable in direct sunlight.

2.17.21 The operator's workplace shall be of modern ergonomic design, and provide for operator ease of operation, comfort, and efficiency, and to minimize glare to the extent possible. All control functions shall be within easy reach of the 95th percentile operator when steering and seat positions are optimally adjusted. Operating controls shall be on a console at the operator's left for safety and ease of operation and shall conform to SAE J287 Driver Hand Control Reach.

2.17.22 Indicator lights and/or switches immediately in front of the operator or in the side console shall include:

**INDICATOR/WARNING LIGHTS:**
* High beam headlight
* Right turn
* Left turn
* Hazard warning (may be common with turn indicators)
* Parking brake applied
* Service brake applied (may be common with parking brake indicator)

**SWITCHES:**
* Master run switch
* Start switch or button
* Kneel switch
* Turn signal switches
* Interior lighting switch
* Instrument lighting intensity control
* Passenger chime switch
* Driver's area light switch
* Hazard warning lights switch
* Horn button, center of steering column - debris deflecting
* Headlight dimmer switch
* Fast idle switch
* Master door switch

**CONTROLS:**
* Accelerator pedal
* Brake pedal
* Door control
* Windshield wiper control
* Windshield washer control
* Interior climate control
* Driver's heater control

* Defroster control
* Parking/emergency brake control (indicates brake application)
* Transmission control
* Front door dump valve
* Public address system controls
* Destination sign controls

2.17.23 The instrument panel shall include an electronic speedometer indicating no more than 80 mph and calibrated in maximum increments of 5 mph. The speedometer shall be a rotating pointer type, with a dial deflection of 220 to 270 degrees and 40 mph near the top of the dial. Mounted in the instrument panel forward of the driver and in full view of the driver while in the seated position, the instruments listed in Exhibit 1 shall be considered as the minimum required.

2.17.24 The speedometer shall be sized and accurate in accordance with SAE Recommended Practice J678.The instrument panel shall also include air brake reservoir pressure gauge(s) with indicators for primary and secondary air tanks and voltmeter(s) to indicate the operating voltage across the bus batteries. The instrument panel and wiring shall be easily accessible for service from the operator's seat or top of the panel. Wiring shall have sufficient length and be routed to permit service without stretching or chafing the wires.

2.17.25 Proposers shall design and install a “driver's box” in a location convenient to the driver. The box shall be approximately six (6) inches wide, fourteen inches in height and sixteen inches in depth. The box shall be constructed from quality minimum -.080 steel primed and painted black.

2.17.26 Visible and audible warning shall inform following vehicles or pedestrians of reverse operation. Visible reverse operation warning shall conform to SAE Standard J593. Audible reverse operation warning shall conform to SAE Recommended Practice J994 Type C or D.

2.17.27 One each high and low tone horns shall be installed positioned to minimize wheel wash spray.

2.17.28 If selected, a fare box shall be installed in a space as far forward as practicable, and/or structural provisions shall be made for installation of a fare box (if not installed by component manufacturer). Location of this fare collection device shall not restrict traffic in the vestibule and shall allow the driver to easily reach the coin levers and view the change platform. The fare box shall not restrict access to the driver's area and shall not restrict operation of driver controls. Fare box location shall permit accessibility to the vault for easy manual removal or attachment of suction devices. Meters and counters on the fare box shall be readable on a daily basis. A 20 amp, 12-volt, DC, protected available to power the fare box. This power service shall include a

grounded lead with both wires enclosed in a flexible conduit. The floor under the fare box shall be reinforced by eighteen gauge steel plate, to provide a sturdy mounting platform and to prevent shaking of the fare box. The proposer shall furnish and install electrical wiring for the fare box. The lead for the fare box shall measure of ten feet in length and shall be attached to the fare box stanchion. The fare box electrical system shall be a 12 volt DC with a ground wire running from the main electrical panel. The power lead shall be protected by a ten (10) amp fuse. The proposer shall drill necessary holes for the mounting of the fare box. Components known to meet these requirements include, but are not limited to, the GFI Odyssey, the GFI Cents-a-Bill and trim Machine and the Cubic

2.17.29 Wire for the fare box shall be pre-wired through the floor. The fare box shall be wired so it will be hot all the time.

2.17.30 Additionally, if a farebox is to be installed, provide a ceiling mounted LED light fixture, with 10 – 15 foot candles, to focus light confined to the farebox area. This light to be activated in conjunction with the front passenger lights/door operation (2.17.2 and 2.17.14).

2.17.31 Proposers should separately price the Fare box, Pre-wiring, mounting structure and ceiling light and include in the bus Options proposal.

## 2.18.0 ONBOARD DIAGONISTICS

2.18.1 The bus shall be equipped with a built-in diagnostic system to monitor critical systems and/or components. This diagnostic system shall have visual and audible indicators. The diagnostic indicator lamp panel shall be located in clear sight of the operator but need not be immediately in front of him. The intensity of indicator lamps shall permit easy determination of on/off status in bright sunlight but shall not cause a distraction or visibility problem at night. All indicators shall have a method of momentarily testing the operation of the lamp. Whenever possible, sensors shall be of the closed circuit type, so that failure of the circuit and/or sensor shall activate the malfunction indicator. The audible alarm shall be tamper resistant and shall have an outlet level between 80 and 83 dBA when measured at the location of the operator's ear. Wherever possible, sensors shall be of the closed circuit type, so that failure of the circuit and/or sensor shall activate the malfunction indicator. Malfunction and other indicators listed in the following table III shall be supplied on all buses.

2.18.2 Space shall be provided on the panel for future installation of not less than 3 additional indicators as the capability of on board diagnostic systems improves.

**STANDARD ONBOARD DIAGONSTIC INDICATORS:**

| *VISIBLE INDICATOR* | *GAUGE* | *AUDIBLE ALARM* | *FUNCTION* |
|---|---|---|---|
| Low oil | YES | YES | Low engine oil pressure |
| Hot engine | YES | YES | Engine coolant temperature high |
| Low air pressure | YES | YES | Low air pressure system in primary or secondary reservoirs |
| Low engine coolant | no | YES | Radiator water level low |
| Alternator(s) stop | no | YES | Alternator(s) not charging |
| Kneel activated | no | YES | Kneeling system activated |
| A/C stopped | no | YES | Compressor off at high/low switch |
| Fuel capacity | YES | YES | Low fuel warning |

## 2.19.0 MIRRORS

2.19.1 The bus shall be equipped with a B & R 1014, or approved equal, outside mirrors equipped with remote controlled operation, heated glass, and turn signal, on each side of the bus. Mirrors shall permit the operator to view the highway along both sides of the bus, including the rear wheels. Both mirrors shall have 85 square inches of flat glass and 45 square inches of convex glass. The bottom of the curbside mirror shall be mounted no less than 80" above the street as required by FAC 14-90 regulations. Mirrors shall be mounted so as not to lose adjustment through vibration, but to yield if mirror contacts an object, without damage to bus or its structure.

2.19.2 Interior mirrors shall be provided for the operator to observe passengers throughout the bus without leaving his seat and without shoulder movement. With a full standee load, including standees in the vestibule, the driver shall be able to observe passengers in the front entrance and rear exit areas, anywhere in the aisle, and in the rear seats. Inside mirrors shall not be in the line of sight to the right outside mirror. A center-mounted 4 inch by 16 inch mirror shall be installed above the windshield.

## 2.20.0 DESTINATION SIGNS - OPTIONAL

2.20.1 A manually operated destination sign for limited readings shall be offered as

an option. Front destination sign shall be a Transign LLC, or approved equal, single roller curtain type installed above the windshield with a glass exposure of 8 inches x 60 inches. The side destination sign for a front door only bus will be a single roller type installed in the upper curbside window immediately behind the entrance door with a glass exposure of 5-3/4" x 28". The side destination sign for a front and rear door bus shall be installed in the upper curbside window immediately in front of the rear door. Destination signs will be electrically operated, LED, fluorescent or incandescent backlit display, single curtain, .003 mil. thick Mylar anti-glare material, with provisions for a minimum of 25 readings and a maximum of 175 readings of 5 inch high Helvetica medium font letters for the front sign and Helvetica medium font letters 4" high characters for the side sign. Control switch is to be located on the left hand of the driver's console. Curtain destination signs will conform to the Americans With Disabilities Act Part 38. Characters on these signs will have a width-to-height ratio between 3:5 and 1:1 and a stroke width-to-height ratio between 1:5 and 1:10. Generally, the space between letters will be 1/16 the height of upper case letters and will contrast with the background using either yellow letters on green or black background; or white letters on red, green, blue or black background per the purchaser's choice, for route and destination identification. The following readings will be standard on all destination signs ordered under this contract, individual sign reading colors noted:

**Bus Garage** (yellow letters on black background)
**Not In Service** (yellow letters on black background)
**Special Service** (yellow letters on black background)
**Shuttle Service** (yellow letters on black background)
**Downtown** (yellow letters on black background)
***BLANK SIGN*** (all black background, no lettering)
**Emergency Service** (white letters on red background)
**Emergency Shelter** (white letters on red background)
**Evacuation Route** (white letters on red background)
**Express** (white letters on red background)

2.20.2 An option for Twin Vision Elyse software Electronic Destination system, or approved equal, full front and side signs; and a separate rear number only sign shall be provided. The system shall be compatible with Windows 2000 or Windows XP software, using IBM 486 or higher PC/AT capacity, PCMCIA memory download technology. Electronic destination signs will conform to the Americans With Disabilities Act Part 38. The electronic destination sign shall utilize Helvetica yellow medium lettering on black background. The readings listed in 2.20.1 above, shall also be standard in all electronic signs ordered under this contract.

## 2.21.0 BLOCK/RUN NUMBER BOX - OPTIONAL

2.21.1 A TwinVision All-LED, or approved equal, dash mounted Block/Run Number Box shall also be provided as an option. White, red or yellow LED letters/numbers on a black background, displayed in a plastic or metal frame, to operate on a 12 or 24 volt system.

## 2.22.0 STOP REQUEST SIGN - OPTIONAL

2.22.1 An option shall be provided for a Transign, or approved equal, interior *"Stop Requested"* sign. Sign, chime, and driver signal activation system shall be installed, and activated by ¼" diameter yellow cord mounted on the side wall even with the bottom of the tip-in-transom portion of the windows. Signal touch buttons mounted in an ADA mandated wheelchair accessible area shall be no higher than 4' above the floor, with no exposed wiring. A single "*stop request*" chime shall sound when the system is first activated and a tell-tale light indicator on the driver console will stay light continuously until the passenger door is opened. A double chime shall sound when the system is first activated from wheelchair passenger areas.

2.22.2 A *"Stop Requested"* message in Helvetica medium yellow letters on a green background shall be illuminated when the passenger *"Stop Requested"* system is activated. The *"Stop Requested"* message shall remain visible until doors are opened. The sign unit shall be flush mounted on the front destination compartment door and the message shall be visible to the seated operator and all seated passengers. The operator shall be able to deactivate the signal system from the operator's area as well as automatic deactivation each time the passenger door is opened.

## 2.23.0 PUBLIC ADDRESS SYSTEM - OPTIONAL

2.23.1 An option shall be provided for a Radio Engineering Industries, Inc., or approved equal, public address system that complies with the ADA requirements of 49 CFR, Part 38.35 and enables the operator to address passengers either inside or outside the bus shall be provided. Inside speakers shall broadcast, in a clear tone, announcements that are clearly perceived from all seat positions at approximately the same volume level. An operator-controlled switch shall select inside only, outside only, or both announcements. The system shall be muted when not in use, but activated with either a microphone switch or floor mounted foot activated switch.

2.23.2 The black microphone shall be vandal resistant, mounted on a heavy-duty, flexible gooseneck, which is secured with tamper-proof fasteners and will allow the operator to comfortably speak into it without using his hands. A provision shall be made to secure the microphone in a stored position when not in use.

## 2.24.0 WINDSHIELD WIPERS AND WASHERS

2.24.1 The bus shall be equipped with a two speed electrically operated windshield wiper that allows overlapping blade sweep to wipe the center area of the large, one-piece windshield, with a total glass area sweep of not less than 20 square feet. A variable intermittent feature shall be provided to allow adjustment of wiper speed between approximately 5 to 25 cycles per minute. No part of the windshield wiper mechanism shall be damaged by manual manipulation of the arms. At 60 mph, no more than 10 percent of the wiped area shall be lost due to windshield wiper lift. Both wipers shall park along the top of the windshield glass. Windshield wiper motors and mechanisms shall be easily accessible for repairs or service from the destination sign compartment from inside the bus and shall be removable as complete units. The fastener that secures the wiper arm to the drive mechanism shall be corrosion resistant.

2.24.2 The electrical windshield washer system shall deposit washing fluid on the windshield and, when used with the wipers, shall evenly and completely wet the entire wiped area. The windshield washer system shall have a minimum 3-gallon reservoir, located for easy refilling through an access door from outside of the bus. Reservoir pumps, lines, and fittings shall be corrosion-resistant, and the reservoir itself shall be translucent for easy determination of fluid level.

## 2.25.0 INTERIOR CLIMATE CONTROL

2.25.1 The Heating, Ventilation and Air Conditioning (HVAC) climate control system shall be capable of maintaining the interior of the bus at the temperature and humidity levels defined in the following paragraphs. The HVAC unit shall be low profile roof mounted. Accessibility and serviceability of minor components shall be provided without need to climb up on roof of the bus. The HVAC unit shall meet and/or exceed the most stringent U.S. standards, and uses HFC 134A.

2.25.2 The proposed system **must** be capable of passing the Florida Department of Transportation Air Conditioning Pull-Down Performance Test, Version 6 (see Exhibit 5).

2.25.3 Air circulation shall be high volume with low velocity to provide draft-free comfort.

2.25.4 All hoses shall be routed and secured in such a way that they will not rub or chafe. Routing of these hoses shall not interfere with the access of routing maintenance items such as dip-sticks, air filters, or access doors. When routing hoses under the coach the hoses shall be run in a straight line and

shall be secured with rubber or plastic coated p-clamps every 12 inches. Refrigerant hoses shall be a refrigerant type double braided barrier construction. Refrigerant fittings shall be “Quick Click” or equivalent. Hoses and fittings must be qualified to SAE specification J2064.

2.25.5 The proposer shall describe the air conditioning unit and the related components that they intend to furnish to meet the performance requirements described in FDOT Air Conditioning Performance Test Version 7. Passenger area cooling must achieve a minimum 70 degree Fahrenheit interior temperature or lower with an empty coach within a maximum of 30 minutes while maintaining an ambient temperature of 95 degrees Fahrenheit with 60% relative humidity. The voltage readings at the batteries cannot fall below 12.9 volts at any time during the performance test.

2.25.6 The front heater shall include a means to defrost the windshield and driver's windows in accordance with FMVSS-103. There shall be a separate control to give heat to the driver's foot area.

2.25.7 Passenger area heating must achieve a 65 degree interior temperature with an empty coach when the ambient temperature is 20 degrees Fahrenheit within 45 minutes (measured at thirty inches above the floor at the standee line, at the center of the passenger area and twelve inches from the rear wall of the passenger area). Any additional heater(s) required to accomplish this performance standard shall be mounted at the manufacturer's standard location/s to produce an even interior temperature.

2.25.8 There shall be shut-off valves in the heater piping located underneath the bus and easily accessible to permit the water circulation to the heaters to be shut off during hot weather. In the event a booster/auxiliary pump is used to meet the above performance standard, the auxiliary heater valve shall be automatically controlled only. If a booster/auxiliary pump is installed to meet the above standard (2.1.23.7), there shall be no manual cut-off valves installed.

2.26.9 Any booster/auxiliary pump installed shall have neither seals nor brushes.

2.25.10 Heater hoses shall be of top quality silicon material. Hose clamps shall be constant torque type.

2.25.11 Hoses shall be protected and supported by approved clips at all locations where they are close to or pass through metal frame members to prevent chafing. Hoses shall be shielded against heat at any location where they pass over or near any part of the exhaust system.

2.25.12 Interior air flow and temperature distribution shall be uniform to the extent practicable to prevent hot and/or cold spots and depending upon command

from sensors. The temperatures between any two points in the passenger compartment, 6 inches above the floor to 72 inches above the floor shall not vary more than 5 degrees F. with doors closed. The interior temperature, from the front of the bus to the rear of the bus, shall not vary more than +/- 5 degrees F. from average temperature determined by measurement made in accordance to APTA Recommended Instrumentation and Performance Testing for Transit Bus Air Conditioning.

2.25.13 The HVAC system shall be centrally controlled with an advanced computerized electronic/diagnostic control system with provisions for extracting/reading data, and includes an A/C Stop indicator for status display to the operator.

## 2.26.0 COMPRESSED AIR SYSTEM

2.26.1 A compressed air system is to be provided and the air compressor shall be a Wabco single cylinder compressor provided by Cummins, or approved equal, with a capacity of 18.7 cu. ft. per minute. The air system shall be capable of operating all accessories, the braking system, and the suspension system, with an adequate reserve capacity. The engine gear driven air compressor shall be sized to charge the air system from eighty-five (85) psi to 100 PSI while not exceeding the maximum recommended engine RPM within the time frame required by FMVSS 121.

2.26.2 The air system shall consist of four (4) cylindrical air reservoirs with a minimum capacity of 4300 cubic inches and located between the chassis rails with two (2) reservoirs dedicated to operate the front and rear brake system. All reservoirs shall be equipped with bottom mounted Apollo type drain valves. The total volume of the air reservoirs dedicated to the brake system shall be equal to twelve (12) times the total volume of all service brake chambers as required by FMVSS 121. Reservoirs shall be sloped toward the drain valve.

2.26.3 The air system shall be equipped with a Bendix-Westinghouse AD-9 DLU, or approved equal, dryer with integral heated moisture ejector. The air dryer shall be vertically mounted with an easily replaceable desiccant cartridge and a thermostatically controlled electric heater element shall be provided. It shall

include automatic drain and purge, and be cleanable through the bottom. The air dryer shall meet the volume requirements of the air compressor and shall meet all FMVSS 121 and SAE Standard J10 requirements.

2.26.4 The third reservoir shall be considered the "wet tank" and shall supply all systems with air and act as a reserve for all systems. The accessory air system shall be supplied from the fourth protected air reservoir. The reservoir system is equipped with a low-pressure protection valve set at 65 PSI.

2.26.5 The Bendix-Westinghouse D-2 air governor, or approved equal, shall be mounted at the rear of the coach for easy maintenance near the compressor for shop service.

2.26.6 Air lines shall be nylon-tubing, color coded and routed for maximum protection and serviceability. All component fittings shall be installed for maximum serviceability from the underneath side. Air lines, except necessary flexible lines, shall conform to the installation and material requirements of SAE Standard J1149 for copper tubing with standard, brass, flared or ball sleeve fittings, or SAE Standard J844 for nylon tubing if not subject to temperatures over 200 degrees F. Nylon tubing shall be installed in accordance with the following color-coding standards:

**Green:** Indicates primary brakes and supply
**Red:** Indicates secondary brakes
**Brown:** Indicates parking brake
**Yellow:** Indicates compressor governor signal
**Black:** Indicates accessories

2.26.7 All air pressure, switches to activate the stop light and parking lights shall be mounted on a manifold panel along with brake and throttle interlock valves and located in the forward most position of the coach, easily accessible by opening a front access panel.

2.26.8 Air for the compressor shall be filtered through the main engine air cleaner system. The air system shall be protected by a pressure relief valve set at 150 psi and shall be equipped with check valve and pressure protection valves to assure partial operation in case of line failures.

2.26.9 Line supports shall prevent movement, chaffing, flexing, tension strain, and vibration. Stainless Steel lines shall be supported to prevent the lines from touching one another or any component of the bus. To the extent practicable and before installation, the lines shall be pre-bent on a fixture that prevents tube flattening or excessive local strain. Copper lines shall be bent only once at any point, including pre-bending and installation. Rigid lines shall be supported at no more than 5-foot intervals. Nylon lines may be grouped and shall be supported at 2-foot intervals or less.

2.26.10 The compressor discharge line between power plant and body-mounted equipment shall be flexible convoluted copper or stainless steel line, or may be flexible Teflon hose with a braided stainless steel jacket. Other lines necessary to maintain system reliability shall be SAE 100R14 hose. End fittings shall be standard SAE or JIC brass or steel, flanged, swivel type fittings. Flexible hoses shall be as short as practicable and individually supported. They shall not touch one another or any part of the bus except for

the supporting grommets. Flexible lines shall be supported at 2-foot intervals or less. Air lines shall be clean before installation and shall be installed to minimize air leaks.

2.26.11 All air lines shall be sloped toward a reservoir and routed to prevent water traps. Grommets or insulated clamps shall protect the air lines at all points where they pass through understructure components. A standard shop air quick disconnect fitting shall be conveniently located in the engine compartment.

## 2.27.0 SUSPENSION SYSTEMS

2.26.1 Both front and rear suspension shall be Ridewell, or approved equal, full air spring type using rolling lobe air springs. All bushings in both front and rear suspension, to include both torque and lateral control arms, will be a lube free design. All the thrust washers in both the front and rear suspension shall be steel with a Teflon coating to prevent squeaking.

2.26.2 The front suspension shall utilize four (4) air springs per axle controlled by one (1)-leveling valve. This suspension shall be a trailing arm parallelogram design utilizing bar pin style bushings and is shim adjustable to provide positive axle alignment. The front suspension shall be dampened by two (2) heavy-duty double-acting shock absorbers. Lateral movement will be controlled by lateral sway bar.

2.26.3 The rear suspension shall utilize four (4) air springs per axle controlled by two (2)-leveling valves. This suspension shall be a parallelogram design utilizing rubber bushed eccentric bolts to provide positive axle alignment. The rear suspension shall be dampened by two (2) heavy-duty double-acting shock absorbers. One (1) lateral control sway bar will control axle movement.

2.26.4 The suspension system shall offer superior ride and handling. The suspension system shall be designed to last the life of the bus without major overhaul or replacement. Floor height above axles remains constant regardless of load up to GVWR.

2.26.5 Adequate travel of 3" in rebound and 3.5" in jounce shall be provided to allow for proper suspension function and kneel. Ride height shall be held constant regardless of load up to rated GVWR. Jounce bumpers are provided to limit maximum jounce. Koni five position adjustable shock absorbers (or approved equal) shall be provided to assure the smoothest control possible.

2.26.6 The bus shall kneel at the entrance doorway a minimum of 3" to enable

boarding/deboarding by elderly, or physically challenged patrons. A brake and throttle interlock shall prevent movement when the bus is kneeled. The Kneel control shall be disabled when the bus is in motion. The bus shall kneel at a maximum rate of 1.25 inches per second at essentially a constant rate. After kneeling, the bus shall rise within 2 seconds to a height permitting the bus to resume service and shall rise to the correct operating height within 7 seconds regardless of load up to GVWR. During the lowering and raising operation, the maximum acceleration shall not exceed 0.2g and the jerk shall not exceed 0.3g/sec. An indicator visible to the driver shall be illuminated until the bus is raised to a height adequate for safe street travel. An audible warning alarm shall sound simultaneously with the operation of the kneeling device to alert passengers and bystanders. A minimum 2.5" diameter, amber lens, warning light mounted near the curbside of the front door shall be provided that will blink when kneel feature activated and throughout operation. Kneeling shall not be operational while the wheelchair lift is deployed or in operation. Kneeling shall be operational with a wheelchair ramp at the operator's discretion.

2.26.7 Vertical damping of the suspension system shall be accomplished by utilizing five-position adjustable hydraulic shock absorbers mounted to the suspension arms or axles and attached to an appropriate location on the chassis. Damping shall be sufficient to control coach motion to 3 cycles or less after encountering rough road pavement. Shock absorbers shall maintain their effectiveness for at least 50,000 miles in normal service. The shock absorber bushing shall be made of elastomeric material that will last the life of the shock absorber.

2.26.8 All elements of steering, suspension, and drive systems requiring scheduled lubrication shall be provided with grease fittings conforming to SAE Standard J534. These fittings shall be located for ease of inspection, and shall be accessible with a standard grease gun without flexible hose end from a pit or with the bus on a hoist. Each element requiring lubrication shall have its own grease fitting with a relief path. The lubricant specified should be standard for all elements on the bus serviced by standard fittings.

## 2.27.0 FUEL TANK

2.27.1 The aluminized steel fuel tank shall be securely mounted to the bus to prevent movement during bus maneuvers, but shall be capable of being removed and reinstalled by a skilled mechanic for cleaning or replacement in 1.5 hours or less. The fuel tank shall be designed so that all fuel shall flow to the lowest point of the fuel tank. The fuel tank capacity shall be a minimum of 75 usable U.S. gallons. The fuel tank shall be equipped with an external, hex head, brass drain plug. It shall be at least a 3/8" size and shall be located at the lowest point of the tank. The fuel tank shall have an inspection plate or

easily removable filler neck to permit cleaning and inspection of the tank without removal from the bus. The tank shall be baffled internally to prevent fuel-sloshing noise regardless of fill level. The baffles or fuel pickup location shall assure continuous full power operation on a 6 percent upgrade for 15 minutes starting with no more than 25 gallons of fuel over the usable amount in the tank. The bus shall operate at idle on a 6 percent downgrade for 30 minutes starting with no more than 10 gallons of fuel over the unusable amount in the tank. The capacity, date of manufacture, manufacturer name, location of manufacture, and certification of compliance to Federal Motor Carrier Regulation shall be permanently marked on the fuel tank. The markings shall be readily visible from the fuel filler access door and shall not be covered by an undercoating material.

2.27.2 The filler shall accommodate a 1-1/2-inch diameter nozzle and fill rate of not less than 20 gallons per minute of foam-free fuel without spitting back or causing the nozzle to shut off before the tank is full. The fuel filler shall be located behind the centerline of the bus. The filler cap shall twist/screw on to the fuel filler neck and must be chained to the bus body to prevent its loss. The fuel filler neck shall be equipped with a pressure relief vent and level control. A filler whistle shall also be provided. Components known to meet these requirements include Emco-Wheaton G-1201-004, G-2256-003, and G 2257-005.

2.27.3 To accommodate existing refueling equipment, the fuel filler shall accommodate a nozzle that forms a locked and sealed connection during the refueling process to eliminate spills. Fuel shall not be allowed to flow into the tank unless the nozzle has been properly coupled, locked and sealed to the filler. With the nozzle open, fuel shall enter the tank at a fill rate of not less than 40 gallons per minute of foam-free fuel without causing the nozzle to shut off before the tank is full. The nozzle shall automatically shut off when the tank is essentially full. Once disconnected, fuel shall not be allowed to flow through the nozzle at any time. Any pressure over 3 psi shall be relieved from the fuel tank automatically. An audible signal shall indicate when the tank is essentially full

2.27.4 The fuel tank filler neck must be equipped with a poppet valve mounted internally of the fuel filler neck to prevent fuel splash back from the fuel tank. An audible signal shall indicate when the tank is essentially full.

## 2.28.0 SERVICEABILITY

2.28.1 The location for checking and adding fluids, or making adjustments to key components and systems, shall be located at the rear most point of the chassis, accessible through the large rear door. This location shall provide for exterior maintenance and service of engine coolant check and addition of coolant, engine oil check and addition of oil, transmission check and addition

of fluid, power steering reservoir check and addition of fluid, changing and priming fuel filter, servicing fuel-water separator and air governor adjustment with air quick disconnect valve for shop air service.

2.28.2 All systems that require periodic maintenance, as well as those failures that may result in Class 1 or Class 2 failures shall be designed for easy access, with a minimum requirement for the movement of unrelated components. As time to access is most important, components requiring frequent service are given first access priority; those components expected to rarely require service shall be assigned secondary priority.

## 2.29.0 FDOT PREFERRED BODY CONSTRUCTION

2.29.1 The body assembly shall be a modular design and shall be comprised of lightweight and corrosion resistant aluminum and composite materials. The body frame assembly shall be of modular bolt together aluminum construction. This type construction shall allow similar attachment of various body modules, as well as interior and exterior accessories and handrails, without the structural compromise or potential water leaks of drilled holes. Vertical and horizontal aluminum extrusion framing members shall be joined by a keyed aluminum casting with precision angles and using the bolted compression method. Drilled holes or welds shall not be used in joining these members.

2.29.2 The body frame shall be designed for rapid repair/replacement of frame members and panels located in the Strike Zone, an area on both sides of the bus from a level six inches below the windows to the ground level. A bolted, split pillar framing system, with strength equal to or greater than a single pillar, shall be provided so as to allow rapid repair and/or replacement of these members and their attached panels.

2.29.3 The body attachment to the chassis shall be directly to the chassis, with the main attachments in the heavy steel side impact section of the chassis. In order to achieve maximum strength, maximum durability, and close-tolerance alignment, all body attachments shall be by high strength steel treated bolts and shims as required. To prevent galvanic action between dissimilar metals, an insulating compound shall be used.

2.29.4 The bus 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 6-inch reduction in any interior dimension. Windows shall remain in place and shall not open under such a load. A test report shall be provided with each proposal. The bus shall withstand a 25-mph impact by a 4,000-pound automobile at any point, excluding doorways, along either side of the bus with no more than 3 inches of permanent structural deformation at seated

passenger hip height. This impact shall not result in sharp edges or protrusions in the bus interior. A test report from a third party testing company shall be provided with each proposal.

Exterior panels below 35 inches from ground level shall withstand a static load of 2,000 pounds applied perpendicular to the bus by a pad no larger than 5 inches square. This load shall not result in deformation that prevents installation of new exterior panels to restore the original appearance of the bus.

2.29.5 All joints shall be caulked and sealed at the time of construction to produce water and dust tight seal. In addition to the Federal Motor Vehicle Safety Standards (FMVSS) or the Advanced Design Bus (ADB) Crash worthiness Test requirements, the manufacturer shall also meet all applicable State of Florida Regulations in effect at the time of manufacture.

2.29.6 All dimensions, positioning of components, clearances, etc., shall be based on adult passengers.

2.29.7 All interior and exterior fiberglass reinforced plastic panels and assemblies shall meet the flammability protection requirement of FMVSS-302.

2.29.8 The passenger and engine compartments shall be separated by a bulkhead(s) that shall, by incorporation of fireproof materials in its construction, be a firewall. The engine compartment shall include areas where the engine and exhaust system is housed including the muffler, if mounted above the horizontal shelf. This firewall shall preclude or retard propagation of an engine compartment fire into the passenger compartment and shall be in accordance with the Recommended Fire Safety Practices defined in FTA Docket 90, dated October 20, 1993. Only necessary openings shall be allowed in the firewall, and these shall be fireproofed. Any passageways for the climate control system air shall be separated from the engine compartment by fireproof material. Piping through the bulkhead shall have copper, brass, or fireproof fittings sealed at the firewall with copper or steel piping on the forward side. Wiring may pass through the bulkhead only if connectors or other means are provided to prevent or retard fire propagation through the firewall. Engine access panels in the firewall shall be fabricated of fireproof material and secured with fireproof fasteners. These panels, their fasteners, and the firewall shall be constructed and reinforced to minimize warping of the panels during a fire that will compromise the integrity of the firewall.

2.29.9 The front and rear section (caps) shall be molded fiberglass installed to provide quick and low-cost body repair. The caps present a clean modern appearance that shall be easy to service and clean.

2.29.10 Wheel housings shall be constructed of corrosion-resistant, fire-resistant material. Wheel housings, as installed and trimmed, shall withstand impacts of a 2-inch steel ball with at least 200 foot-pounds of energy without penetration.

2.29.11 Features to minimize water spray from the bus in wet conditions shall be included in wheel housing design. Any fender skirts shall be easily replaceable. They shall be flexible if they extend beyond the allowable body width. Wheels and tires shall be removable with the fender skirts in place.

2.29.12 Each proposer's design will be evaluated by the TRIPS Committee against the FDOT preferred body construction.

## 2.30.0 PREFERRED FDOT FLOOR

2.30.1 Floor material shall be Composite material from Space Age Stealth Board or approved equal. Floor sections shall be secured to the body understructure using 1/4", Grade 5, phosphorus coated, countersunk, self-tapping screws, with large diameter load bearing washers. The rear exit step area shall be constructed of 12-ga. stainless steel and shaped to taper toward the door to reduce rear doorstep height. The entire floor shall be sanded so no seams are visible.

2.30.2 The floor deck shall be mounted on the structure securely to prevent chafing or horizontal movement and designed to last the life of the vehicle. Sheet metal screws shall not be used to retain the floor and all floor fasteners shall be serviceable from one side only. The use of adhesives to secure the floor to the structure shall be used only in combination with the use of bolt or screw fasteners and its effectiveness shall last throughout life of the coach. Tapping plates of 1/8" steel shall be used for the floor fasteners, and all floor fasteners shall be secured and protected from corrosion for the service life of the bus. The floor deck shall be reinforced as needed to support passenger loads. At GVWR, the floor shall have an elastic deflection of no more than 0.60 inches from the normal plane. The floor shall withstand the application of 2.5 times gross load weight without permanent detrimental deformation. Floor, with coverings applied, shall withstand a static load of at least 150 pounds applied through the flat end of a 2-inch- diameter rod, with 1/32-inch radius, without permanent visible deformation.

2.30.3 The floor shall be a continuous flat plane from the entrance door to the upper rear section, except at the wheel housings, and shall not interfere with passenger seating. Where the floor meets the walls of the bus the surface edges shall be blended with a circular section of radius not less than ¼".

2.30.4 The assembled floor, including the covering, sealant, and attachments, shall be waterproof, non- hygroscopic, resistant to mold growth, and impervious to

insects.

2.30.5 All interior panels shall be attached so there are no rough surfaces, or exposed edges. Fasteners shall be either, hidden, rivets, or tamper proof screws. No panel shall be easily removable by a passenger without knowledge and proper tools.

2.30.6 Access floor openings shall be minimized in this design. Any required openings shall have flush stainless trim and a shape that allows proper installation only in the right orientation, and shall be secured by flush fasteners.

2.30.7 The floor shall be essentially flat from the entrance door to just forward of the rear axle, and shall have two 8" step risers for easy access to the rear section. Headroom is not impacted.

2.30.8 After the chassis is fabricated it shall be coated utilizing a high-quality, water-based zinc-rich coating containing. The coating utilized shall exhibit superior corrosion protection to steel. The coating utilized shall protect steel from corrosion through “galvanic action”, similar to that associated with hot-dip galvanizing. The coating utilized shall be recognized to give corrosion protection far superior to standard automotive barrier primers and undercoats.

The interior of all box frame structures (tubing) shall be coated. The coating shall pass all the requirement of Military Specifications A-A-59295, MIL-C-62218, MIL-C-0082933 and SAE J1804.

2.30.9 Floor shall be covered with transit quality RCA rubber flooring, or approved equal. Aisle shall be 3/16" thick, ribbed. Under seat areas will be 1/8" smooth. Driver's area shall be covered with 1/8" smooth rubber. All step edges shall have yellow nosing. All joints shall be sealed to prevent moisture intrusion on to the sub floor. The floor covering shall turn up the wall to a point 11 inches from the floor and shall be trimmed.

2.30.10 A 2" white standee line shall extend across the bus aisle in line with the barrier to the rear of the driver and the front edge of the first door-side passenger seat, behind the front entrance area.

2.30.11 Proposals will be evaluated on proposed floor construction submitted compared to FDOT preferred floor construction.

## 2.31.0 INSULATION AND UNDERCOATING

2.31.1 Manufacturer shall propose insulation to be used including the R-factor of the insulation proposed. Insulation must not impede mechanics ability to perform

repairs to hoses or wiring.

2.31.2 The entire understructure shall be undercoated with an anti-corrosive Ziebart ZPR-1015-FR undercoating material (or approved equal). The entire underside of the coach chassis, body, wheel housings, rear step well, passenger and driver's areas shall be sealed with an application of minimum 1/8" thick undercoating.

2.31.3 Splash aprons, composed of 1/4-inch-minimum composition or rubberized fabric, shall be installed behind front wheels as needed to reduce road splash and protect under floor components. The splash aprons shall extend downward to within 3 inches of the road surface at static conditions. Apron widths shall be no less than tire widths, except for the rear apron, which may be sectional, and which shall extend across the width of the bus. Splash aprons shall be bolted to the bus understructure. Splash aprons and their attachments shall be inherently weaker than the structure to which they are attached. The flexible portions of the splash aprons shall not be included in the road clearance measurements. Other splash aprons shall be installed where necessary to protect bus equipment from road splash.

## 2.32.0 SERVICE COMPARTMENTS AND ACCESS DOORS

2.32.1 Interior access for maintenance and replacement of equipment shall be provided by panels and doors that appear to be an integral part of the interior. Removal of fixtures or equipment unrelated to the repair task shall be minimized. Access doors shall be hinged with props or over-center springs, where practical, to hold the doors out of the mechanic's way.

2.32.2 Access doors for the door actuator compartments shall be secured with hand screws or latches, and shall prevent entry of mechanism lubricant into the bus interior. All fasteners that retain access panels shall be captive in the cover.

2.32.3 Exterior access shall be provided by conventional hinged doors for the engine compartment and for all auxiliary equipment compartments including doors for access to the swing out battery tray, fuel tank and radiator/aftercooler. Access openings shall be sized for easy performance of tasks within the compartment including tool-operating space. Access doors shall be of rugged construction and shall maintain mechanical integrity and function under normal operations throughout the service life of the bus. They shall close flush with the body surface. All doors shall be hinged at the top or on the forward edge and shall be prevented from coming loose or opening during transit service or in bus washing operations. All access doors shall be retained in the open position by counterbalancing with over-center or gas-filled springs and shall be easily operable by one person. Springs and hinges shall be corrosion resistant. Latch handles shall be flush with, or recessed

behind, the body contour and shall be sized to provide an adequate grip for opening. Access doors, when opened, shall not restrict access for servicing other components or systems. The locks shall be standardized so that no tools are required or only one tool, a standard 5/16" square, shall be required to open access doors on the bus. At the front of the coach under the windshield there shall be a door utilizing flush latches to allow access to the windshield washer reservoir, driver's heater and air piping board. The door shall be hinged on the bottom and swings down and rest against a stop to allow easy servicing of components.

2.32.4 Rain gutters shall be provided over the entrance, exit doors and driver's side window to prevent water from flowing onto passengers.

## 2.33.0 BUMPER SYSTEM

2.33.1 The bumpers shall provide impact protection for front and rear of the bus up to 26" above the street. The bumpers shall wrap around the bus to the extent practical without exceeding allowable width.

2.33.2 **FRONT BUMPER:** No part of the bus, including the bumper, shall be damaged as a result of a 5-mph impact of the bus at curb weight with a fixed, flat barrier perpendicular to the bus longitudinal centerline. The bumper shall return to its pre-impact shape within 10 minutes of the impact. The bumper shall protect the bus from damage as a result of 6.5 mph impacts at any point by the Common Carriage with Contoured Impact Surface defined in Figure 2 of FMVSS 301 loaded to 4,000 pounds parallel to the longitudinal centerline of the bus and 5.5-mph impacts into the corners at a 30 degree angle to the longitudinal centerline of the bus. The energy absorption system of the bumper shall be independent of every power system of the bus and shall not require service or maintenance in normal operation during the service life of the bus. The bumper may increase the overall bus length specified by no more than 6 inches. Bumpers may be painted to match the coach color.

2.33.3 **REAR BUMPER:** No part of the bus, including the bumper, shall be damaged as a result of a 2-mph impact with a fixed, flat barrier perpendicular to the longitudinal centerline of the bus. The bumper shall return to its pre-impact shape within 10 minutes of the impact. When using a yard tug with a smooth, flat plate bumper 2 feet wide contacting the horizontal centerline of the rear bumper, the bumper shall provide protection at speeds up to 5 mph, over pavement discontinuities up to 1 inch high, and at accelerations up to 2 mph/sec. The rear bumper shall protect the bus, when impacted anywhere along its width by the Common Carriage with Contoured Impact Surface defined in Figure 2 of FMVSS 301 loaded to 4,000 pounds, at 4 mph parallel to, or up to a 30 degree angle to, the longitudinal centerline of the bus. The

rear bumper shall be shaped to preclude unauthorized riders standing on the bumper. The bumper shall be independent of all power systems of the bus and shall not require service or maintenance in normal operation during the service life of the bus.

2.33.4 Bumper material shall be corrosion-resistant and withstand repeated impacts of the specified loads without sustaining damage. Visible surfaces shall be black or color -coordinated with the bus exterior. These bumper qualities shall be sustained throughout the service life of the bus.

2.33.5 Towing devices shall be provided on each end of the bus. Each towing device shall withstand, without permanent deformation, tension loads up to 1.2 times the curb weight of the bus within 20 degrees of the longitudinal axis of the bus. The rear towing device(s) shall not provide a toehold for unauthorized riders.

2.33.6 The front towing devices shall allow attachment of adapters for a rigid tow bar and shall permit lifting and towing of the bus, at curb weight, until the front wheels are clear off the ground. Towing device should accommodate flat bedding. The rear tow eyes shall permit towing of the bus for a short distance, such as in cases of an emergency. Each towing device shall accommodate a crane hook with a 1-inch throat.

2.33.7 There shall be a quick disconnect air fitting provided in the front and rear of the coach to charge the air system while towing.

## 2.34.0 ENTRY DOOR

2.34.1 The forward entrance door shall be forward of the front axle and shall be of a twinleaf slider design, with a clear opening of 34" minimum. Glass area shall be maximum area practical, and glass shall have a gray single density tint and 73% light transmission. Doors and fittings shall be of durable and corrosion resistant materials.

2.34.2 Door mechanism shall be Peter's Door (or approved equal) and control shall be by a two position pneumatic switch mounted left and forward of the operator and adjacent to the 4-way hazard switch, so that both can be activated by the driver’s left hand without searching for each switch.

2.34.3 The single forward door shall be pneumatically activated, compressed air design with a two position system. Full opening or closing cycle shall be adjustable from 1 to 3 seconds of operator's control activation. Operation of and power to, the passenger door shall be completely controlled by the operator by the actuation of an open and a close push button switch located to the right of the driver, on the drivers dash panel. Door actuators shall be adjustable so that the door opening and closing speeds can be independently

adjustable to satisfy the requirements. Actuators and the complex door mechanism shall be concealed from passengers but shall be easily accessible for servicing. A compressed air dump valve near the operator shall allow manual operation.

2.34.4 A master door switch not within reach of the seated operator when set in the "OFF" position shall close the doors, deactivate the door control system, release the interlocks, and permit only manual operation of the doors.

2.34.5 No more than a 10 pound force shall be imposed on a one square inch area of any passenger struck by a closing door. A maximum force of 35 pounds shall be required for a passenger to free himself/herself after having door close upon him/her, even if the sensitive edge or safety device is inoperative.

2.34.6 A door interlock signal shall be required for brake control if the intended use of vehicle is for paratransit service. The door system shall be interlocked with the brake and accelerator to stop the coach when doors open or prevent the coach from being operated while the door is open. A zero (0) motion detector shall be provided that will prevent the doors from opening prior to the vehicle coming to a complete stop. This system is not required if the intended use of the bus is for fixed-route service. For either service requirement, this shall be required for the door utilized for wheel chair lift or ramp when lift/ramp is in activated.

2.34.7 Forward entrance/exit door on curbside shall be of a twinleaf slider design. The clear opening inside grab rails shall be at least 34" wide and at least 80" high. Mating edges shall be of the overlapping type and provide a minimum of 4" between door edges. The leading edge of each door shall be equipped with extruded rubber safety sensitive edge to reverse the door closing cycle when obstructed.

2.34.8 Entry doors shall incorporate gaskets and/or seals to provide a barrier against intrusion by wind, water, dust, around their perimeter. The seal at the center of the door shall be by means of full height overlapping rubber seals, and shall include a barrier or sweep at the bottom of both doors.

2.34.9 In the event of an emergency, it shall be possible to open the door manually from inside the bus using a force of no more than 25 pounds after actuating an unlocking device at the door. The unlocking device shall be clearly marked as an emergency-only device and shall require two distinct actions to actuate. The respective door emergency unlocking device shall be accessible from the door area. When this emergency device is actuated, the door interlock throttle system shall return the engine to idle and the door interlock brake system shall apply to stop the bus.

2.34.10 Locked doors shall require a force of more than 100 pounds to open

manually. When the locked doors are manually forced to open, damage shall be limited to the bending of minor door linkage with no resulting damage to the doors, engines, and complex mechanism.

## 2.35.0 WHEELCHAIR RAMP

2.35.1 A wheelchair ramp, if proposed, shall be an automatically-controlled, power-operated ramp system, compliant to requirements defined in 49 CFR Part 38, Subpart B, §38.23c

2.35.2 The front or rear door shall be equipped with a Lift-U, model LU-11, fully automated, fold-over electric ramp. The ramp effective length shall be a minimum 70 inches and 30" wide with a capacity of 660 lbs. Ramp deployment shall interlock brakes and throttle.
**Submit pricing of ramp.**

The front or rear door shall be equipped with a Braun, model RA400 ramp, the ramp shall be fully electric-hydraulic powered, 180 degree fold mechanism. The ramp shall be a minimum 32" wide and 660 lbs capacity. Ramp deployment shall interlock brakes and throttle.
**Submit pricing of ramp.**

2.35.3 The ramp controls shall be of simple yet durable design to be controlled by the seated operator. The design shall allow for easy pullout manual operation, and shall be fully ADA compliant.

## 2.36.0 WHEELCHAIR LIFTS

2.36.1 The lift, its design, installation and operation, if proposed, shall comply with the Americans with Disabilities Act (ADA), Regulations and Requirements, as amended (Title 49 Code of Federal Regulations, Part 38, Subpart B, Section 38.23) and 49 CFR Part 571, and Florida Rule Chapter 14-90 [Equipment and Operational Safety Standards Governing Public-Sector Bus Transit Systems]. *General guidance for lifts is provided below. Omission in this guidance does not relieve proposer from compliance requirements of the ADA or Florida Statue – Chapter 14-90.*

2.36.2 Vehicle shall be equipped with a fully automatic wheelchair lift mounted on the curbside of the vehicle, accessible via access doors. The lift door on the right side of the vehicle shall have a 68" minimum entryway and 44" width. The lift mechanism shall be designed to also provide a minimum 68" clearance. The lift shall be mounted so as not to detract from the structural integrity of the vehicle. The lift gate shall be of heavy-duty frame design. The wheelchair

entrance door shall be open swinging type with window. Manufacturer shall provide with bid package a detailed description of the method of attachment of door surround to the body cage. The outer edges of the wheelchair access doors shall be weather-stripped with a continuous strip to provide a watertight seal. A spring type, not cylinder, mechanism for opening and closing the door shall be installed. These springs shall be capable of holding the door in the fully open position when the lift is in use. The wheelchair lift shall be installed using the instructions and hardware provided by the lift manufacturer. A minimum of four (4) support bars installed underneath the floor are required.

2.36.3 The lift shall have a self-cleaning, see through; non-skid platform (minimum 32" wide) which shall fold and unfold. The lift shall have provision for manual operation in the event of a power failure so that the platform can be operated. Lift shall be a RICON Model S5510 or Klear-View, Braun Model NCL919IB-2, or Maxon Model WL-6A3353, with the agency given the option of selection. A Ricon Klear-View lift or Braun model VL917IB may be used as a rear door lift upon obtaining written approval from FDOT. Such request shall be submitted in writing by the agency requesting the rear lift. The useable platform space must be fully maintained in operation from ground surface to provide a minimum 5 inch barrier to prevent the wheelchair from rolling off the lift during operation. If the hinged barrier is automatically activated, it must be designed to allow for manual operation. A barrier at least 4 inches high shall also be provided on each side of the platform to prevent wheelchairs from rolling over the side edges.

2.36.4 The lift components, including the platform, shall be easily disassembled to facilitate repairs and replacement of parts.

2.36.5 An audible warning signal shall be activated in the vehicle in the event that the lift doors are opened and the interlock is not engaged.

2.36.6 The lift shall be capable of being used from curb level or ground level. The design load of the lift shall be 600 pounds or greater. The lift platform shall be capable of being raised or lowered with a load in no more that 24 seconds. All power units, operating joints, linkages and mounting points to the body shall be certified by the manufacturer as being adequate for the loading. The operation of the unit shall provide a smooth, jerk-free ride in both up and down directions.

2.36.7 Lift power unit will be provided with a master cut-off switch. Power unit shall be 12-volt electro/hydraulically operated and shall be readily accessible for servicing. In the event of a power failure, the lift platform must be able to be manually raised and lowered with and without passengers.

2.36.8 The system control valve shall be solenoid controlled and shall be eternally mounted for easy maintenance.

2.36.9 A secure collapsible guard rail shall be provided on both sides of the lift platform. The rail shall be at approximate arm level for use by wheel chair patrons yet tall enough to be easily grasped by a person standing on the platform. The rail must stow completely within the lift platform and not interfere with the interior space and must be permanently attached to the lift platform. Precautions must be taken to prevent movement and rattling of both the lift and guard rail while in the stowed position.

2.36.10 Gravity down shall also be controlled by a manual hand valve in the event of electric power loss. All sliding surfaces and load bearing pivot points must be free of exposed grease and constructed with replaceable bearings.

2.36.11 The platform shall fold into the door area for storing while not in use. Lift in stored position shall be adequately restrained in to prevent the lift form coming adrift while the vehicle is in motion. The side and top frame of the lift intruding into the body shall be properly padded to protect passengers from bodily injury.

2.36.12 The lift controls shall be completely weather proof and labeled as to function. This cord shall be encased in flexible metal casing protecting it from being caught in the door or in other moving parts. A hang-up box or hook shall be provided on the inside of the lift door in a manner that will prevent accidental or unauthorized use. Each control switch for deploying, lowering, raising and stowing the lift and lowering the roll-off barrier shall be of a momentary contact type requiring continuous manual pressure by the operator.

2.36.13 A strip of 3-inch reflective tape shall be added to the outer edge of the lift platform side barrier and shall run the full length of the side barriers.

2.36.14 All lift manufacturers or installers shall legibly and permanently mark each wheelchair lift assembly with the following minimum information in a location easily visible without deploying the lift:

1. The manufacturers name and address.
2. The month and year of manufacture.
3. A certificate that the wheelchair lift and installation conforms to State of Florida requirements applicable to accessible vehicles.
4. The vehicle manufacturer shall affix a label to each wheelchair lift installed verifying that the manufacturer has physically inspected each lift and each lift meets the technical specifications described in 49 CFR PART 38 Accessibility Specifications for Transportation Vehicles, Section 38.23 Mobility Aid Accessibility.
5. All labels described above shall be affixed to the wheelchair lift in such a manner that each is visible to inspection in the stowed position.

## 2.37.0 SECUREMENT DEVICES

2.37.1 Securement devices, their design, installation and operation shall comply with The Americans With Disabilities Act (ADA), Regulations and Requirements as Amended (Title 49 Code of Federal Regulations, Part 38, and Subpart B. Section 38.23) and 30MPH/20G Impact Test Criteria Per SAE J2249. *General guidance for securement devices is provided below. Omission in this specification does not relieve the proposer from compliance requirements of the ADA and SAE J2249.*

2.37.2 In vehicles with securement device or system, the wheelchair or mobility aid, shall face toward the front of the vehicle.

2.37.3 Retractors shall be heavy duty with heat treated components and a metal or impact resistant plastic housing. Retractors shall be the Q'Straint QRTMAX, or approved equal.

2.37.4 The retractor shall be complete with four retractor straps for securing the wheelchair or mobility aid and two retractors for the occupant restraint system.

2.37.5 The wheelchair mobility aid retractors shall not be equipped with manual tension knobs.

2.37.6 The wheelchair or mobility aid retractors shall be equipped with "S" or "J" hooks to simplify operation.

2.37.7 The occupant restraint system shall be equipped with a height adjuster for the shoulder belt, having a vertical adjustment of approximately 12 inches.

2.37.8 The tie-down system shall be able to secure a standard wheelchair or mobility aid in less than 10 seconds. A set of "quick straps" are to be provided at each station.

2.37.9 The retractor securement system shall meet the following requirements:

1. 30MPH/20G impact test criteria per SAE J2249, and
2. 49 CFR Part 38 Americans with Disabilities Act (ADA).

2.37.10 The occupant restraint system shall meet the following requirements when used in conjunction with the retractor system:

+Federal Motor Vehicle Safety Standards (FMVSS209 & FMVSS302)
+49 CFR Part 38 Americans with disabilities Act (ADA), and
+30MPH/20G impact test criteria SAE J2249.

## 2.38.0 EMERGENCY EXIT

2.38.1 Hinge-out windows shall be installed for emergency escape. Emergency escape windows shall comply with FMVSS-217.

2.38.2 Emergency escape windows shall be clearly labeled and operation instruction shall be clearly visible at each escape window. The emergency release handle (or bar) shall meet FMVSS-217 requirements and shall not return to the locked position automatically: it shall require the driver or other authorized person to manually re-lock it. ***All emergency exits must comply with F.A.C. 14-90.***

2.38.3 Each emergency exit shall be identified with a 12 VDC red lamp assembly with a 10,000 hour life bulb wired to the vehicle ignition circuit. This system, along with window signage, shall provide passengers with a clear understanding of exit routes.

2.38.4 For standardization purposes all vehicles shall be equipped with a Specialty Manufacturing Pro-Lo (or approved equal) roof hatch equipped with both an internal and external operating handle. Hatch shall open from rear toward the front.

## 2.39.0 SASH AND GLASS

2.39.1 The windshield shall be one piece, without a center pillar, allowing for a full-unobstructed view. The windshield shall permit an operator's field of view as referenced in SAE Recommended Practice J1050. The vertically upward view shall be a minimum of 15 degrees, measured above the horizontal and excluding any shaded band. The vertically downward view shall permit detection of an object 3-1/2 feet high no more than 2 feet in front of the bus. The horizontal view shall be a minimum of 90 degrees above the line of sight. Any binocular obscuration due to a center divider may be ignored when determining the 90-degree requirement, provided that the divider does not exceed a 3-degree angle in the operator's field of view. Windshield pillars shall not exceed 10 degrees of binocular obscuration. The windshield shall be designed and installed to minimize external glare as well as reflections from inside the bus.

2.39.2 The windshield shall be easily replaceable by removing zip-locks from the windshield retaining moldings. Bonded-in-place windshield shall not be used. The windshield glazing material shall have a 1/4-inch or 6-mm nominal thickness laminated safety glass conforming to the requirements of ANSI Z26.1 Test Grouping 1A and the Recommended Practices defined in SAE J673.

2.39.3 A sun visor shall be provided and located in a recessed area above the driver's side windshield.

2.39.4 Each side window except the side destination side window shall be a tip in transom type. The transom shall be between 25 and 35 percent of the total window area. The lower portion of the window shall be fixed. The transom portion shall be hinged along the lower edge and open inward. Side windows glazing material shall have a 1/4-inch nominal thickness, AS 3, 28% density, blue/gray laminated safety glass. The material shall conform to the requirements of ANSI Z26.1 Test Grouping 2 and the Recommended Practices defined in SAE J673.

2.39.5 The operator's side window shall open sufficiently to permit the seated operator to easily adjust the street side outside rearview mirror. This window section shall slide rearward in tracks or channels designed to last the service life of the bus. The operator's side window shall not be bonded in place and shall be easily replaceable. The glazing material shall have a single density tint.

2.39.6 The operator's side window glazing material shall have a 1/4-inch nominal thickness laminated safety glass conforming to the requirements of ANSI Z26.1 Test Grouping 2 and the Recommended Practices defined in SAE J673.

2.39.7 A rear window, if proposed, shall be with a minimum of 2,000 square inches glass area shall be provided. The rear window shall be glazed with the same material (including anti-vandalism provision if required) and tint as side windows. The glazing may, if required, be set in rubber channels or be push out type to meet FMVSS requirements. If push out type, it shall be one-piece, rugged sash design.

2.39.8 The use of transit quality, scratch resistant plastic glazing material is acceptable in side windows and rear end windows; excluding windshield and driver's windows. Glazing material shall be in accordance with the latest version of ANSI - Z26.1, Safety Code for Safety Glazing Materials for Glazing Motor Vehicles Operating on Land Highways. Glass must be AS-2 tempered. Glass grade shall be visible on each window pane.

## 2.40.0 SEATING

2.40.1 A Recaro Model Ergo Metro air ride driver's seat, or approved equal, shall be provided in black transit quality vinyl. The standard seat shall have a pneumatic suspension system with two (2) shock absorbers. The side bolsters shall be adjustable with dual side manual recliner. The lumbar will be

a three (3) cell pneumatic system and the seat cushion will have a manual tilt adjustment. The seat shall adjust fore and aft with 9.05" travel. The steel riser base shall be painted color coordinated with the driver's floor covering and seat color selection.

Proposers will make available and price separately the following driver seat options: USSC Model 9100 ALX and the USSC 9100 ALX.-3 (Shoulder Belt).

2.40.2 All passenger seats shall be the American Seating Company "6468", or approved equal, Fiberglass shell with VR50 (vandal-resistant) inserts, cantilevered carbon steel frames and hardware; coated grab handles; thermo-formed plastic backs; supplied with the Advanced Restraint Module (ARM) and Q-Straint inserts shall be an option for the 6468 seats. All floor plans shall accommodate as many forward facing seats as possible. ***Proposer shall submit copies of all floor plans with proposal*.**

2.40.3 The contractor shall provide and install sign(s), which indicate that seats in the front of the vehicle are priority seats for persons with disabilities, and that other passengers should make such seats available to those who wish to use them. Each securement location shall have a sign designating it as such.

## 2.41.0 INTERIOR FINISH

2.41.1 The interior shell shall be designed to provide a pleasing aesthetic appearance designed to resist debris collection and wear and tear. All coves and corners shall be finished in a manner that precludes the accumulation of debris, permit easy cleaning, and presents a clean appearance. The materials used shall be color impregnated, not painted.

2.41.2 Materials shall be selected on the basis of maintenance, durability, appearance, safety, flammability, and tactile qualities. Trim and attachment details shall be kept simple and unobtrusive. Materials shall be strong enough to resist everyday abuse and vandalism; they shall be resistant to scratches and markings. Interior trim shall be secured to avoid resonant vibrations under normal operational conditions.

2.41.3 Sidewall panels below the windows shall be constructed of color coordinated panels and retained by color coordinated plastic moldings.

2.41.4 The ceiling material shall be color coordinated. Formed material shall be supported as required to prevent buckling, drumming, or flexing, and shall be secured without loose edges.

2.41.5 Ceiling shall be designed to appear as if entire interior is a single, molded, color matched, component.

2.41.6 The entire front end of the bus shall be sealed to prevent debris accumulation behind the dash and to prevent the operator's feet from kicking or fouling wiring and other equipment. The front end shall be free of protrusions that are hazardous to passengers standing or walking in the front of the bus during rapid decelerations. Paneling across the front of the bus and any trim around the operator's compartment shall be formed metal, composite, or plastic material. Formed fiberglass dash panels shall be painted and finished to reduce glare. Plastic dash panels shall be reinforced, as necessary, vandal-resistant, and replaceable. All colored, painted, and plated parts forward of the operator's barrier shall be finished with a dull matte surface to reduce glare.

2.41.7 The rear bulkhead and rear interior surfaces shall be material suitable for exterior skin, painted and finished to exterior quality, or paneled with melamine-type material, plastic, or carpeting and trimmed with stainless steel, anodized aluminum, or plastic.

2.41.8 Headroom above the aisle and above all aisle seats shall exceed 74".

2.41.9 A 6" thick driver's barrier shall be provided behind the driver and shall house most of the electrical system control components. The barrier shall extend from the ceiling, down the roadside sidewall to the wheel housing, to prevent passengers from reaching to the driver or his/her personal effects. Barrier shall be of a sturdy Transmatic Transform material with a finish that will reduce windshield glare and reflections during nighttime operation.

2.41.10 Sturdy composite divider panels constructed of durable, unpainted, corrosion-resistant material complementing the interior trim shall be provided to act as both a physical and visual barrier for seated passengers. Modesty panels shall be located at doorways to protect passengers on adjacent seats, and along front edge of rear upper level. Design and installation of modesty panels located in front of forward facing seats shall include a handhold/grab handle along its top edge. These dividers shall project toward the aisle no farther than passenger knee projection in longitudinal seats or the aisle side of the transverse seats. Modesty panels shall extend no higher than the lower daylight opening of the side windows and those forward of transverse seats shall extend downward to a level between 4-8 inches above the floor. Panel’s forward of longitudinal seats shall extend to below the level of the seat cushion. Dividers positioned at the doorways shall provide no less than a 1-inch clearance between the modesty panel and the opened door to protect passengers from being pinched. Modesty panels installed at doorways shall be equipped with grab rails. The modesty panel and its mounting shall withstand a static force of 250 pounds applied to a four-inch by four-inch area in the center of the panel without permanent visible deformation.

2.41.11 All materials must comply with FMVSS-302.

2.41.12 A metal builder's plate shall be installed on the inside of the front of the bus, listing the manufacturer's name, bus and chassis model, serial number and date of manufacture. The plate shall be installed with permanent fasteners. Include a FMVSS sticker in addition to the builder's plate

2.41.13 Interior decals such as, but not limited to the following, "*Stand Behind White Line"," No Smoking, Eating or Drinking", " Exit Door"," Emergency Exit", "Watch Your Step", Wheelchair instructions, "Priority Seating" and "Reserved for Wheelchairs,"* etc. shall be provided. All decals shall be in English. All decals shall conform to FAC 14-90.

## 2.42.0 GRAB RAILS AND STANCHIONS

2.42.1 Handrails and stanchions shall be provided in the entrance of the vehicle and elsewhere in a configuration as specified in 49 Code of Federal Regulation Part 38, Subpart B. Section 38.29.

2.42.2 Passenger assists in the form of full grip, vertical stanchions or hand holds shall be provided for the safety of standees and for ingress/egress. Passenger assists shall be convenient in location, shape and size for both the 95th-percentile male and the 5th-percentile female standee. Starting from the entrance door and moving anywhere in the bus and out the exit door, a vertical assist shall be provided either as the vertical portion of seat back assist or as a separate item so that a 5th-percentile female passenger may easily move from one assist to another using one hand and the other without losing support. Excluding those mounted on seats and doors; the assists shall have a cross-sectional diameter of between 1-1/4 and 1-1/2 inches or shall provide an equivalent gripping surface with no corner radii less than 1/4 inch. All passenger assists shall permit a full handgrip with no less than 1-1/2 inches of knuckle clearance around the assist. Passenger assists shall be designed to minimize the catching or snagging of clothes or personal items and shall be capable of passing the NHTSA Drawstring Test.

2.42.3 A crash resulting in a 1-foot intrusion shall not produce sharp edges, loose rails or other potentially dangerous conditions associated with a lack of structural integrity of the assist. All joints in the assist structure shall be underneath supporting brackets and securely clamped to prevent passengers from moving or twisting the assists. Passenger assists shall be designed to minimize glare in the Operator's area to the extent possible (see Section 5.4.6.1.1). With the exception of seat and door handholds, all areas of the passenger assists that are handled by passengers including functional components used as passenger assists shall be 16 gauge stainless steel, with 180 grid finish. Assists shall withstand a force of 300 pounds applied

over a 12-inch lineal dimension in any direction normal to the assist without permanent visible deformation. All passenger assist components, including brackets, clamps, screw heads, and other fasteners used on the passenger assists shall be flush with the surface and free from burrs or rough edges.

2.42.4 Passengers shall be able to lean against the assist for security while paying fares. The assist shall be no less than 36 inches above the floor or the average step tread surface. The assists at the front of the bus shall be arranged to permit a 5th-percentile female passenger to easily reach from the door assist, to the front assist, to vertical assists on the operator's barrier, or front modesty panel.

2.42.5 Overhead grab rails shall be provided in the wheelchair flip seat areas and shall have grab straps mounted to the overhead grab rail to assist standing passengers. Provisions shall be made to locate other overhead grab rails that can be tailored to meet the needs of the procuring agency.

2.42.6 Longitudinal seats shall have vertical assists located at every seating position, except for seats that fold/flip up to accommodate wheelchair securement. Assists shall extend from near the leading edge of the seat and shall be no more than 52 inches apart.

2.42.7 A full height wrap around driver’s barrier shall be provided. This must meet all ADA requirements. The barrier shall extend from the left side panel to the right rear of the driver's station. The back panel shall in no way detract from, or interfere with the safe, normal operation of the bus nor restrict full movement of the driver's seat. The barrier shall be a 28 percent density, vacuumed formed, polycarbonate plastic panel mounted to 1-1/4" O.D. stainless steel clad tubing and be installed behind the driver's seat area. Colors will be specified in individual orders. Available colors should be listed in proposals. The barrier assembly shall be rigid, shall not shake or rattle in service.

2.42.8 There shall be approximately 6" x 6" x 1" pocket, preferable on the left side of the driver's station to store permits etc.

2.42.9 A mounted schedule holder and consumer/public information display frame, mounted on the driver’s protective shield facing passenger seating, shall be an option and priced separately.

## 2.43.0 EXTERIOR FINISH

2.43.1 All welds shall be chipped to remove slag. All metal parts shall be de-greased and properly cleaned and sanded in preparation for painting. All metal surfaces shall be sprayed with chromate primer. Parts and surfaces that will

be covered in the finished vehicle shall be given a second coat of primer to prevent corrosion as much as possible. If any parts are pre-primed prior to assembly and should any welding be done during assembly then the weld shall be chipped. The weld and the surrounding area shall be primed again. The manufacturer shall propose exterior body material used.

2.43.2 All surfaces that will be exposed on the finished vehicle shall be properly sanded prior to finish color paint application. Finished color paint shall be DuPont Centari, DuPont Imron, or equivalent. Should manufacturer use other than these then they shall request deviation approval from the TRIPS. This request shall also include an outline of their painting procedure.

2.43.3 Buses shall have fleet numbers applied both on the interior and exterior of the bus in sequence with factory serial numbers. Exterior shall be constructed of 3M Reflective material, or approved equal. Each individual order will include the correct starting number and the location, size and color of numbers. The locations for the interior and exterior fleet number will be determined by TRIPS staff at the Pre-construction meeting.

2.43.4 Proposer shall submit a minimum of three and a maximum of five samples of different paint schemes with their proposals. Samples should give Agencies options regarding paint schemes, and use of reflective material, such as, but not limited to window black-out versus no black out. Agency may request a specific corporate design and/or vinyl wrap, but any additional expense over the contract standards will be borne by the individual purchasing agency.

2.43.5 Proposal shall include an option for the roof installation of 2-foot high fleet numbers on the roof of the bus. The number will coordinate with the fleet number assigned to the individual bus and shall be centered on the longitude axis of the bus so they can be read from a high rise building or an airplane approaching from the rear of the bus.

## 2.44.0 RUST PROOFING AND CORRISON PROTECTION

2.44.1 The bus flooring, sides, roof, understructure, axle suspension components shall be designed to resist rust, corrosion or deterioration from atmospheric conditions and road salts for a period of 10 years or 350,000 miles which ever comes first. It shall maintain structural integrity and nearly maintain original appearance throughout its service life, provided that it is maintained by the Procuring Agency in accordance with the procedures specified in the Contractor's service manual. With the exception of periodically inspecting the visible coatings applied to prevent corrosion and reapplying these coatings in limited spots, the Contractor shall not require the complete reapplication of corrosion compounds over the life of the bus.

2.44.2 All materials that are not inherently corrosion resistant shall be protected with corrosion-resistant coatings. All joints and connections of dissimilar metals shall be corrosion-resistant and shall be protected from galvanic corrosion. Representative samples of all materials and connections shall withstand a 2-week (336-hour) salt spray test in accordance with ASTM Procedure B-117 with no structural detrimental effects to normally visible surfaces, and no weight loss of over 1 percent.

2.44.3 Proper care shall be taken to prevent any coating from being deposited on grease fittings, moving parts, brake hoses, and drive shaft. Undercoating shall not be applied within 12 inches either side of the exhaust system of the catalytic converter.

## 2.45.0 FIRE SUSPRESSION SYSTEM

2.45.1 Each vehicle shall be equipped as standard, with an automatic thematic fire suppression system to provide adequate coverage of fire suppression in the engine compartment and main electrical box areas. At a minimum, units shall consist of a 25 pounds ABC chemical cylinder, 3 stainless steel temperature sensitive weather proof thermostats, 4 nozzles, and a control panel mounted in the driver's compartment as minimum equipment. Units shall be totally self-contained with all lines, fittings, brackets, and thermal release heads within the appropriate compartments, strategically placed, to provide the best protection.

2.45.2 The system shall incorporate a telltale, dash mounted operator warning light, audible indicator and switch, automatically shutting off all fans and climate control systems in the event of discharge.

2.45.3 The system installation shall be certified by the vehicle manufacturer that it is suitable for use in the proposed vehicle in case the unit fails to function during an on board vehicle event or fire. Each vehicle shall be delivered with a certificate identifying the vehicle identification number (VIN) for which it applies. The system shall be U.L., U.C.L., and F.M. listed and meets all D.O.T. and F.M.V.S.S. Regulations and is certified by the vehicle and equipment manufacturer.

2.45.4 Components known to meet these requirements include Amerex model V25 and Amerex AMGADS III systems and the JoMarr Firestick Clear Liquid Fire Suppression System. As a standard component, each Purchaser must select one, but it will be listed as an option and priced separately.

## 2.46.0 NOISE ABATEMENT

2.46.1 The combination of inner and outer panels and any material used between them shall provide sufficient sound insulation so that a sound source with a

level of 80 dBA measured at the outside skin of the bus shall have a sound level of 65 dBA or less at any point inside the bus. These conditions shall prevail with all openings, including doors and windows, closed and with the engine and accessories switched off. The bus generated noise level experienced by a passenger at any seat location inside the bus shall not exceed 83 dBA and the driver shall not experience a noise level of more than 75 dBA.

2.46.2 Exterior airborne noise generated by the bus and measured from either side shall not exceed eighty-three (83) dBA under full power acceleration when operated at or below thirty-five (35) mph at curb weight and just prior to transmission up shift. The bus-generated noise at curb idle shall not exceed sixty-five (65) dBA.

2.46.3 Proposer shall conduct noise testing as part of this proposal. All noise readings shall be taken fifty (50) feet from, and perpendicular to, the centerline of the bus with all accessories operating. Instrumentation, test sides, and other general requirements shall be in accordance with SAE Standard J366. The pull-away test shall be conducted with the rear bumper even with the microphone. Both interior and exterior noise abatement tests must be certificated to be compliant and a copy of the furnished with the proposal.

## 2.47.0 GENERAL SAFETY EQUIPMENT

2.47.1 Each vehicle shall be equipped with a first aid kit, (see Exhibit 2), mounted in an accessible location.

2.47.2 Each vehicle shall be equipped with a Fire extinguisher, 5 pound rechargeable ABC type, mounted in an easily accessible location near the driver's position. The bottle shall be dated with the most recent charge date and have a visible indicator of the status of the charge for quick reference.

2.47.3 Each vehicle shall be equipped with warning triangles, reflective type, and three (3) units, secured in a readily accessible location.

2.47.4 Each vehicle shall be equipped with a seat belt cutter and shall be mounted in an accessible location near the wheelchair lift.

2.47.5 Each vehicle shall be equipped with a bio-hazard kit mounted in an accessible location.

2.47.6 A Mor/ryde International MR56-141 Jones Oxygen Tank Holder provided uninstalled inside each bus at delivery.

2.47.7 Each vehicle shall be equipped with an event data recorder (EDR), 247 Security, Inc., or approved equal, with optional digital security camera system, mounted on vehicle to record time, date and severity of accidents. Recorder must comply with SAE J211 specifications and be court admissible. Power source for recorder must be self-contained and may not be connected to vehicle power. Data from recorder must be immediately accessible and formatted to be delivered to external database that correlates accident severity to injury potential. This correlation must be immediately available via the internet. Recorder must be tamper resistant and capable of recording a minimum of 100 events without looping (writing over) events. The optional digital camera system shall be a minimum of four (4) cameras with pricing provided for additional cameras.

2.47.7.1 The EDR will provide a continuous log of vehicle activity. Speed history, odometer, heavy braking, Fast acceleration, idling exceptions will automatically recorded by exception.

2.47.7.2 A three axis accelerometer shall be provided to provide a log of excessive movement in any direction. In the event of an accident, all data shall be permanently captured in “tamperproof” flash memory (4MB minimum) for a minimum of (30) seconds prior to the incident and (15) seconds after the incident at a minimum interval of 25 milliseconds.

2.47.7.3 The EDR will provide an automatic trigger function with different user definable thresholds for moving and stationary conditions.

2.47.7.4 A manual driver alert button will be provided to allow driver “tagging” of either an accident or vehicle fault condition.

2.47.7.5 Additional digital input channels will be provided to allow for status monitoring of a minimum of eight (8) vehicle sub-systems. Systems that may be monitored shall be; brakes, lights, turn signals, hazard flashers, parking brake, door(s) position, emergency exits, the lift/kneel system, Oil Pressure Alarm, Engine Temperature Alarm, Voltage Alarm, drivers seat belt, and Video Driver Alarm Switch (where equipped), windshield wipers and headlight high beam. Each agency will select a minimum of eight (8) sub-systems to be monitored from the list above. Manufacturer shall be prepared to provide monitoring of any eight (8) of the above list.

2.47.7.6 Any data provided by the EDR must be admissible in court.

2.47.7.7 All software for user configuration, data logging, and downloading and report generation will be included. All software will be Windows-based. Trip data will be stored in Microsoft Access database. All data will be the property of Florida DOT and will be immediately available to Florida DOT.

2.47.7.8 There will be no additional charges, for hardware and/or software services or annual fees will be incurred by Florida DOT or any operator. The component manufacturer shall provide initial training to the purchaser, assuring at least one agency representative is capable of downloading data. This training shall not be considered to meet the training requirements of Part 1 in this RFP.

2.47.7.9 The EDR Manufacturer shall provide a document with each bus certifying the unit is operating properly and defining the parameters of the initial set-up.

2.47.7.10 None of the above shall be mounted on a door or any location that will restrict the drivers or passenger's seating or movement.

## 3.48.0 SPARE PARTS

3.48.1 Proposers should include an initial parts inventory to include a price list which recommends the types and quantities of parts most likely to be required to support his sub fleet of buses for a one-year period, 90 days before delivery of the first bus. The manufacturer shall submit their current transit parts price list for all parts covered in the parts manual and all parts utilized in the construction of the bus bid. A cross reference listing shall list components by part number, manufacturer and manufacturer part number.

3.48.2 As separately priced options, Proposers shall submit separate pricing for the following parts:

- (1) Differential center section (drop-in unit only)
- (1) A/C compressor, complete with clutch assembly
- (1) Heater core
- (1) Set of wiper motors
- (1) Set of windshields
- (1) Set of type window glazing
- (1) Complete set of skirt panels
- (1) Spare Power Pack (see description below)
- (1) Spare Engine
- (1) Spare Transmission
- (1) Destination Sign package (Including; front, side(s), and rear
- (1) Set of Entrance Doors
- (1) Door Motor
- (1) Left Rear corner panel
- (1) Right Rear corner panel
- (1) Rear Bumper
- (1) Front cap excluding windshield
- (1) Engine Door
- (1) Set of Access door(s) and exterior door(s)

## 3.49.0 MAINTENANCE MANUALS

3.49.1 The Contractor shall provide one (1) set of loose-leaf "AS BUILT" manuals for a minimum for each four (4) buses of an order. This set will include a Service/Maintenance Manual, Parts Manual, Electrical Schematic Manual, Operators Manual and the same for all subsystems and sub components incorporated in the bus. In addition to loose leaf manuals the contractor will provide all the aforementioned manuals on compact disc (CD) formatted in portable document format (PDF). Unless otherwise stated, Contractor will provide a draft copy of all literature identified in section ***3.56.0 Maintenance Manuals*** with the delivery of the first bus of each order. A final copy of all literature must be delivered within 90 days of delivering the last bus of each order. Failure to provide a final copy of all literature within the 90 day period will result in the manufacturer being required to supply onsite representation to address literature related concerns.

3.49.2 The Contractor shall keep maintenance information available for a period of ten (10) years after the date of acceptance of the equipment procured under this contract. The Contractor shall also keep all information up-to-date for the same ten (10) year period.

3.49.3 The Contractor shall furnish loose-leaf "AS BUILT" maintenance manuals containing complete data required for routine and periodic maintenance of Procuring Agency specific buses, including general vehicle information, specifications, a troubleshooting guide, lubrication and adjustment requirements, wire and cable sizes and ratings, wiring and schematic diagrams, and engine data. The maintenance manuals shall contain illustrative drawings such as isometrics or enlarged views and photographs, identifying major components in relationship to each other as mounted on the bus.

3.49.4 A illustrated loose-leaf "AS BUILT" parts book shall be furnished, containing data arranged so that part number can be readily found for each system and subsystem, assembly, subassembly or piece from an orderly breakdown of the complete bus. They shall contain a ready reference index and be illustrated well enough to identify items requiring repair, replacement and storage for use in the maintenance of Procuring Agency specific buses.

3.49.5 The Contractor shall provide to each Procuring Agency before delivery of the first bus of the particular type to that particular agency, large body/structure drawing that include structure component part numbers and locations to facilitate major/minor accident repairs.

3.49.7 The Contractor shall furnish a complete bill of materials of all

parts/components used in the assembly of the bus. This list shall include as minimum, bus manufacturer's part number, part description, name of original part manufacturer and manufacturer's part/identifying number.

3.49.8 The contractor shall provide the procuring agency a quarterly parts update referencing component part up-grades with part number change cross reference. This quarterly update shall be provided for the life of the bus.

3.49.9 The Contractor shall submit data describing the recommended engine oil by military specifications, API designations and identify commercially available oils which meet their requirements.

3.49.10 The Contractor shall provide a "line ticket" on the engine and the transmission that provides information on fluid capacities of engine and transmission exhaust back pressure, etc.

3.49.11 "AS BUILT" operating manuals shall be furnished covering all operational requirements for the bus driver while in service, excluding driving skills, rules of the road and interpretation of laws. Information shall include bus mechanical operation, response to alarms, engine operation, controls, emergency actions, preventive maintenance, and road troubleshooting.

3.49.12 Draft copies of all manuals shall be submitted to Procuring Agency for approval prior to the design review phase of bus manufacture. It is anticipated that final manuals will be drafted during the manufacture of the buses. Manuals will reflect any and all engineering changes that are made during the course of manufacture. Final manuals shall be delivered prior to delivery of the buses, and acceptance of delivered manuals shall be a condition for acceptance of any buses. The manufacturer will provide the same number of copies as specified of all manual updates, changes, service information bulletins, etc. for the life of the equipment while it is operational with any Procuring Agency.

3.49.13 An "as built" electrical diagram shall be provided for all of the electrical equipment. This shall include an interface between components. In addition, separate diagrams for each of the respective wiring circuits such as the interior and exterior lighting circuits, door control, etc. shall be supplied. Complete separation of circuits will involve approximately 15 to 17 drawings (11" x 17" minimum) protected to resist grease and dirt and in electronic media PDF format. Ladder Logic charts will be provided for all multiplex systems.

3.49.14 Each diagram page shall be self explanatory for electrical troubleshooting purposes and shall be formulated to minimize the need to reference other diagrams. An electrical troubleshooting guide in loose leaf pages and electronic media in a PDF format shall be provided which will assist

mechanics in diagnosing defects for an electrical circuit.

# EXHIBITS

# Exhibit 1

# MINIMUM REQUIRED INSTRUMENTS

| DISPLAY | GAUGE | LIGHT(S) | AUDIBLE |
|---|---|---|---|
| VOLTMETER | **X** | **X** | |
| ENGINE HOT WATER TEMPERATURE | **X** | **X** | **X** |
| ENGINE LOW OIL PRESSURE | **x** | **X** | **X** |
| FUEL GAUGE | **X** | **X** (Low fuel warning) | |
| GENERATOR/ALTERNATOR NOT CHARGING | **X** | **X** | **X** |
| EMERGENCY DOOR OPEN or LOCKED | | **X** | **X** |
| DIRECTIONAL SIGNALS | | **X** | **X** |
| HEADLIGHT HIGH BEAM | | **X** | |
| PARKING BRAKE ON | | **X** | |
| SPEEDOMETER WITH ODOMETER | **X** | | |

**NOTE:** The instrument package above shall be provided by the chassis manufacturer. After market substitutes will not be accepted.

# Exhibit 2

## Contents for Medical First Aid Kit

| Type of Unit | Quantity | *"ZEE" Number |
|---|---|---|
| Antiseptic swabs | 10-swabs / 1 box | #2633 |
| Insect Sting relief | 10-swabs / 1 box | #2632 |
| Providone Iodine swabs | 10-swabs / 1 box | #2641 |
| Ammonia inhalants | 10-swabs / 1 box | #2601 |
| Foille Ointment | 6 tubes / 1 box | #2610 |
| Wire splint | 3.75" x 30" | #2631 |
| Hydrocortisone cream | 25 packets / 1 box | #1817 |
| Eye dressing | 4 / unit, 2 boxes | #2618 (2) |
| Bandage compress | 4" x 4", 6 boxes | #2615 (6) |
| Adhesive ace bandage | 16-1"x3", 2 boxes | #2607 (2) |
| Scissors, emergency | 1 pair | #6566 |
| Tweezers | 1 set | #3531 |
| Gauze, roll | 6 ply, 4.5"x 147" / 2pkg. | #6715 (2) |
| Adhesive tape, roll | 2" x 5 yards/ 3 cut spool | #0305 |
| Safe Airway Mask (SAM) | 1 / box | #3076 |
| Gloves, latex | 2 pair | #3044 |

**NOTE: ZEE Medical Numbers are only provided for reference.*
*An approved equivalent will be considered.*

# Exhibit 3

# FDOT Parking Brake Test

**FLORIDA DEPARTMENT OF TRANSPORTATION**

# PARK BRAKE TEST PROCEDURE

VERSION 1

*Prepared for:* The Florida Vehicle Procurement Program *(now TRIPS)*

*By:* Robert E. Westbrook, Paul E. Johnson Jr., Cecil H. Carter, Leroy E. Edwards

## OVERVIEW

This test is the park brake performance standard for all transit equipment purchased through Florida Vehicle Procurement Program contracts. The FDOT will test one or more vehicles from each contract within the first year of a contract agreement. If a bus fails to meet the performance test, the FDOT reserves the right to suspend placement of further orders or terminate the contract. The FDOT also reserves the right to randomly test new buses at any time during the contract period, to ensure compliance.

## TEST CONDITIONS / EQUIPMENT

The test will be performed on a 15 degree incline ramp in dry conditions. The surface angle will be verified using a Johnson Angle Locator. The test will be performed with 150 pounds in each seat position and 250 pounds in each wheelchair position to simulate the bus loaded to maximum passenger capacity.

# TEST SET-UP / PROCEDURE

1. Perform a complete system check assuring the emergency/park brakes are in proper working condition, tires are in good condition and properly inflated, minimum of ¼ tank of fuel.
2. Install and secure correct testing ballast weight in each seating and wheelchair position;
3. Verify that ramp angle is at 15 degrees;
4. Position bus on ramp in forward position (front end up);
5. Place wheel chocks two inches behind right side and left side rear tires;
6. Place indicator marks on both rear tires and ramp surface;
7. Set parking brake to the fully on position;
8. Place transmission in the neutral position;
9. Monitor and record any movement of the bus for 30 minutes;

After 30 minutes, reposition bus to be in a rearward position (front end down);

Repeat the above procedure.

# SYSTEM TEST RESULTS

The bus will fail the test if;

a. There is more than one inch of movement in the 30 minute time period in either position;

b. The brakes display any signs of slippage during the test.

# INVALID TEST

The test will be deemed invalid if:

a. Any of the specified procedure steps are not followed;

b. Surface conditions change due to rain.

# Exhibit 4

# Alternator Output Test

**FLORIDA DEPARTMENT OF TRANSPORTATION**

# ALTERNATOR OUTPUT TEST PROCEDURE

VERSION 1

*Prepared for:* The Florida Vehicle Procurement Program *(now TRIPS)*
*By:* Robert E. Westbrook, Paul E. Johnson Jr., Cecil H. Carter, Leroy E. Edwards

## OVERVIEW

This test is the alternator output test for all transit equipment purchased through Florida Vehicle Procurement Program contracts. This test will be performed on all aftermarket alternators that are recommended by bus manufacturers to replace the OEM alternators. FDOT desires to have this test replicate an environment that simulates severe duty transit operations. The FDOT will test one of each type of alternator to be used on the transit vehicles and could include OEM alternators.

## TEST CONDITIONS / EQUIPMENT

This test will be performed at the FDOT Bus Inspection, Testing and Research facility in Tallahassee, FL. The subject alternator is tested using a Crumbliss 2115 Alternator test machine. It is encased in an aluminum heat-shroud containing a thermometer. Heat is provided by a 500 degree heat gun attached to the heat-shroud. This set-up provides a simulation of under-hood operating conditions. During testing, a 12 volt battery is used to maintain the charging system. DC *on/off* switches control two 12" DC condenser fan motors to prevent the battery from overcharging.

## TEST SET-UP

1. Install subject alternator into testing machine vise;
2. Determine appropriate size alternator pulley to be used;
3. Determine tester pulley size to drive alternator at correct engine idle RPM;
4. Install drive belt between alternator pulley and tester pulley;
5. Check that both pulleys are properly aligned;

6. Attach correct test leads to alternator being tested;
7. Connect cables to 12-volt battery;
8. Note the RPM levels to be used during test.
9. Place heat-shroud over alternator/vise assembly;
10. Position heat gun;
11. Turn on test machine cooling fans; *(switch located on left side of the tester)*
12. Turn on BATTERY switch; *(if required for particular test)*
13. Turn on START switch;
14. Set MOTOR switch to *Slow* position;
15. Set VOLT switch to 12 or 24 volt position;
16. Set PULLEY knob to diameter of pulley being used;

# TEST PROCEDURE

1. Adjust RPM to engine idle speed;
2. Turn FIELD CURRENT load control from minimum position slowly toward maximum position until VOLT gauge reads 12.4;
3. Note reading from AMP gauge;
   **This reading is Maximum Output at Idle under Full Load;**

   *Follow below, to determine SAE (hot) rating Performance Curve;*
   *Raise RPM up gradually another 500 RPM;*
   *Note reading from AMP gauge;*

   *Raise RPM up gradually another 500 RPM;*
   *Note reading from AMP gauge;*

   *Raise RPM up gradually another 500 RPM;*
   *Note reading from AMP gauge;*

   *Raise RPM up gradually another 500 RPM;*
   *Note reading from AMP gauge;*

   *The above readings can be used to plot performance graph;*

4. Take temperature reading of housing surface, starter, rotors and both bearings;
5. Record and file all readings on each tested alternator;
6. During the test period, the temperature inside the heat shroud will be between120 - 150 degrees Fahrenheit. The alternator will run at minimum idle speed (600 rpm) for 30 minutes and at maximum rpm speed (2000) for 30 minutes. The alternator amperage output, minimum battery voltage and temperature condition of the alternator will be continuously monitored.

# SYSTEM TEST RESULTS

Alternator will be considered “failed” if:

a. Amperage output falls below the maximum amperage draw for the type bus it will be used on;

b. Amperage output falls below the advertised output curve on a “hot” rating based on RPM increments.

# Exhibit 5

# Air Conditioning Pull-Down Test

**FLORIDA DEPARTMENT OF TRANSPORTATION**

# AIR CONDITIONING PULL-DOWN TEST PROCEDURE

VERSION 6

*Prepared for:* The Florida Vehicle Procurement Program *(now TRIPS)*

*By:* Robert E. Westbrook, Paul E. Johnson Jr., Cecil H. Carter, Leroy E. Edwards

## OVERVIEW

This test is the air conditioning and performance standard for all transit equipment purchased through Florida Vehicle Procurement Program contracts. The FDOT desires to have the test performed in an environment that simulates severe duty transit operation. To do this, the FDOT must test in a non-controlled environment. The FDOT will test one or more buses from each contract within the first year of a contract agreement. If a bus fails to meet the performance test, the FDOT reserves the right to suspend placement of further orders or terminate the contract. The FDOT also reserves the right to randomly test new buses at any time during the contract period, to ensure compliance.

## TEST CONDITIONS / EQUIPMENT

The test will be performed on an asphalt parking lot in direct sunlight. The vehicle will be surrounded by a wall five (5) feet high, fifteen (15) feet wide and the length adjusted to the length of the bus. The minimum ambient temperature must be 95 degrees Fahrenheit with a minimum 60% relative humidity. All temperature measurements will be recorded in degrees of Fahrenheit using a Measurement Computing, MCC Data Acquisition Software TracerDAQ configuration. MCC Data Acquisition is calibrated using InstaCal Software. Pressure readings are taken using a Yellow Jacket 686800 Manifold gauges. Voltage readings are taken using a Fluke model 78 automotive multi-meter. Amperage readings are taken using a Fluke model 336 True RMS Clamp Meter.

# TEST PROCEDURE

Perform a complete ultrasonic leak detection test of the air conditioning system. If the system fails the leak detection test do not proceed any further.

Check to see that all windows and doors are closed properly, with no gaps or leaks. Check interior engine cover for a proper seal. Connect all test equipment. Heat soak the bus under test conditions for a minimum of two hours. Record the date, time of day, vehicle identification number and location.

The test reading locations are as follows:

C0 Ambient air temperature; take outside of the vehicle, away from mechanical and radiant heat sources, using an Omega Engineering J-Type 5 Position Fine Wire Thermocouple.

C1 Bus interior temperature; take reading 48 inches to 52 inches from the rear wall, four feet above the floor surface, using an Onega Engineering J-Type 5 position Fine Wire Thermocouple.

C2 Bus interior temperature; take reading at the center line of the bus interior, four feet above the floor surface, using an Omega Engineering J-Type 5 Position Fine Wire Thermocouple.

C3 Bus interior temperature; take reading at the first row of seats, four feet above the floor surface, using an Omega Engineering J-Type 5 Position Fine Wire Thermocouple.

C4 Rear evaporator core temperature; take reading near the center of the core, using an Omega Engineering J-Type ICSS Thermocouple.

C5 Bus engine compartment temperature; take reading above engine near the fire wall, using an Omega Engineering J-Type 5 Position Fine Wire Thermocouple.

C6 Condenser core temperature; take reading near the center at the air in side, using an Omega Engineering J-Type ICSS Thermocouple.

C7 Condenser air temperature; take reading near the center at the air out side, using an Omega Engineering J-Type 5 Position Fine Wire Thermocouple.

Take pressure readings at the service ports of add on/second stage A/C system, using Yellow Jacket 686800 manifold gauges.

Take voltage readings at the battery or batteries using a Fluke Model 78 automotive multimeter.

Take amperage readings at the positive cable from the battery or batteries using a Fluke model 336 True RMS Clamp Meter. Amperage draw of the A/C system will be checked after the pull down test is complete.

With the vehicle in park, all doors and windows closed, start the engine, turn on the air conditioning system; set a/c system to maximum cooling positions; turn on all interior and exterior lights and let it run with the high idle on, (approximately 1200 RPM). If the high idle is designed to automatically turn off after the first 15 minutes the driver's door will be opened and the high idle turned back on for the last 15 minutes, this will not make the test invalid. All temperature readings shall be recorded every 15 seconds.

Pressure readings and voltage readings shall be recorded at the start of the test and every 10 minutes.

# SYSTEM TEST RESULTS

During the test, the interior temperature of the bus should lower uniformly throughout and should lower the interior temperature within the given time limit.

The vehicle will fail the test if;

a. The temperature difference between C1, C2, and C3 varies more than two (2) degrees during each 15 second reading during the last 15 minutes of the test;

b. The system fails to lower the interior temperature to 70 degrees Fahrenheit (measured at C2), or lower, by the end of the 30 minute test while maintaining an ambient temperature of 95 degrees Fahrenheit (measured at C0) with 60% relative humidity;

c. The voltage readings at the batteries fall below 12.9 volts at any time during the test;

d. In addition to pass or fail, systems will be given a star rating (****) for systems that achieve 70 degrees in the quickest amount of time, with the lowest amperage draw.

f. The remaining readings are taken for informational purposes only and do not indicate a pass or fail status. These readings are used to in system comparisons. This information enables FDOT to determine each tested systems fastest pull-down time, lowest head pressure reading, highest voltage output, and lowest amperage draw.

# INVALID TEST

The test will be deemed invalid if;

a. If at any point during the test a temperature probe is detached from it's measuring point.

b. If a refrigerant leak is detected prior to, or during the test.

c. If the ambient temperature is not maintained at the required setting or if the specified test conditions change.

d. If at any point during the test, a door or window is opened, with the exception of opening the driver's door to turn the high idle back on.

# PART 3

# OPTIONS

# Contract #TRIPS-09-MD-RFP

## Medium Duty Bus Type Vehicles

# OPTIONS

# TRIPS-09-MD-RFP

**3.1.0** **Rear and front passenger doorway** – base vehicle is a front door only.

**3.2.0** **Alternative body styling** – describe specific alternate body styling such as BRT design and provide drawings and pictures of same.

**3.3.0** **Alternative diesel engine** – list and describe any and all alternative engines to be offered.

**3.4.0** **Engine Coolant Filter** - the engine cooling system shall be equipped with a properly sized, Cummins Fleetguard, water filter with a spin-on element and an automatic system for releasing supplemental coolant additives as needed to replenish and maintain protection properties. Shut off valves shall be provided to permit filter change without coolant loss.

**3.5.0** **Engine Air Cleaner Restrictor Gauge** - an air filter restrictor gauge shall be provided to indicate when the filter needs servicing.

**3.6.0** **Stainless Steel Exhaust System** - The exhaust system from the turbo charger through the muffler/diesel oxidation catalyst and a catalyzed soot filter shall be stainless steel. From the muffler to the roof exhaust tip the exhaust pipe shall be stainless steel. The exhaust tip shall be chrome and curved to the rear of the bus roof and designed to prevent rain, snow or water generated from high-pressure washing systems from entering into the exhaust pipe and causing damage to the system. Exhaust gases and waste heat shall be discharged from the roadside rear corner of the roof. The exhaust pipe shall be of sufficient height to prevent exhaust gases and waste heat from discoloring or causing heat deformation to the bus roof. The entire exhaust system shall be adequately shielded to prevent heat damage to any bus component. The exhaust pipes and muffler/diesel oxidation catalyst and a catalyzed soot filter shall be encapsulated with an exhaust blanket.

**3.7.0** **Hybrid drive-train package** - specify the type and manufacturer of hybrid package.

**3.8.0** **Alternative Transmission** – specify the type and manufacturer of any alternative transmissions.

**3.9.0** **Fire Suppression System** – see Part 2.45.0

3.9.1 Amerex Amgads III Vehicle Fire Suppression System

3.9.2 JoMar Firestick Clear Liquid Vehicle Fire Suppression System

**3.10.0 90-Gallon Diesel Fuel Tank** – built to same requirements of standard fuel tank

**3.11.0 Wheels**

3.11.1 Brushed Aluminum Wheels shall be hub piloted, spoke disc, ventilated, aluminum brushed on both sides and interchangeable front to rear. Fasteners shall be washer/cap nut type.

3.11.2 Polished Aluminum Wheels shall be hub piloted, spoke disc, ventilated, Aluminum polished on both sides and interchangeable front to rear. Fasteners shall be washer/cap nut type.

**3.12.0 Destination Signs**

3.12.1 Transign, or approved equal, manually controlled single roller curtain (Part 2.20.1)

3.12.2 TwinVision Elyse, or approved equal, Electronic Destination Sign System - front, side, and rear number (Part 2.20.2)

**3.13.0 Alternative Driver Seating** –

3.13.1 USSC Model 9100ALX

3.13.2 USSC Model 9100ALX -3 (shoulder belt)

**3.14.0 Bike Rack** – stainless steel rack with driver tell-tale indicator when rack is in down position

3.14.1 Two (2) position bike rack

3.14.2 Three (3) position bike rack

**3.15.0 Ignition and Door Keys Locks** – multiple buses keyed alike

**3.16.0 Luggage Racks** – overhead above passenger seats on both sides.

**3.17.0 ADA Mobility Devices** – wheel chair lift or ramp

3.17.1 Braun Lift

3.17.2 Maxon Lift

3.17.3 Ricon Lift

3.17.4 Lift-U Ramp

3.17.5 Braun Ramp

**3.18.0 Mobility Aid Retractor System** – Q'Straint QRTMax Securement System, or approved equal.

**3.19.0 Seat Belt Extensions** – two seat belt extensions are to be supplied as standard. Additional seat belt extensions may be ordered.

**3.20.0 Block/Run Number Box** (Part 2.21.1)

**3.21.0 AM/FM CD Stereo and MP3 Player System** – minimum of six speakers installed, three on each side of bus; front, middle and rear. If a public address system is also installed, depression of the microphone talk button will de-activate the AM/FM CD Stereo until the button is released.

**3.22.0 Rear Backing Camera System** – a one camera system with dashboard monitor which permits the driver to see directly behind the bus when backing. The system immediately activates/deactivates each times the bus transmission is shifted into and out of reverse; and is designed for day and night operations.

**3.23.0 Driver's fan** – mounted on dashboard or street side windshield post, adjustable, to redirect air flow, with three speed operation.

**3.24.0 Hub Meter** – see Part 2.15.4

**3.25.0 Alternative floor covering** – Altro Transflor slip-resistant sheet vinyl flooring, smooth, all welded seams, customer to supply color selection. Include Altro step tread material with yellow nosing.

**3.26.0 Public Address System**

3.26.1 Radio engineering Industries Public Address System

3.26.2 Microphone Cable Extension – provide a 10' extension cable for the public address system microphone, enabling it to be utilized for special services from a front passenger seat on either side of the bus.

**3.27.0 Special Tools & Spare Parts** - Proposers shall submit individual pricing for the following parts and any special tools that are required to access and program components and to properly maintain the bus. Insert only the combined cost of all

special tools and spare parts in Part 1 Price Proposal Form D:

- (1) Differential center section (drop-in unit only)
- (1) A/C compressor, complete with clutch assembly
- (1) Heater core
- (1) Set of wiper motors
- (1) Set of windshields
- (1) Set of type window glazing
- (1) Complete set of skirt panels
- (1) Spare Power Pack (see description below)
- (1) Spare Engine
- (1) Spare Transmission
- (1) Destination Sign package (Including; front, side(s), and rear
- (1) Set of Entrance Doors
- (1) Door Motor
- (1) Left Rear corner panel
- (1) Right Rear corner panel
- (1) Rear Bumper
- (1) Front cap excluding windshield
- (1) Engine Door
- (1) Set of Access door(s) and exterior door(s)

***List all Special Tools with pricing, as requested above.***

**3.28.0 DIGITAL SECURITY CAMERA SYSTEM -** Provide a digital camera system, in conjunction with the event data recorder system, with a minimum of four (4) cameras'. Provide pricing per camera.

# PART 4

# QUALITY ASSURANCE

# Contract #TRIPS-09-MD-RFP

## Medium Duty Bus Type Vehicles

# QUALITY ASSURANCE

# TRIPS-09-MD-RFP

## 4.1.0 CONTRACTORS IN-PLANT QUALITY ASSURANCE REQUIREMENTS

### 4.1.1 QUALITY ASSURANCE ORGANIZATION

Manufacturer shall establish and maintain an effective in-plant quality assurance organization. It shall be a specifically defined organization and should be directly responsible to Manufacturer's top management.

### 4.1.2 CONTROL

The quality assurance organization shall exercise quality control over all phases of production from initiation of design through manufacture and preparation for delivery. The organization shall also control the quality of supply articles.

### 4.1.3 AUTHORITY AND RESPONSIBILITY

The quality assurance organization shall have the authority and responsibility for reliability, quality control, inspection planning, establishment of the quality control system, and the acceptance/rejection of materials and manufactured articles in the production of the vehicles.

## 4.2.0 QUALITY ASSURANCE ORGANIZATION FUNCTIONS

The quality assurance organization shall include the following minimum functions.

### 4.2.1 WORK INSTRUCTIONS

The quality assurance organization shall verify inspection operation instructions to ascertain that the manufactured product meets all prescribed requirements.

### 4.2.2 RECORDS MAINTENANCE

The quality assurance organization shall maintain and use records and data essential to the effective operation of its program. These records and data shall be available for review by the resident inspectors. Inspection and test

records for this procurement shall be available for a minimum of one (1) year following the completion of the inspections and tests.

### 4.2.3 CORRECTIVE ACTION

The quality assurance organization shall detect and promptly assure correction of any conditions that may result in the production of defective vehicles. These conditions may occur in design, purchases, manufacture, tests or operations that culminate in defective supplies, services, facilities, technical data, or standards.

## 4.3.0 STANDARDS AND FACILITIES

The following standards and facilities shall be basic in the quality assurance process.

### 4.3.1 CONFIGURATION CONTROL

Manufacturer shall maintain drawings and other documentation that completely describe a qualified vehicle that meets all of the options and special requirements of this procurement. The quality assurance organization shall verify that each transit vehicle is manufactured in accordance with these controlled drawings and documentation.

### 4.3.2 MEASURING AND TESTING FACILITIES

Manufacturer shall provide and maintain the necessary gauges and other measuring and testing devices for use by the quality assurance organization to verify that the vehicles conform to all specification requirements. These devices shall be calibrated at established periods against certified measurement standards that have known valid relationships to national standards.

### 4.3.3 PRODUCTION TOOLING AS MEDIA OF INSPECTION

When production jigs, fixtures, tooling masters, templates, patterns, and other devices are used as media of inspection, they shall be proved for accuracy at formally established intervals and adjusting, replaced, or repaired as required to maintain quality.

### 4.3.4 EQUIPMENT USE BY TRIPS LINE INSPECTORS

Manufacturer's gauges and other measuring and testing devices shall be made available for use by the resident inspectors to verify the vehicles conform to all specification requirements. If necessary, Manufacturer's

personnel shall be made available to operate the devices and to verify their condition and accuracy.

## 4.4.0 CONTROL OF PURCHASES

Manufacturer shall maintain quality control of purchases.

## 4.4.1 SUPPLIER CONTROL

Manufacturer shall require that each supplier maintains a quality control program for the services and supplies that it provides. Manufacturer's quality assurance organization shall inspect and test materials provided by suppliers for conformance to specification requirements. Materials that have been inspected, tested, and approved shall be identified as acceptable to the point of use in the manufacturing or assembly processes. Controls shall be established to prevent inadvertent use of nonconforming materials.

## 4.4.2 PURCHASING DATA

Manufacturer shall verify that all applicable specification requirements are properly included or referenced in purchase orders of articles to be used on vehicles.

## 4.5.0 MANUFACTURING CONTROL

Manufacturer shall ensure that all basic production operations, as well as other processing and fabricating, are performed under controlled conditions. Establishment of these controlled conditions shall be based on the documented work instructions, adequate production equipment, and special work environments if necessary.

## 4.5.1 COMPLETED ITEMS

A system for final inspection and test of completed vehicles shall be provided by the quality assurance organization. It shall measure the overall quality of each completed vehicle.

## 4.5.2 NONCONFORMING MATERIALS

The quality assurance organization shall monitor Manufacturer's system for controlling nonconforming materials. The system shall include procedures for identification, segregation, and disposition.

## 4.5.3 STATISTICAL TECHNIQUES

Statistical analysis, tests, and other quality control procedures may be used when appropriate in the quality assurance processes.

### 4.5.4 INSPECTION STATUS

A system shall be maintained by the quality assurance organization for identifying the inspection status of components and completed vehicles. Identification may include cards, tags, or other normal quality control devices.

## 4.6.0 INSPECTION SYSTEM

The quality assurance organization shall establish, maintain, and periodically audit a fully-documented inspection system. The system shall prescribe inspection and test of materials, work in progress, and completed articles. As a minimum, it shall include the following controls.

### 4.6.1 INSPECTION STATIONS

Inspection stations shall be at the best locations to provide for the work content and characteristics to be inspected. Stations shall provide the facilities and equipment to inspect structural, electrical, hydraulic, and other components and assemblies for compliance with the design requirements. Stations shall also be at the best locations to inspect or test characteristics before they are concealed by subsequent fabrication or assembly operations. These locations shall minimally include, as practicable, under-body structure completion, body framing completion, body prior to paint preparation, water test before interior trim and insulation installation, engine installation completion, under-body dress-up and completion, vehicle prior to final paint touch-up, vehicle prior to road test, and vehicle final road completion.

### 4.6.2 INSPECTION PERSONNEL

Sufficiently trained inspectors shall be used to ensure that all materials, components, and assemblies are inspected for conformance with the qualified vehicle design.

### 4.6.3 INSPECTION RECORDS

Acceptance, rework, or rejection identification shall be attached to inspected articles. Articles that have been accepted as a result of approved materials review actions shall be identified. Articles that have been reworked to specified drawing configurations shall not require special identification.

Articles rejected as unsuitable or scrap shall be plainly marked and controlled to prevent installation on the vehicle. Articles that become obsolete as a result of engineering changes or other actions shall be controlled to prevent unauthorized assembly or installation. Unusable articles shall be isolated and then scrapped. Discrepancies noted by Manufacturer during assembly shall be entered on a record that accompanies the major component, subassembly, assembly, or vehicle from start of assembly through final inspection. Actions shall be taken to correct discrepancies or deficiencies in the manufacturing processes, procedures, or other conditions that cause articles to be in nonconformity with the requirements of the contract specifications. The inspection personnel shall verify the collective actions and mark the discrepancy record. If discrepancies cannot be corrected by replacing the nonconforming materials, the procuring agency shall approve the modification, repair, or method of correction to the extent that the contract specifications are affected.

### 4.6.4 QUALITY ASSURANCE AUDITS

The quality assurance organization shall establish and maintain a quality control audit program. Records of this program shall be subject to review by the TRIPS.

## 4.7.0 ACCEPTANCE TESTS

### 4.7.1 RESPONSIBILITY

Fully documented tests shall be conducted on each production vehicle following manufacture to determine its acceptance to the TRIPS. These acceptance tests shall include pre-delivery inspections and testing by Manufacturer, and inspections and testing by the TRIPS prior to and after the vehicles have been delivered.

### 4.7.2 PRE-DELIVERY TESTS

Manufacturer shall conduct acceptance tests at its plant on each vehicle following completion of manufacture and before delivery to the TRIPS. The pre-delivery tests shall include visual and measured inspections, as well as testing the total vehicle operation. The tests shall be conducted and documented in accordance with written test plans. Additional tests may be conducted at Manufacturer's discretion to ensure that the completed vehicles have attained the desired quality and have met the requirements in **Part 2: Technical Specifications**. This additional testing shall be recorded on appropriate test forms provided by Manufacturer. The pre-delivery tests shall be scheduled and conducted with sufficient notice so that they may be witnessed by TRIPS line inspectors, who may accept or reject the results of

the tests. The results of pre-delivery test, and any other tests, shall be filed with the assembly inspection records for each vehicle. The under-floor equipment shall be made available for inspection by the resident inspectors, using a pit or vehicle hoist provided by Manufacturer. A hoist, scaffold, or elevated platform shall be provided by Manufacturer to easily and safely inspect vehicle roofs. The TRIPS shall also conduct pre-delivery tests at the Springhill facility located in Tallahassee. It is Proposer's responsibility to ensure that the vehicle arrives at the Springhill facility prior to Proposer taking delivery of vehicle from Manufacturer. The results of this inspection will accompany the vehicle upon delivery to the purchaser.

### 4.7.3 INSPECTION-VISUAL AND MEASURED

Visual and measured inspections shall be conducted with the vehicle in a static condition. The purpose of the inspection testing is to verify overall dimensional and weight requirements, to verify that the required components are included and are ready for operation, and to verify that components and subsystems that are designed to operate with the vehicle in the static condition do function as designed.

### 4.7.4 TOTAL VEHICLE OPERATION

Total vehicle operation shall be evaluated during road tests. The purpose of the road tests is to observe and verify the operation of the vehicle as a system and to verify the functional operation of the subsystem that can be operated only while the vehicle is in motion. Each vehicle shall be driven for a minimum of fifteen (15) miles during the road tests. Observed defects shall be recorded on the test forms. The vehicle shall be retested when defects are corrected and adjustments are made. This process shall continue until defects or required adjustments are no longer detected. Results shall be pass/fail for these vehicle operation tests. After the road test, the line inspector representing the TRIPS Program reserves the rights to have Manufacturer either raise the vehicle or drive the vehicle across a pit to allow the inspector to check the undercarriage.

## 4.8.0 POST-DELIVERY TESTS

The TRIPS may conduct acceptance tests on each delivered vehicle. These tests shall be completed within ten (10) working days after vehicle delivery. The purpose of these tests is to identify defects that have become apparent between the time of vehicle release and delivery to the purchaser. The post-delivery tests shall include visual inspection and vehicle operations. Vehicles that fail to pass the post-delivery tests are subject to non-acceptance. The TRIPS shall record details of all defects notify Manufacturer of non-acceptance of each vehicle within five (5) working days after

completion of these tests. The defects detected during these tests shall be repaired according to the procedures defined in **Part 1: Solicitation, Offer and Award/Contractual Provisions**.

### 4.8.1 VISUAL INSPECTION

The post-delivery inspection is similar to the inspection at Manufacturer's plant and shall be conducted with the vehicle in a static condition.

### 4.8.2 VEHICLE OPERATION

The road tests for total vehicle operation are similar to those conducted at Manufacturer's plant. Operational deficiencies of each vehicle shall be identified and recorded.

# PART 5

# WARRANTY

# Contract #TRIPS-09-MD-RFP

## Medium Duty Bus Type Vehicles

# WARRANTY PROVISIONS

# TRIPS-09-MD-RFP

## 5.0.0 BASIC PROVISIONS

## 5.1.0 WARRANTY REQUIREMENTS

Warranties in this document are in addition to any statutory remedies or warranties imposed on Contractor. A description of the local dealer warranty process shall be included in the Purchasing Agreement package including information on how warranty issues are tracked. The Contractor warrants and guarantees to the TRIPS each complete vehicle, and specific subsystems and components as follows:

### 5.1.1 COMPLETE VEHICLE

The vehicle is warranted and guaranteed to be free from defects for a minimum of Thirty-six (36) months or one hundred thousand (100,000) miles, whichever comes first, beginning on the date of acceptance of each vehicle. During this warranty period, the vehicle shall maintain its structural and functional integrity. The warranty is based on regular operation of the vehicle under the operating conditions prevailing in the purchaser's locale.

### 5.1.2 SUBSYSTEMS AND COMPONENTS

Specific subsystems and components are warranted and guaranteed to be free from defects and related defects for the times and/or mileages given in **Exhibit 5-1.**

***NOTE:*** ***Parts and labor to be covered in all warranty provisions.***

# Exhibit 5-1

## STANDARD WARRANTY

***Subsystem and Component Minimum Warranty, whichever occurs first.***

| Item | Years | Mileage |
|---|---|---|
| OEM Chassis | | |
| Manufacturers Warranty | | |
| Air Conditioning System | | |
| Alternator | | |
| Wheelchair Lift *(4-years parts & labor)* | | |

### 5.2.0 VOIDING OF WARRANTY

The warranty shall not apply to any part or component of the vehicle 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 Contractor's maintenance manuals and the workmanship was in accordance with recognized standards of the industry. The warranty shall also be void if the purchaser fails to conduct normal inspections and scheduled preventive maintenance procedures as recommended in Contractor's maintenance manuals.

### 5.3.0 EXCEPTIONS TO WARRANTY

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

### 5.4.0 DETECTION OF DEFECTS

If the purchaser detects a defect within the warranty periods defined in **Section 5.1.1**, it shall promptly notify the Dealer representative. Within five (5) working days after receipt of notification, Dealer representative shall either agree that the

defect is in fact covered by the “complete vehicle” warranty, or reserve judgment until the subsystem or component is inspected by Dealer's representative and/or is removed and examined at the purchaser’s property or at the Contractor’s facility. At that time, the status of warranty coverage, either subsystem or vehicle, shall be mutually resolved between the purchaser and Dealer. If the defect belongs to a subsystem or component, then work necessary to affect the repairs defined in **Section 5.1.2** shall commence within ten (10) working days after receipt of notification by Dealer. Otherwise, **Section 5.1.1** applies and repairs will be started immediately.

## 5.5.0 SCOPE OF WARRANTY REPAIRS

When warranty repairs are required, the purchaser and Dealer'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 purchaser reserves the right to commence the repairs in accordance with **Section 5.7.1**.

## 5.6.0 FLEET DEFECTS

A fleet defect is defined as the failure of identical items covered by the warranty and occurring in the warranty period in a proportion of the vehicles delivered under this contract. For the purpose of this bid, identical defects occurring in sixty (60) percent of vehicles delivered shall be considered a "fleet defect."

### 5.6.1 SCOPE OF WARRANTY PROVISIONS

Dealer shall correct a fleet defect under the warranty provisions defined in **Section 5.4.0**. After correcting the defect, Dealer shall promptly undertake and complete a work program reasonably designed to prevent the occurrence of the same defect in all other vehicles purchased under this contract. The work program shall include inspection and/or correction *of* the potential or defective parts in all of the vehicles. The warranty on items determined to be fleet defects shall be extended for the time and/or miles of the original warranty. This extended warranty shall begin on the date a fleet defect was determined to exist, or on the repair/replacement date for corrected items.

### 5.6.2 VOIDING OF WARRANTY PROVISIONS

The fleet defect provisions shall not apply to vehicle defects caused by noncompliance with Dealer's recommended normal maintenance practices and procedures.

### 5.6.3 EXCEPTIONS TO WARRANTY PROVISIONS

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, interior trim, and paint. The provisions shall not apply to purchaser supplied items such as fareboxes, two-way radios, and tires.

## 5.7.0 REPAIR PROCEDURES

### 5.7.1 REPAIR PERFORMANCE

In some instances, the TRIPS may require Dealer or its designated representative to perform warranty-covered repairs that are clearly beyond the scope of its capabilities. In these cases, this work will be done by the TRIPS's personnel with reimbursement by Dealer.

### 5.7.2 REPAIRS BY CONTRACTOR

If the TRIPS requires a Dealer to perform warranty-covered repairs, Dealer's representative must begin within ten (10) working days after receiving notification of a defect from the purchaser, work necessary to effect repairs. The purchaser shall make the vehicle available to complete repairs timely with Dealer repair schedule. Dealer shall provide at its own expense all spare parts, tools, and space required to complete repairs. At the TRIPS's option, Dealer may be required to remove the vehicle from the purchaser's property while repairs are being affected. If the vehicle is removed from the purchaser's property, repair procedures must be diligently pursued by Dealer's representative.

## 5.8.0 REPAIRS BY THE PURCHASER

### 5.8.1 PARTS USED

If the purchaser performs the warranty-covered repairs, it shall correct or repair the defect and any related defects using contractor-specified spare parts available from its own stock or those supplied by Dealer specifically for this repair. Monthly (or at a period to be mutually agreed upon) reports of all repairs covered by this warranty shall be submitted by the purchaser to Proposer for reimbursement or replacement of parts. Dealer shall provide forms for these reports.

### 5.8.2 CONTRACTOR SUPPLIED PARTS

The TRIPS may request that Dealer supply new parts for warranty-covered repairs being performed by the purchaser. These parts shall be shipped prepaid to the purchaser, from any source selected by Dealer, the "next business day" from receipt of the request for said parts.

### 5.8.3 DEFECTIVE COMPONENTS RETURN

Dealer may request that parts covered by the warranty be returned to the manufacturing plant. The total cost for this action shall be paid by Dealer. Materials should be returned in accordance with contractor's instructions.

### 5.8.4 REIMBURSEMENT FOR LABOR

The purchaser shall be reimbursed by Dealer for labor. The amount shall be determined by multiplying the number of man-hours actually required to correct the defect by the purchaser's current per hour, master mechanic, straight wage rate, plus 32 percent fringe benefits, plus the cost of towing in the vehicle if such action was necessary and if the vehicle was in the normal service area. These wage and fringe benefit rates shall not exceed the rates in effect in the purchaser's service garage at the time the defect correction is made. The purchaser shall not accept parts credit as payment of warranty labor claims.

### 5.8.5 REIMBURSEMENT FOR PARTS

The purchaser shall be reimbursed by Dealer for defective parts and for parts that must be replaced to correct the defect. The reimbursement shall be at the invoice cost of the part(s) at the time of repair and shall include taxes where applicable and 2 percent handling charges. The purchaser shall not accept parts credit as payment of warranty part claims.

## 5.9.0 WARRANTY AFTER REPLACEMENT / REPAIRS

If any component, unit, or subsystem is repaired, rebuilt, or replaced by Dealer or by the TRIPS Program personnel, with the concurrence of Dealer, the subsystem shall have the unexpired warranty period of the original subsystem.

## 5.10.0 DEALER WARRANTY SERVICE AND REPORTING

Contract dealers and the manufacturers they represent will have representatives meet with FDOT in Tallahassee, three to four times each year. The primary focus of these meetings will be discussion of contract concerns, handling of warranty requests and areas receiving repetitive inspection write-ups.

### 5.10.1 CONTRACT DEALERS WARRANTY SERVICE

Should clearly instruct and encourage procuring agencies that when they have maintenance issues that may be covered under warranty, to always contact their dealer FIRST. Dealers should have an effective system in place to allow agencies to speak with a representative about an issue, in a timely manner.

### 5.10.2 CONTRACT DEALERS RESPONSIBILITY

Contract Dealers are responsible for all aspects of the warranty process. This includes scheduling, coordinating and monitoring all warranty repairs and parts replacements until they are fully resolved. This applies to the OEM chassis, bus manufacturer and vendor related warranty work. Dealers should seek to minimize the time required for resolving warranty issues. Dealers are to coordinate with agencies to provide qualified warranty repairs with minimal disruption to agencies.

### 5.10.3 MAINTAIN TRACKING SYSTEM

Contract Dealers should maintain a "tracking" system with information on the below responsibilities.

- Note when an agency reports a problem with description of problem;
- Contact repair facility and schedule diagnostics/repair;
- Notify the agency of the repair facility/appointment date/contact person;
- Communicate with repair facility until repair is complete;
- Notify the agency that the vehicle is ready for pick up;
- Follow-up with agency to confirm that the repair resolved the problem;

### 5.10.4 AGENCY PERFORM REPAIRS

Contract Dealer may, when requested, authorize an agency's maintenance certified technicians to perform warranty service. However, dealers are still responsible for monitoring that the agency receives correct replacement parts; return shipping and proper labor reimbursements in a timely manner.

### 5.10.5 WARRANTY REPORTING

Contract Dealer is required to update an on-line report of all completed and ongoing warranty repairs and parts replacement. This report is to be submitted weekly to the TRIPS Administrator. This report will provide dates, vendors, actions taken and current status. The report will be submitted in the same manner that dealers' report the status of current bus orders. This report will include information such as dates, contact persons, telephone numbers, description of the problem, repair facility, release date from the repair facility, agency notification dates and agency follow-up dates.

# PART 6

# PAINT SCHEMES

# Contract #TRIPS-09-MD-RFP

## Medium Duty Bus Type Vehicles

# PAINT SCHEMES

# TRIPS-09-MD-RFP

## 6.1.0 EXTERIOR VEHICLE IDENTIFICATION

6.1.1 The TRIPS RFP is requesting a basic white exterior vehicle with 6 inch wide white reflective stripe, 3M, or approved equal, on all four exterior sides, located between the bottom of the windows and above the wheel wells. Proposer shall submit pricing and drawing showing location of reflective stripe on proposed bus.

6.1.2 Individual corporate logos, agency name in specific size block lettering, reflective material, vinyl wrap or other vehicle identification requested by the Purchaser will be negotiated separately between the Purchaser and the Dealer outside of the TRIPS contract, but included in the final Purchase Order specifications and pricing for each vehicle.

6.1.3 FDOT assigns a specific number to each vehicle purchased using its Capital funding sources. The identification shall be displayed as **FDOT #000000** in 3M reflective material, or approved equal, Helvetica Medium two inch lettering/numbering. The numbering will be displayed on the rear and front of the vehicle at locations agreed to by TRIPS. It will be the dealer's responsibility to obtain this number from FDOT and post on the vehicle at delivery or immediately thereafter.

# PAINT SCHEME #1

*(As per 6.6.1, six inch wide reflective strip)*

# PAINT SCHEME #2

# PAINT SCHEME #3