

Invitation for Bid	If, at the time of the scheduled bid opening, City Hall is closed due to uncontrolled events such as fire, snow, ice, wind, or building evacuation, the bid opening will be postponed to the same time on the next normal business day. Bids will be accepted until that date and time.
FILE NO 7377	
COMMODITY: Electric Powered Bus	
NAME OF BIDDER:	
BIDDER'S FED. ID.	

TO: Amy L. Witts, Purchasing Agent PH: (617)349-4310 FX: (617)349-4008
 795 Massachusetts Avenue, Room 303
 Cambridge, MA 02139

The undersigned submits this sealed bid to provide the commodity or services identified above, described in the specifications herein and advertised in the **Cambridge Chronicle** on **Thursday, September 8, 2016** which is to be opened and publicly read at the Office of the Purchasing Agent, City Hall, 795 Mass. Ave., Room 303, Cambridge, MA at 11:00 a.m. on **Thursday, September 22, 2016**. **This bid may be downloaded from the City's web site, www.CambridgeMA.gov, Online Services, Purchasing Bid List, Invitation for Bid, File No.7377.**

Parking is limited at this location; it is strongly recommended that bids are mailed or delivered in advance of the due date and time. Late proposals will not be accepted.

The undersigned certifies that this bid is made without collusion with any other person, firm or corporation making any other bid or who otherwise would make a bid. The undersigned agrees to furnish the commodity or services in strict accordance with the bid documents, which consist of this Invitation for Bid and all attachments hereto. **"The submitted bid must be without conditions, exceptions or modifications to the bid document"**.

The envelope containing the bid must be labeled: "This envelope contains a bid for **the Electric Powered Bus opened at 11:00 a.m. on Thursday, September 22, 2016**. **The bid and all documents submitted with it are public records.**

This bid process and the award of the contract are made in conformity with M.G.L. c. 30B, unless otherwise stated.

See other side of this form for General Terms and Conditions that shall become part of any Contract awarded through this Invitation for Bid.

This bid includes addenda numbered: _____

SIGNATURE OF BIDDER: _____

TITLE OF SIGNATORY _____

ADDRESS OF BIDDER _____

TELEPHONE NUMBER _____ **FAX NUMBER:** _____

Please check one of the following and insert the requested information:

() Corporation, incorporated in the State of: _____

() Partnership. Names of partners: _____

() Individual: _____

Name of Bidder: _____

GENERAL TERMS AND CONDITIONS

- LAWS:** All deliveries shall conform in every respect with all applicable laws of the Federal government, Commonwealth of Massachusetts and City of Cambridge.
- EQUAL OPPORTUNITY:** The Vendor in the performance of the contract shall not discriminate on the grounds of race, color, religious creed, national origin or ancestry, age, disability, sexual orientation, marital status, family status, military status, source of income, or sex in employment practices or in the selection or retention of subcontractors, and in the procurement of materials or rental of equipment. The City may cancel, terminate or suspend the contract in whole or in part for any violation of this paragraph
- TAXES:** Purchases made by the City are exempt from the payment of Federal excise tax and the payment of Commonwealth of Massachusetts sales tax (except for gasoline) and any such taxes must not be included in the bid prices.
- QUANTITIES:** Unless otherwise stated, the quantities set forth herein are ESTIMATES ONLY. The City reserves the right to purchase the commodity(ies) specified in any amount less than the estimated amount.
- BID PRICES:** Bid prices shall include transportation and delivery charges fully prepaid to the City of Cambridge destination. Where the unit price and the total price are at variance, the unit price will prevail.
- DELIVERY AND PACKAGING:** Deliveries must be made in such quantities as called for in the purchase order and in the manufacturer's original packages. All deliveries must be **"inside" delivery with no assistance from City personnel. Tailgate deliveries will not be accepted.** Rejected material will be returned to the vendor at the vendor's expense.
- MODIFICATION OF BIDS:** Prior to bid opening, a bidder may correct, modify or withdraw its bid by making the request in writing prior to the time and date for the bid opening. All corrections and modifications must be delivered to the Purchasing Department in a sealed envelope indicating that it contains a modification or correction of the original bid submitted for the particular commodity and indicating the time and date of the bid opening.
- REJECTION OF BIDS:** The City reserves the right to reject any and all bids if it is in best interest of the City to do so.
- AWARD OF CONTRACT:** Contract(s) will be awarded within forty-five days of the bid opening unless award date is extended by consent of all parties concerned.
- INDEMNITY:** Unless otherwise provided by law, the Vendor will indemnify and hold harmless the City against any and all liability, loss, damages, costs or expenses for personal injury or damage to real or tangible personal property which the City may sustain, incur or be required to pay, arising out of or in connection with the performance of the Contract by reason of any negligent action/inaction or willful misconduct by the Contractor, its agents, servants or employees
- TERMINATION OF CONTRACT:** Except as otherwise provided in the Articles of Agreement, the City may terminate the contract upon seven days notice.
- ASSIGNABILITY:** The Vendor shall not assign, sell, subcontract or otherwise transfer any interest in this contract without the prior written consent of the City.

MATERIAL SAFETY DATA SHEETS: Pursuant to M.G.L. c. 111F, ss. 8, 9, and 10, any vendor who receives a contract resulting from this invitation agrees to submit a Material Safety Data Sheet for each toxic or hazardous substance or mixture containing such substance when deliveries are made. The vendor agrees to comply with all requirements set forth in the pertinent laws above

Name of Bidder: _____

TO: Amy L. Witts, Purchasing Agent
City Hall, Cambridge, Massachusetts 02139

The undersigned hereby proposes to furnish and deliver an Electric Powered Bus” for the City of Cambridge/ Cambridge Public Schools in accordance with the attached specifications and following schedule.

Prices must remain **FIRM** during the entire contract period.

One award will be made as a result of this Invitation for Bid. **The award will be made to the responsive and responsible bidder offering the lowest total price** The Contract will be awarded by within forty-five days of the bid opening, unless award date is extended by consent of all parties concerned.

Prior to bid opening, a bidder may correct, modify or withdraw its bid by making the request in writing prior to the time and date for the bid opening. All corrections and modifications must be delivered to the Purchasing Department in a sealed envelope with a notation on the envelope indicating that it contains a modification or correction of the original bid submitted for the particular commodity and indicating the date and time of the bid opening.

PLEASE SUBMIT YOUR BID IN DUPLICATE (one original and one copy. No hard binders please).

A sample contract is attached hereto. The bidder must be willing to sign the City’s contract. The City will not accept a bidder’s terms & conditions.

Questions

Questions for this Invitation for Bid must be submitted in writing and either emailed to: purchasing@cambridgema.gov or delivered to the Office of the Purchasing Agent, Amy L. Witts, City Hall, 795 Massachusetts Avenue, Room 303, Cambridge, MA 02139 by **11:00AM on Thursday, September 15, 2016.**

Bidders should check the website for any addenda issued. Bidders will not be notified individually of Addendums.

Please **review the bidders list** on the website. If your firm is not listed please click on the “Registry” and notify us that you have downloaded the bid document.

Wage Theft Prevention Certification

In Executive Order 2016-1, the City of Cambridge established requirements for City contracts in an effort to prevent wage theft. Prospective vendors must provide certifications or disclosures with their bids/proposals. Failure to provide the certifications or disclosures shall result in rejection of the bid/proposal. Please see the **Wage Theft Prevention Certification form attached.**

Living Wage Requirement

The City of Cambridge has a Living Wage Requirement that establishes minimum hourly rates for all Personnel that work on any City contract. The City of Cambridge's Living Wage as of March 1, 2016 \$15.04 per hour. The Living Wage Requirements are attached.

The successful bidder must meet or exceed the Living Wage as it may change during the term or any contract period or renewal.

Bid Results

The tab sheet and the contract award information will not be mailed to the bidders individually. A tab sheet with the bid results will be posted to the website soon after the bid opening. The tab sheet will include the “contract award” information as soon as it is determined.

Confidentiality and Public Records Law

All bids or other materials submitted by the vendor in response to this Invitation to Bid will be open for inspection by any person and in accordance with the Massachusetts Public Records Law.

Name of Bidder: _____

I. GENERAL INFORMATION

Purpose

The City of Cambridge/Cambridge Public Schools (referred to hereafter as CPS) intends to award a contract for the provision of one fully manufactured 70+ capacity Type C electric powered school bus. The school bus must meet or exceed the Commonwealth of Massachusetts Standards for Construction and Equipment of School Buses (540 CMR 7.00). A complete list of the Massachusetts school bus standards are attached.(see Appendix A).

Delivery Schedule

The Vendor will deliver a 70 plus passenger all-electric school bus to a location in the City of Cambridge to be determined by CPS within 60 days of the contract execution.

If the vendor fails to deliver the bus within the time schedule specified herein, or if the vendor delivers a bus that does not conform to all of the provisions of this contract, CPS may, by written notice of default to the vendor, terminate the whole or any part of this contract.

Description of Entity

The Cambridge Public Schools, located in Cambridge, Massachusetts, serve approximately 7,000 students in 17 schools at 13 locations. Over 700 faculty members teach and support pre-K, elementary, upper campus, and high school programs.

II. SPECIFICATION SCHEDULE

Vendors shall provide the information requested below. All stated requirements must be met for the bid to be considered.

Type of Electric Powered Bus

The purpose of this IFB is to contract for the purchase of one fully manufactured Type C electric powered school bus. The school bus must be capable of – or able to be retrofitted (at manufacturer’s expense) in order to become capable of – charging and discharging (bidirectional charging) electrical power to and from the electrical source. The bus shall also be capable of carrying at least 70 students.

The school bus must meet or exceed the Commonwealth of Massachusetts Standards for Construction and Equipment of School Buses (540 CMR 7.00) and the United States Department of Transportation, Federal Motor Vehicle Safety Standards applicable to school buses. The delivered bus must pass inspection by the Massachusetts Registry of Motor Vehicles for the purpose of transportation of children ages 5 to 18.

A manufacturer’s certification for compliance with all applicable Federal Motor Vehicle Safety Standards for school buses must be presented at the time the bus is delivered.

1.0 Firm Overview and Description of Vehicle

Vendors should submit with their bid a description of their organization and experience manufacturing electric school buses. The description of experience should include number of electric school buses currently used in school bus operations.

Name of Bidder: _____

Vendors should provide the number of total school buses built by the firm, including years and miles of operational experience with the chassis. Please note school districts where chassis is being used.

2.0 Drive Train and Mechanical Operating System Capabilities

Please provide the dimensions of the electric motor and power train.

Describe the vehicle propulsion system, including the process used to convert electric power from the battery subsystem into mechanical power to drive the vehicle's wheels. Vendors should note if their electric motor operates with Direct Current (DC) or Alternative Current (AC) power.

- Vehicles must have the ability to change the powertrain differential ratio to maximize range performance in mountain routes, city routes, highway routes or a combination of mountain, city and highway routes.

Describe the drive train system, including the number of drive motors, drive motor size and weight (in kg) and power ratings (kW).

Describe vehicle performance while fully loaded in terms of maximum operating speed, grade-ability and acceleration. Please provide documentation of process for verifying submitted vehicle performance claims.

Vendors shall specify the range of the vehicle proposed.

- School bus shall be capable of a minimum of a 75 mile range on a single battery charge on routes measured with 50% city miles and 50% highway miles. Vehicle and battery system must be able to maintain this level of service for two years with no degradation. Please provide documentation of process for verifying submitted vehicle range.
- Vehicles must be capable of operating at minus 20 degrees Fahrenheit (-20F) to 95F with limited loss of range (no more than 10% reduction of documented range) on routes cleared of snow. Please describe vehicle testing and verification and performance in cold climates and conditions.

Vendors shall propose methods to add range to vehicle through the installation of additional battery packs. Vendors are requested to describe proposed battery additions, indicated additional range provided, weight added to the vehicle and the cost of the additional battery packs as well as cost of installation of additional battery packs.

School bus must utilize regenerative braking to charge batteries and meet all United States Federal Vehicle Safety Standards in regards to its braking system.

Name of Bidder: _____

3.0 Heating and Climate Control Systems

Per 540 CMR 7.00, school buses must be equipped with heating units and be able to sustain 60 degrees F (plus or minus 3 degrees) inside the vehicle when the outside temperature is 32 degrees F ambient. Heaters should not decrease vehicle range by more than one percent.

Standards requested in Section 2.0 require that school bus vehicles be operable in temperatures as cold as -20F. Please describe achievable in vehicle temperature when outside temperature is -20F, and also describe how heating the interior cabin in such cold conditions may affect vehicle range.

In addition, vendors shall provide documentation certifying heating system capabilities. Vendors shall describe their proposed heating systems, including fuel source and flexibility to accommodate different fuel types as requested by local school district.

The use of electric heaters to pre-heat the vehicle cabin is not preferred; however, using electric heat to keep the batteries warm is acceptable. Vendors shall describe their proposed system for pre-heating vehicle cabins.

4.0 Vehicle Battery Systems

Vehicle battery system must have the ability to operate 75 miles on a fully (100%) charged battery for at least two years.

Vendors shall describe their proposed energy storage/battery system, including the number of battery packs and battery chemistry. Vendor's description of the battery system should include:

- Recommended battery system and estimated range
- Battery efficiency (miles per kWh)
- Time (in minutes) to charge batteries from 20% state of charge to 100% state of charge on a level 2 charger.
- Time (in minutes) to charge batteries from 20% state of charge to 80% state of charge on a level 2 charger.
- Battery capacity (amps per hour per cell)
- Battery storage capacity (kWh)
- Total usable battery energy storage capacity (kWh)
- Total battery pack C-rate. (C-rate is the rate at which a battery is discharged relative to its maximum capacity. A 1C rate means that the discharge current will discharge the entire battery in 1 hour. A 100 Amp-hour battery, for example, will discharge 100 amps and C/2 will discharge at 50 amps and take 2 hours.)
- Total battery pack E-rate. (E-rate describes the discharge power. A 1E rate is the discharge power to discharge in 1 hour.) Source of C-Rate and E-rate. A Guide to Understanding Battery Specifications. MIT Electric Vehicle Team)
- Battery Cycle Life in number of charge-discharge cycles at a specific depth of discharge (DOD)
- Battery thermal management type (describe battery maintenance and operational requirements in when vehicle is in use and not in use (parked) under different weather conditions (extreme cold and heat))

Name of Bidder: _____

5.0 Battery Management Systems

Vendors should describe their proposed Battery Management System (BMS), including onboard display systems available to the driver and off-board systems available to the fleet manager or transportation control center. Vendors should note the accuracy of measurements for the BMS. As part of describing their BMS and communication protocols, vendors should note host requirements or expectations.

- On-vehicle instrumentation shall display remaining range (in miles) of the vehicle, battery pack state of charge, battery pack state of health, battery depth of discharge or any other measured battery parameter.
- Off-board BMS shall likewise be capable of communicating the remaining range (in miles) of the vehicle, battery pack state of charge, battery pack state of health, and depth of discharge. Preference is for information communicated through one of the following protocols: SEP2.0; OCPP, or MODBUS; however, other communication protocols can be proposed and will be considered. Vendors should describe their communication protocol in detail, noting any host requirements or expectations.
- Vendors shall propose a BMS that includes systems capable of metering 15-minute average kW readings during both charge and discharge operations. Information shall be stored in memory with date and time stamp. The system shall be capable of storing up to 2 months of 15 minute average power data. Average power shall be recorded on a quarter hour schedule with power recorded for the previous 15 minute time interval. The memory storage shall operate in a continuous ring by overwriting oldest data. Charging power readings shall be taken at the input of the battery charger. Discharging power readings shall be taken at the battery terminals.
- The BMS shall, upon receipt of acceptable communication protocol, communicate all battery measurement parameters and charge/discharge power measurements providing USB communication port and provide download of power parameters in a .CSV format.

Vendors shall describe the managed charging system included with the vehicle as well as provide complete specifications of the BMS. The system must support the scheduling and/or programming of battery charging by input from on-board BMS or by communication from fleet charging BMS or building management system.

6.0 On-Board Charging Systems

Vendors should describe their preferred charging/discharging systems including electric vehicle supply equipment (EVSE) noting that the expectation is that vehicles will most likely be fitted with on board AC Level 2 (19.2 kW) bidirectional charging/discharging systems that conform to the most recent SAE J1772 standards and/or other relevant standards for vehicle to building (V2B) bi-directional power flow.

The vehicles should also be fitted with or be capable of being fitted with DC Fast Charge/Discharge system with a coupler capable of a sustained maximum of 90kW of power transfer at a maximum of 200 AMPS. If vehicle is not equipped with DC Fast Charging capability, vendors will have an opportunity to note cost of including DC FC charging capabilities.

The coupler should conform to all current SAE standards.

- All charging system components shall have UL approval certification or provide documentation that UL approval is in process. If UL approval is not available or process has not yet been begun,

Name of Bidder: _____

the vendor should provide documentation that UL certification process will be actively sought (i.e. demonstrate serious market intentions) during charging systems expected lifetime.

- All charging system components, including the coupler/s, shall also meet or exceed the most current SAE Standards and comply with relevant IEEE standards
- Charging systems shall be capable of operating from -20F to 122F with no more than 10% degradation in specified performance.

7.0 Warranty

Vendor should describe the vehicle, battery, and charging system warranty. Minimum requirements with regard to the warranty include:

- All electronic and powertrain components for minimum of 5 years or 100,000 miles. Note this warranty will cover performance of the vehicle overall and cover all potential malfunctions related to vehicle operations such as noise, vibration, operations and heating systems.
- Batteries and battery packs for minimum of 5 years with 80% initial range remaining (i.e. ability to travel at least 60 miles on a full charge when battery is five years old). Please note restrictions on battery warranty, if any, associated with uses in bidirectional applications.
- Charging systems for a minimum of 5 years.
- Chassis and suspension for a minimum of 5 years or 100,000 miles.

8.0 Operating Manuals and Training

Vendors shall propose /describe training included with the vehicle, including driver and mechanical maintenance and repair training, as well as ongoing support provided. The vendor must provide technical, mechanical, repair and operating manuals on all systems (drive train, battery/energy storage, and inverter-charger as well as ancillary systems). This information shall also include a bill of materials or complete list of parts for the vehicle and all subsystems. Descriptions submitted as part of this IFB document shall not necessarily be considered sufficient technical documentation.

9.0 Other

All electronic equipment shall meet or exceed FCC class B (electromagnetic interference) requirements. This includes all communication and charging equipment.

The bus must also meet the following general specifications:

- Minimum of 13 inches of seating space per passenger, exclusive of the driver
- Factory installed state of the art lap seat belts which shall be industry standard color coded (3 colors) and Child Checkmate System or equivalent
- Heater exterior mirrors
- Acoustic head liner above the driver's seat to reduce noise and distractions
- Flashing lights: 8 light package with stop arm
- Rear exit door equipped with a buzzer to alert the driver if it is opened when students are on board
- One inch 3M Diamond Grade reflective tape surrounding the exterior and interior of all exit windows
- Heating, lighting, mirrors, signs, identification markings, colors to meet all Federal and State standards for school buses

Name of Bidder: _____

- Evacuation markings on the interior roof of each bus
- Marked with signage on the sides of the bus stating Cambridge Public Schools, marked with a vehicle number (to be determined by CPS) on 3 sides of the bus, and in compliance with all other signage requirements as apply per Massachusetts standards.

The vendor must indicate the model year of the Electric Powered Bus. Vendors should also note the final vehicle weight, without passengers, but with the proposed drive train and energy storage (battery) systems.

Vendors shall provide additional information about their vehicles or systems that they feel warrant more attention or consideration.

QUALITY REQUIREMENTS

A “No” response, a failure to respond, or a failure to meet any of the following Quality Requirements will result in a rejection of your bid.

- Circle YES or NO for each of the following Quality Requirements: (1 - X)

Circle YES or NO for each of the following Quality Requirements:

1. The vendor is able to provide one fully manufactured 70+ capacity Type C electric powered school bus that meets all of the requirements stated in this Invitation for Bid.

YES NO

2. The school bus meets or exceeds the Commonwealth of Massachusetts Standards for Construction and Equipment of School Buses (540 CMR 7.00) and the United States Department of Transportation, Federal Motor Vehicle Safety Standards applicable to school buses.

YES NO

3. The vendor agrees to provide a warranty as described in section 7.0 of the Specification Schedule.

YES NO

4. The bus will be delivered to a location in the City of Cambridge to be determined by CPS within 60 days of contract execution.

YES NO

5. The vehicle is – or will be – equipped with bidirectional charging/discharging systems. Bidirectional charging/discharging systems must be fully functional no later than June 30, 2017.

YES NO

Name of Bidder: _____

III. BID SUBMISSION REQUIREMENTS

Failure to submit the documents requested may result in the determination that your bid is non-responsive unless the City deems such a failure to be a minor informality.

1. Submit a completed Price Proposal.
2. Submit a written response to all sections 1.0-9.0 of the Specification Schedule.
3. Submit the names, addresses, contact persons, email addresses and telephone numbers of at least two prior organizations that have purchased an electric school bus.

References may overlap. Cambridge Public Schools reserves the right to use itself as a reference. A bid may be rejected on the basis of one or more references reporting less than excellent past performance by the bidder.

4. Submit a (brief) written description of the vendor's timeline for bus delivery.

V. PRICE PROPOSAL

The Contract will be awarded to the qualified bidder offering the lowest total price for one Type C electric powered school bus meeting all specifications indicated in these specifications. All prices are to remain firm. Pricing must include all costs associated with furnishing and delivering the Electric Powered Bus.

Total bid price: _____

Total in words: _____

Signature of Bidder: _____

Signature: _____

Name of Bidder: _____

Email Address: _____

Name of Bidder: _____

**Americans with Disabilities Act (42 U.S.C. 12131)
Section 504 of the Rehabilitation Act of 1973
Tax Compliance/Anti-Collusion Statement
Debarment Statement**

The Americans with Disabilities Act (the "Act") applies to all employers of fifteen or more employees. All vendors that are subject to the Act must comply with its provisions. In further compliance with the Act, all Contractors who enter into contracts with the City are prohibited from discrimination against the City's employees, regardless of the size of the Contractor.

The Act protects against discrimination on the basis of "disability", which is defined as a physical or mental impairment that substantially limits at least one "major life activity"; discrimination against a person having a history or record of such impairment; and discrimination against an individual regarded - even if inaccurately - as having such an impairment. The Act also expressly prohibits discrimination that is based on an individual's relationship or association with a disabled person.

The Contractor shall not discriminate against any qualified employee or job applicant with a disability and will make the activities, programs and services covered by any contract awarded through this procurement readily accessible to and usable by individuals with disabilities. To be qualified for a job, or to avail oneself of the Contractor's services, the individual with the disability must meet the essential eligibility requirements for receipt of the Contractor's services or participation in the Contractor's programs or activities with or without: 1) reasonable modifications to the Contractor's rules, policies and practices; 2) removal of architectural, communication, or transportation barriers; or, 3) provisions of auxiliary aids and services.

By submitting its contract, the Contractor certifies to the City of Cambridge that it understands and will comply with all applicable provisions of the Act, including compliance with applicable provisions of Section 504 of the Rehabilitation Act of 1973, if the Contractor is receiving federal funds.

The undersigned certifies under penalties of perjury that this contract has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals

As required by M.G.L. c. 62C, §49A, the undersigned certifies under the penalties of perjury that the Contractor has complied with all laws of the commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

The undersigned certifies that it is not currently subject to any State or Federal debarment order.

Date: _____

(Print Name of person signing bid)

(Signature & Title)

This form must be submitted with your bid

Name of Bidder: _____

WAGE THEFT PREVENTION CERTIFICATION

In Executive Order 2016-1, the City of Cambridge established requirements for City contracts in an effort to prevent wage theft. Prospective vendors must provide the following certifications or disclosures with their bids/proposals. Failure to provide the following shall result in rejection of the bid/proposal.

Instructions for this form:

A prospective vendor must check box 1 or box 2, as applicable, as well as boxes 3-5, and must sign this Form, certifying compliance with the requirements set out in this Form. This Form must be included with the bid or proposal, and for multi-year contracts must be completed annually on the contract anniversary and filed with the Purchasing Agent.

The undersigned certifies under the pains and penalties of perjury that the vendor is in compliance with the provisions of Executive Order 2016-1 as currently in effect.

All vendors must certify that [check either box 1 or box 2, as applicable]:

1. Neither this firm nor any prospective subcontractor has been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, G.L. c. 151, or 29 U.S.C. 201 *et seq.* within three (3) years prior to the date of this bid/proposal submission.

OR

2. This firm, or a prospective subcontractor of this firm, has been subject to a federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, G.L. c. 151, or 29 U.S.C. 201 *et seq.* within three (3) years prior to the date of this bid/proposal submission and such documentation is included in the bid/proposal submission.

In addition, all vendors must certify each of the following:

3. Any federal or state criminal or civil judgment, administrative citation, final administrative determination, order or debarment resulting from a violation of G.L. c. 149, G.L. c. 151, or 29 U.S.C. 201 *et seq.* imposed on this firm or on any prospective subcontractor while any bid/proposal to the City is pending and, if awarded a contract, during the term of the contract, will be reported to the Purchasing Agent or other City department within five (5) days of receiving notice.

Name of Bidder: _____

4. Vendors awarded a contract that have disclosed a federal or state criminal or civil judgment, administrative citation, final administrative determination, or order resulting from a violation of G.L. c. 149, G.L. c. 151, or 29 U.S.C. 201 *et seq.* within three (3) years prior to the date of this bid/proposal, while the bid/proposal was pending, or during the term of the contract shall, upon request, furnish their monthly certified payrolls for their City contract to the Purchasing Agent for all employees working on such contract and are required to obtain a wage bond or other suitable insurance in an amount equal to the aggregate of one year's gross wages for all employees. Vendors subject to a state or federal debarment for violation of the above laws or prohibited from contracting with the Commonwealth are prohibited from contracting with the City, and upon a finding or order of debarment or prohibition, the City may terminate the contract.

5. Notice provided by the City, informing employees of the protections of Executive Order 2016-1 and applicable local, state, and federal law will be posted by this firm in conspicuous places.

Attested hereto under the pains and penalties of perjury:

(Typed or printed name of person signing
quotation, bid or proposal)

Signature

(Name of Business)

Pursuant to Executive Order 2016-1, vendors who have been awarded a contract with the City of Cambridge must post the Massachusetts Wage and Hour Laws notice informing employees of the protections of G.L. c. 149, G.L. c. 151, and 21 U.S.C. 201 *et seq.* in conspicuous places. This notice can be found at <http://www.mass.gov/ago/docs/workplace/wage/wagehourposter.pdf>

Name of Bidder: _____

CORI COMPLIANCE FORM

Persons and businesses supplying goods and/or services to the City of Cambridge (“Vendors”), who are required by law to perform CORI checks, are further required by Section 2.112.060 of the Cambridge Municipal Code to employ fair policies, practices and standards relating to the screening and identification of persons with criminal backgrounds through the CORI system. Such Vendors, when entering into contracts with the City of Cambridge, must affirm that their policies, practices and standards regarding CORI information are consistent with the policies, practices and standards employed by the City of Cambridge as set forth in the City of Cambridge CORI Policy (“CORI Policy”) attached hereto.

CERTIFICATION

The undersigned certifies under penalties of perjury that the Vendor employs CORI related policies, practices and standards that are consistent with the provisions of the attached CORI Policy. **All Vendors must check one of the three lines below.**

1. _____ CORI checks are not performed on any Applicants.
2. _____ CORI checks are performed on some or all Applicants. The Vendor, by affixing a signature below, affirms under penalties of perjury that its CORI policies, practices and standards are consistent with the policies, practices and standards set forth in the attached CORI Policy.
3. _____ CORI checks are performed on some or all Applicants. The Vendor’s CORI policies, practices and standards are not consistent with the attached CORI Policy. Please explain on a separate sheet of paper.

(Typed or printed name of person signing quotation, bid or Proposal)

Signature

(Name of Business)

NOTE:

The City Manager, in his sole discretion may grant a waiver to any Vendor on a contract by contract basis.

Instructions for Completing CORI Compliance Form:

A Vendor should not check Line 1 unless it performs NO CORI checks on ANY applicant. A Vendor who checks Line 2 certifies that the Vendor’s CORI policy conforms to the policies, practices and standards set forth in the City’s CORI Policy. A Vendor with a CORI policy that does NOT conform to the City’s CORI Policy must check Line 3 and explain the reasons for its nonconformance in writing. Vendors, who check Line 3, will not be permitted to enter into contracts with the City, absent a waiver by the City Manager.

This form must be submitted with your bid

Name of Bidder: _____

City of Cambridge CORI Policy

1. Where Criminal Offender Record Information (CORI) checks are part of a general background check for employment or volunteer work, the following practices and procedures will generally be followed.
2. CORI checks will only be conducted as authorized by Criminal History Systems Board (CHSB). All applicants will be notified that a CORI check will be conducted. If requested, the applicant will be provided with a copy of the CORI policy.
3. An informed review of a criminal record requires adequate training. Accordingly, all personnel authorized to review CORI in the decision-making process will be thoroughly familiar with the educational materials made available by the CHSB.
4. Prior to initiating a CORI check, the City will review the qualifications of the applicant to determine if the applicant is otherwise qualified for the relevant position. The City will not conduct a CORI check on an applicant that is not otherwise qualified for the relevant position.
5. Unless otherwise provided by law, a criminal record will not automatically disqualify an applicant. Rather, determination of suitability based on CORI checks will be made consistent with this policy and any applicable law or regulations.
6. If a criminal record is received from CHSB, the authorized individual will closely compare the record provided by CHSB with the information on the CORI request form and any other identifying information provided by the applicant, to ensure the record relates to the applicant.
7. If, in receiving a CORI report, the City receives information it is not authorized to receive (e.g. cases with dispositions such as not guilty or dismissal, in circumstances where the City is only authorized to receive convictions or case-pending information), the City will inform the applicant and provide the applicant with a copy of the report and a copy of CHSB's *Information Concerning the Process in Correcting a Criminal Record* so that the applicant may pursue correction with the CHSB.
8. If the City of Cambridge is planning to make an adverse decision based on the results of the CORI check, the applicant will be notified immediately. The applicant shall be provided with a copy of the criminal record and the City's CORI policy, advised of the part(s) of the record that make the individual unsuitable for the position and given an opportunity to dispute the accuracy and relevance of the CORI record.
9. Applicants challenging the accuracy of the criminal record shall be provided a copy of CHSB's *Information Concerning the Process in Correcting a Criminal Record*. If the CORI record provided does not exactly match the identification information provided by the applicant, the City of Cambridge will make a determination based on a comparison of the CORI record and documents provided by the applicant. The City of Cambridge may contact CHSB and request a detailed search consistent with CHSB policy.
10. If the City of Cambridge reasonably believes the record belongs to the applicant and is accurate, then the determination of suitability for the position will be made. Unless otherwise provided by law, factors considered in determining suitability may include, but not be limited to the following:
 - (a) Relevance of the crime to the position sought;
 - (b) The nature of the work to be performed;
 - (c) Time since the conviction;
 - (d) Age of the candidate at the time of offense;
 - (e) Seriousness and specific circumstances of the offense;

Name of Bidder: _____

- (f) The number of offenses;
- (g) Whether the applicant has pending charges;
- (h) Any relevant evidence of rehabilitation or lack thereof;
- (i) Any other relevant information, including information submitted by the candidate or requested by the City.

11. The Personnel Department will assist affected departments, in assessing the suitability of candidates in accordance with paragraph 10 a through i above, to ensure consistency, fairness, and protection of employment opportunities and the public interest.
12. The City of Cambridge will notify the applicant of the decision and the basis of the decision in a timely manner.
13. CORI information shall not be disseminated or shared with any unauthorized employees or other, but shall be maintained in confidence consistent with the obligations of law.

Revised May 5, 2007

Name of Bidder: _____

ORDINANCE NUMBER 1312

Final Publication Number 3155. First Publication in the Chronicle on December 13, 2007.

City of Cambridge

In the Year Two Thousand and Eight

AN ORDINANCE

In amendment to the Ordinance entitled “Municipal Code of the City of Cambridge”

Be it ordained that Cambridge Municipal Code Chapter 2.112 is hereby amended by adding a new Section 2.112.060 entitled “CORI Screening by Vendors of the City of Cambridge” as follows:

Adding after Section 2.112.050 the following new sections:

SECTION 2.112.060

CORI SCREENING BY VENDORS OF THE CITY OF CAMBRIDGE

Sections:

- 2.112.061 Purpose**
- 2.112.062 Definitions**
- 2.112.063 CORI-Related Standards of the City of Cambridge**
- 2.112.064 Waiver**
- 2.112.065 Applicability**

2.112.061 Purpose

These sections are intended to ensure that the persons and businesses supplying goods and/or services to the City of Cambridge deploy fair policies relating to the screening and identification of persons with criminal backgrounds through the CORI system.

2.112.062 Definitions

Unless specifically indicated otherwise, these definitions shall apply and control.

Awarding Authority means the City of Cambridge Purchasing Agent or designee.

Vendor means any vendor, contractor, or supplier of goods and/or services to the City of Cambridge.

2.112.063 CORI-Related Standards of the City of Cambridge

The City of Cambridge employs CORI-related policies, practices and standards that are fair to all persons involved and seeks to do business with vendors that have substantially similar policies, practices and standards. The City of Cambridge will do business only with vendors who, when required by law to perform CORI checks, employ CORI-related policies, practices, and standards that are consistent with policies, practices and standards employed by the City of Cambridge. The awarding authority shall consider any vendor’s deviation from policies, practices and standards employed by the City of Cambridge as grounds for rejection, rescission, revocation, or any other termination of the contract.

2.112.064 Waiver

Name of Bidder: _____

The City Manager may grant a waiver to anyone who or which has submitted a request for waiver if it is objectively reasonable; and the City Manager, or a delegate, shall report promptly in writing to the City Council all action taken with respect to every request for a waiver and the reasons for the decision.

2.112.065 Applicability

If any provision of these sections imposes greater restrictions or obligations than those imposed by any other general law, special law, regulation, rule, ordinance, order, or policy then the provisions of these sections shall control.

In City Council January 28, 2008.

Passed to be ordained by a yea and nay vote:-

Yeas 9; Nays 0; Absent 0.

Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:-

D. Margaret Drury
City Clerk

Name of Bidder: _____

ORDINANCE NUMBER 1376

Final Publication Number 3390. First Publication in the Chronicle on November 5, 2015.

City of Cambridge

In the Year Two Thousand and Fifteen

AN ORDINANCE

In amendment to the Ordinance entitled “Municipal Code of the City of Cambridge”

Be it ordained by the City Council of the City of Cambridge that the Municipal Code of the City of Cambridge be amended as follows:

Chapter 2.121

LIVING WAGE ORDINANCE Sections:

- 2.121.010 Title and Purpose**
- 2.121.020 Definitions**
- 2.121.030 Living Wage**
- 2.121.040 Waivers and Exceptions**
- 2.121.050 Notification Requirements**
- 2.121.060 Duties of covered Employers**
- 2.121.070 Community Advisory Board**
- 2.121.080 Enforcement**
- 2.121.090 Severability**
- 2.121.100 Effective Date**

2.121.010 Title and Purpose.

This Chapter shall be known as the "Cambridge Living Wage Ordinance". The purpose of this ordinance is to assure that employees of the City of Cambridge and employees of City contractors, subcontractors and beneficiaries of tax abatements, loans, grants, subsidies and other assistance provided by the City earn an hourly wage that is needed to support a family of four.

2.121.020 Definitions.

For the purposes of this ordinance, the term:

(a) "Applicable Department" means the Personnel Department for employees of the City of Cambridge, the Purchasing Department, with the advice and assistance of the appropriate department which receives the services, for Covered Employers who contract or subcontract with the City of Cambridge, the School Department for employees, contractors and subcontractors of the School Department, and the City Manager's Office for any other Person who is a Beneficiary of assistance other than a contract or subcontract.

Name of Bidder: _____

(b) "Assistance" means:

(1) any grant, loan, tax incentive, bond financing, subsidy, or other form of assistance valued at least \$10,000 that an employer receives by or through the authority or approval of the City of Cambridge, including, but not limited to, c. 121A tax abatements, industrial development bonds, Community Development Block Grant (CDBG) loans and grants, Enterprise Zone designations awarded after the effective date of this Chapter, and the lease of City owned land or buildings below market value; and

(2) any service contract, as defined herein, of at least \$10,000 with the City of Cambridge that is made with an employer to provide services pursuant to G.L.C. 30B or other public procurement laws, awarded, renegotiated or renewed after the effective date of this Chapter.

(3) any service subcontract, as defined herein, of at least \$10,000.

(c) "Beneficiary" means:

(1) any person who is a recipient of Assistance;

(2) any company or person that is a tenant or sub-tenant, leaseholder or sub-leaseholder of a recipient of Assistance, provided that said company or person employs at least 25 persons and occupies property or uses equipment or property that is improved or developed as a result of Assistance, after the effective date of this Chapter; and

(d) Covered Employer" means the City of Cambridge or a Beneficiary of Assistance, but does not include a Covered Building Services Employer.

(e) "Covered Employee" means:

(1) a person employed by the City of Cambridge except for persons in those positions listed in Section 2.121.040(j) of this ordinance; and

(2) a person, other than a Covered Building Service Employee, employed by a Covered Employer, or a person employed by an independent contractor doing business with a Covered Employer, who would directly expend any of his or her time on the activities funded by the contract or the activities for which the Beneficiary received the Assistance, except for persons in those positions listed in Section 2.121.040(j) of this ordinance.

(f) "Living Wage" has the meaning stated in Section 2.121.030.

(g) "Person" means one or more of the following or their agents, employees, servants, representatives, and legal representatives: individuals, corporations, partnerships, joint ventures, associations, labor organizations, educational institutions, mutual companies, joint-stock companies, trusts, unincorporated organizations, trustees, trustees in bankruptcy, receivers, fiduciaries, and all other entities recognized at law by the Commonwealth of Massachusetts.

(h) "Service Contract" means a contract let to a contractor by the City of Cambridge for the furnishing of services, to or for the City, except contracts where services are incidental to the

Name of Bidder: _____

delivery of products, equipment or commodities. A contract for the purchase or lease of goods, products, equipment, supplies or other property is not a “service contract” for the purposes of this definition.

(i) “Service Subcontract” means a subcontract primarily for the furnishing of services, to or for a recipient of Assistance, except where services are incidental to the delivery of products, equipment or commodities. A contract for the purchase or lease of goods, products, equipment, supplies or other property is not a “service subcontract” for the purposes of this definition.

(j) “Covered Building Service Employee” means any person performing building service work for a Covered Building Service Employer, either directly or through a contract or subcontract.

(k) “Building Services” or “Building Service Work” means work performed in connection with the cleaning of buildings and security guard services.

(l) “Covered Building Service Contract” means a contract or subcontract to provide Building Services to the City of Cambridge or any of its departments or subdivisions.

(m) “Covered Building Service Contractor” or “Covered Building Service Employer” means an entity providing Building Services on a Covered Building Service Contract or subcontract with the City or any of its departments or subdivisions.

(n) “Standard Compensation” has the meaning stated in Section 2.121.040.

2.121.030 Living Wage.

(a) Applicability. Covered Employers shall pay no less than the Living Wage to their employees.

(b) Amount of wage. The Living Wage shall be calculated on an hourly basis and shall be no less than \$10.00, subject to adjustment as provided herein. The Living Wage shall be upwardly adjusted each year no later than March first in proportion to the increase at the immediately preceding December 31 over the year earlier level of the Annual Average Consumer Price Index for All Urban Consumers (CPI -U) Boston-Lawrence-Salem, MA - NH, as published by the Bureau of Labor Statistics, United States Department of Labor applied to \$10.00.

(c) No reduction in collective bargaining wage rates. Nothing in this Chapter shall be read to require or authorize any beneficiary to reduce wages set by a collective bargaining agreement.

(d) Cuts in non-wage benefits prohibited. No Beneficiary will fund wage increases required by this Chapter, or otherwise respond to the provisions of this Chapter, by reducing the health, insurance, pension, vacation, or other non-wage benefits of any of its employees.

Name of Bidder: _____

2.121.040 “Standard Compensation”

(a) Applicability. Covered Building Services Employers shall pay no less than the Standard Compensation to Covered Building Service Employees.

(b) Standard Compensation shall include the standard hourly rate of pay for the relevant classification.

(c) Amount. (i) The “Standard Hourly Rate of Pay” for Covered Building Service Employees other than for security guards shall be the greatest of the following:

(1) The Living Wage rate as defined in 2.121.030; or

(2) the prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 27H of chapter 149 of the General Laws of Massachusetts;

(ii) The “Standard Hourly Rate of Pay for security guards” shall be the greatest of the following:

(1) The Living Wage rate as defined in 2.121.030; or

(2) the prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 3 of chapter 195 of the Massachusetts Acts of 2014; or

(3) the hourly rate paid to workers in the relevant classification under a preceding Building Service Contract.

(iii) The Standard Hourly Rate of Pay for Covered Building Service Employees other than for security guards shall be annually adjusted to be no less than the greatest of the following:

(1) the previous hourly rate of pay increased by the annual percentage difference between the current Boston-Lawrence-Salem, MA - NH Consumer Price Index (CPI) for all items for All Urban Consumers and the same CPI for the same month of the previous year, or

(2) the current prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 27H of chapter 149 of the General Laws of Massachusetts.

(iv) The Standard Hourly Rate of Pay for security guards shall be annually adjusted to be no less than the greatest of the following:

(1) the previous hourly rate of pay increased by the annual percentage difference between the current Boston-Lawrence-Salem, MA - NH Consumer Price Index (CPI) for all items for All Urban Consumers and the same CPI for the same month of the previous year, or

(2) the current prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 3 of chapter 195 of the Massachusetts Acts of 2014.

Name of Bidder: _____

(v) "Standard Benefits" for Covered Building Service Employees other than for security guards shall be an hourly supplement furnished by a Covered Building Service Employer to a Covered Building Service Employee in one of the following ways: (1) in the form of health and other benefits (not including paid leave) that cost the Covered Building Service Employer the entire required hourly supplemental amount; (2) by providing a portion of the required hourly supplement in the form of health and other benefits (not including paid leave) and the balance in cash; or (3) by providing the entire supplement in cash. The required hourly supplemental rate shall be equal to the greatest of the following: (1) the monetary value of the health and other benefits (not including paid leave) provided under the prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 27H of chapter 149 of the General Laws of Massachusetts; or (2) twenty percent (20%) of the standard hourly rate of pay.

(vii) "Standard Benefits for security guards" shall be an hourly supplement furnished by a Covered Building Service Employer to a Covered Building Service Employee in one of the following ways: (1) in the form of health and other benefits (not including paid leave) that cost the Covered Building Service Employer the entire required hourly supplemental amount; (2) by providing a portion of the required hourly supplement in the form of health and other benefits (not including paid leave) and the balance in cash; or (3) by providing the entire supplement in cash. The required hourly supplemental rate shall be equal to the greatest of the following: the monetary value of the health and other benefits (not including paid leave) provided under the prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 3 of chapter 195 of the Massachusetts Acts of 2014; or (2) twenty percent (20%) of the standard hourly rate of pay.

(viii) For the purposes of this section, "benefits" shall not include workers compensation or other legally mandated insurance, nor shall it include the value of any benefit for which the Covered Building Service Employee is eligible, but for which no payment is actually made by a Covered Building Service Employer to the

Covered Building Service Employee or to any other party on the Covered Building Service Employee's behalf, because the Covered Building Service Employee either does not actually utilize or does not elect to receive the benefit for any reason

(ix) Standard benefits for Covered Building Service Employees other than for security guards shall be adjusted annually to be no less that equal to the value of the greatest of the following: (1) the value of the previous standard benefits increased by the annual percentage difference between the current Boston-Lawrence-Salem, MA - NH Consumer Price Index (CPI) for all items for All Urban Consumers and the same CPI for the same month of the previous year, or (2) the current monetary value of the health and other benefits (not including paid leave) provided under the prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 27H of chapter 149 of the General Laws of Massachusetts.

(x) Standard benefits for security guards shall be adjusted annually to be no less that equal to the value of the greatest of the following: (1) the value of the previous standard benefits increased by the annual percentage difference between the current Boston-Lawrence-Salem, MA - NH Consumer Price Index (CPI) for all items for All Urban Consumers and the same CPI for the same month of the previous year, or (2) the current monetary value of the health and other benefits (not including paid leave) provided under the prescribed rate of wages as determined by the director of the department of labor standards pursuant to section 3 of chapter 195 of the Massachusetts Acts of 2014.

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2121.050 Waivers and Exceptions.

(a) Waivers. A Covered Employer may request that the City Manager grant a partial or whole waiver to the requirements of this Chapter. There shall be no waivers or exceptions made with respect to the Standard Compensation for Covered Building Service Employees.

(b) General Waivers. Waivers may be granted where application of this Chapter to a particular form of Assistance is found by the City Solicitor to violate a specific state or federal statutory, regulatory or constitutional provision or provisions, and the City Manager approves the waiver on that basis.

(c) Hardship Waivers for certain not- for-profit employers. An employer, who has a contract with the City of Cambridge which is not subject to the provisions of G.L. c. 30B, may apply to the City Manager for a specific waiver where payment of the Living Wage by a not-for-profit Covered Employer would cause a substantial hardship to the Covered Employer.

(d) Chapter 30B contract waivers. Prior to issuing an invitation for bids for a procurement contract subject to the provisions of G.L. c. 30B, any Applicable Department may apply to the City Manager for a waiver of the application of the Living Wage to the contract where payment of the Living Wage by a Covered Employer would make it inordinately expensive for the City to contract for the services or would result in a significant loss of services, because the contracted work cannot be segregated from the other work of the Covered Employer.

(e) General Waiver Request Contents. All General Waiver requests shall include the following:

- (1) The nature of the Assistance to which this Chapter applies;
- (2) The specific or official name of the Assistance and Assistance program, the statutory or regulatory authority for the granting of the Assistance, and a copy of that authority;
- (3) The conflicting statutory, regulatory, or constitutional provision or provisions that makes compliance with this Chapter unlawful, and a copy of each such provision; and
- (4) A factual explication and legal analysis of how compliance with this Chapter would violate the cited provision or provisions, and the legal consequences that would attach if the violation were to occur.

(f) Hardship Waiver Request Contents. All Hardship Waiver requests shall include the following:

- (1) The nature of the Assistance to which this Chapter applies;
- (2) A detailed explanation of why payment of the Living Wage would cause a substantial hardship to the Covered Employer; and
- (3) A statement of proposed wages below the Living Wage.

(g) Chapter 30B Contract Waiver Request Contents. A Chapter 30B contract waiver request shall include the following:

- (1) The nature of the Assistance to which this Chapter applies;
- (2) A detailed explanation of why the contracted work cannot be segregated from the other work of the bidding Covered Employers thereby

Name of Bidder: _____

making the cost of the contract with the payment of the Living Wage inordinately expensive or would result in a significant loss of services;

(h) Community Advisory Board

review and recommendation regarding waiver requests. The Community Advisory Board, as described in Section 2.121.070 of this ordinance, shall consider waiver requests along with their supporting documentation and analysis, and may hold a public hearing to consider the views of the public before making a recommendation to the City Manager regarding the waiver request. For a hardship waiver, the Community Advisory Board shall offer an opportunity to be heard to employees of the Covered Employer. After reviewing the recommendation of the Community Advisory Board, the City Manager may approve and grant or deny all or part of a request. The City Manager may in his or her discretion grant a temporary hardship waiver pending the hearing before the Community Advisory Board. For Chapter 30B contract waivers, the Community Advisory Board shall make its recommendation to the City Manager no more than thirty days after it is notified of the request for a Chapter 30B contract waiver.

(i) Terms of exceptions. If an employer is subject to this Chapter as a result of its receipt of more than one kind of Assistance covered by this Chapter, and if the City Manager grants a waiver with respect to one form of Assistance, the City Manager need not find that this Chapter is inapplicable to the employer with respect to another form of Assistance received by the employer.

(j) Exceptions. The following positions will be excepted from the requirement of the payment of the Living Wage upon certification in an affidavit in a form approved by the Applicable Department and signed by a principal officer of the Covered Employer that the positions are as follows:

- (1) youth hired pursuant to a city, state, or federally funded program which employs youth as defined by city, state, or federal guidelines, during the summer, or as part of a school to work program, or in other related seasonal or part-time program;
- (2) work-study or cooperative educational programs;
- (3) trainees who are given a stipend or wage as part of a job training program that provides the trainees with additional services, which may include, but are not limited to, room and board, case management, or job readiness services.
- (4) persons working in a recognized supported employment program that provides workers with additional services, which may include, but are not limited to, room and board, case management, counseling, or job coaching;
- (5) positions where housing is provided by the employer;
- (6) employees who are exempt from federal or state minimum wage requirements; and
- (7) individuals employed by the City of Cambridge where the employment of such individuals is intended primarily to provide a benefit or subsidy to such individuals, although the City is compensating them for work performed.

Name of Bidder: _____

2.121.060 Notification Requirements.

All Applicable Departments shall provide in writing an explanation of the requirements of this ordinance in all requests for bids for service contracts and to all persons applying for Assistance as defined by this ordinance. All persons who have signed a service contract with the City of Cambridge or a contract for Assistance shall forward a copy of such requirements to any person submitting a bid for a subcontract on the Assistance contract.

All Covered Building Service Contracts and all solicitations for Building Services issued by the City of Cambridge or any of its departments or subdivisions, shall contain a provision indicating the number of hours or work required and stating the Standard Compensation for the relevant classification that is applicable to the Covered Building Service Employees and shall contain a stipulation that the Covered building Service employees shall be paid not less than the Standard Compensation for the relevant classifications.

All requests for proposals or other solicitations and all specifications for Building Service Work, shall include specific reference to this chapter, shall state the required number of hours, and shall require prospective building service contractors to submit pricing on a standard worksheet furnished by the City that specifies the components of hourly pricing for the duration of the contract.

2.121.070 Duties of Covered Employers.

(a) Notification Requirements.

Covered employers and Covered Building Service Employers shall provide each Covered employee with a fact sheet about this ordinance and shall post a notice about the ordinance in a conspicuous location visible to all employees. The fact sheet and poster shall be provided to the Covered Employer by the Applicable Department and shall include:

- (1) notice of the Living Wage amount and notice of the Standard Compensation amount;
- (2) a summary of the provisions of this ordinance;
- (3) a description of the enforcement provisions of the ordinance;
- (4) the name, address, and phone number of a person designated by the Applicable Department to whom complaints of noncompliance with this ordinance should be directed.

(b) Contract for Assistance. At the time of signing a contract for assistance with the City of Cambridge or with a Beneficiary, or a Covered Building Service Contract, the contract must include the following:

- (1) the name of the program or project under which the contract or subcontract is being awarded;
- (2) a local contact name, address, and phone number for the Beneficiary;
- (3) a written commitment by the Beneficiary to pay all Covered Employees not less than the Living Wage or Standard Wage if applicable, as subject

Name of Bidder: _____

to adjustment under this ordinance and to comply with the provisions of this ordinance;

(4) a list of Covered Employees and Covered Building Service Employees under the contract with the employees' job titles;

(5) a list of all subcontracts either awarded or that will be awarded to Beneficiaries with funds from the Assistance. Upon signing any subcontracts, the Covered Employer shall forward a copy of the subcontract to the Applicable Department.

(c) Maintenance of payroll records. Each Covered Employer shall maintain payrolls for all Covered Employees and basic records relating thereto and shall preserve them for a period of three years. The records shall contain the name and address of each employee, the job title and classification, the number of hours worked each day, the gross wages, deductions made, actual wages paid, and copies of social security wage and withholding reports, and evidence of payment thereof and such other data as may be required by the Applicable Department from time to time.

(d) Applicable Department duties. The Applicable Department shall cause investigations to be made as may be necessary to determine whether there has been compliance with this Ordinance. The Applicable Department shall report the findings of all such investigations to the Community Advisory Board.

(e) Covered Employer to cooperate. The Covered Employer shall submit payroll records on request to the Applicable Department. The Covered Employer shall permit City representatives to observe work being performed upon the work site, to interview employees and to examine the books and records relating to the payrolls being investigated to determine payment of wages.

(f) City Assistance Reports. Each Applicable Department shall file a City Assistance Report with the City Manager and the Community Advisory Board by July 31 of each year. The report shall include, for each Assistance package or contract approved during the preceding fiscal year:

(1) the name of the Applicable Department (awarding agency), the name of the specific program under which the Assistance was awarded, and the origin of funds for Assistance;

(2) a description of the purpose or project for which the Assistance was awarded;

(3) the name, address, and phone number of a local contact person for the Covered Employer;

(4) the total cost to the City of Assistance provided to each Beneficiary, including both face-value of Assistance, as well as revenue not collected as a result of the Assistance.

(g) Payroll reporting. Every six (6) months, a Covered Building Service Employer, shall file with the City a complete certified payroll showing the Covered Building Service Employer's payroll records for each Covered Building Service Employee. Upon request, the Covered Building Service Employer shall produce for inspection and copying the payroll records for any or all applicable Covered Building Service Employees for the prior three (3) year period.

(h) Transitional Employment Period. The City shall give advance notice to a Covered Building Service Contractor and any collective bargaining representative of the Covered Building Service Contractor that a Covered Building Service Contract will be terminated, and the

Name of Bidder: _____

City shall also provide the name, address, and telephone number of the successor Covered Building Service Contractor or contractors where known. The terminated Covered Building Service Contractor shall, within five (5) days after receipt of such notice, provide to the successor Covered Building Service Contractor, the name, address, date of hire, and employment occupation classification of each employee employed at the site or sites covered by the building service contract at the time of receiving said notice. If a successor Covered Building Service Contractor has not been identified by the City by the end of the five (5) day pay period, the terminated Covered Building Service Contractor shall provide the information to the City, at the same time that the terminated contractor shall provide each affected employee with notice of his/her right to obtain employment with the successor Covered Building Service Contractor.

A successor Covered Building Service Contractor or subcontractor where applicable shall retain for a 90-day transitional employment period all employees who were employed by the terminated Covered Building Service Contractor and its subcontractors at the building(s) covered by the terminated contract. This requirement shall not apply in the event the City chooses to employ building service employees directly.

If at any time the successor Covered Building Service Contractor determines that fewer employees are required to perform the new service contract than had been performing such services under the terminated contract, the successor Covered Building Service Contractor shall retain the employees by seniority within job classification. Except for such layoffs, during the 90-day transition period, the successor Covered Building Service Contractor shall not discharge without cause an employee. During the 90-day transition period, the successor Covered Building Service Contractor shall maintain a preferential hiring list of those employees not retained from which the successor contractor or its subcontractors shall hire additional employees.

2.121.080 Community Advisory Board.

(a) Purpose. The purpose of the Community Advisory Board shall be to review the effectiveness of this Ordinance at creating and retaining Living Wage jobs, to make recommendations to the City Manager regarding the granting of Waivers to Covered Employers, to review the implementation and enforcement of this ordinance, and to make recommendations from time to time in connection therewith.

(b) Composition. The Community Advisory Board shall be composed of nine members and shall include representatives of labor unions, community organizations and the business community. All members will be appointed by the City Manager. Members of the Board shall serve a three-year term. Whenever a vacancy shall occur the City Manager shall appoint a replacement within thirty days of said vacancy.

(c) Meetings. The Community Advisory Board shall meet quarterly and in special session as required. All meetings of the Board shall be open to the public and will allow for public testimony on the uses of the City Assistance generally, and on specific instances of Assistance or proposed Assistance as received or sought by individual enterprises.

Name of Bidder: _____

(d) (d) Conflict of Interest. No member of the Community Advisory Board shall participate in any proceeding concerning a Beneficiary, a Covered Employer or a Covered Employee, or applicant for waiver or exemption, if the member or any member of his or her immediate family has a direct or indirect financial interest in the outcome of said proceeding.

2.121.090 Enforcement.

(a) Enforcement powers. In order to enforce this Chapter, the Applicable Department may, with the approval and assistance of the City Solicitor, issue subpoenas, compel the attendance and testimony of witnesses and production of books, papers, records, and documents relating to payroll records necessary for hearing, investigations, and proceedings. In case of failure to comply with a subpoena, the City may apply to a court of appropriate jurisdiction for an order requiring the attendance and testimony of witnesses and the productions of books, papers, records, and documents. Said court, in the case of a refusal to comply with any such subpoena, after notice to the person subpoenaed, and upon finding that the attendance or testimony of such witnesses or the production of such books, papers, records, and documents, as the case may be, is relevant or necessary for such hearings, investigation, or proceedings, may issue an order requiring the attendance or testimony of such witnesses or the production of such documents and any violation of the court's order may be punishable by the court as contempt thereof.

(b) Complaint procedures. An employee who believes that he or she is a Covered Employee or an applicant for a position to be filled by a Covered Employee who believes that his or her employer is not complying with requirements of this Chapter applicable to the employer may file a complaint with the Applicable Department or with the Community Advisory Board. Complaints of alleged violations may also be filed by concerned citizens or by the City Council. Complaints of alleged violations may be made at any time, but in no event more than three years after the last date of alleged violation, and shall be investigated promptly by the Applicable Department. Statements written or oral made by an employee, shall be treated as confidential and shall not be disclosed to the Covered Employer without the consent of the employee.

(c) Investigations and hearings. The Applicable Department shall investigate the complaint, and may, in conjunction with the City Solicitor, and in accordance with the powers herein granted, require the production by the employer of such evidence as required to determine compliance. Prior to ordering any penalty the applicable Department shall give notice to the employer and conduct a hearing. If at any time during these proceedings, the employer voluntarily makes restitution of the wages not paid to the employee making the complaint and to any similarly situated employees, by paying all back wages owed plus interest at the average prior year Massachusetts passbook savings bank rate, or otherwise remedies the violation alleged if the violation involves matters other than wages, then the Applicable Department shall thereafter dismiss the complaint against the employer.

(d) Remedies. In the event that the Applicable Department, after notice and hearing, determines that any Covered Employer has failed to pay the Living Wage rate or has otherwise violated the provisions of this Chapter, the Applicable Department may order any or all of the following penalties and relief:

Name of Bidder: _____

(1) Fines up to the amount of \$300 for each Covered Employee for each day that the Covered Employer is in violation of this Ordinance, except if the violation was not knowing and willful, then the total fine shall not exceed the amount of back wages plus interest owed;

(2) Suspension of ongoing contract and subcontract payments;

(3) Ineligibility for future City Assistance for up to three years beginning when all penalties and restitution have been paid in full. In addition, all Covered Employers having any principal officers who were principal officers of a barred beneficiary shall be ineligible under this section; and

(4) Any other action deemed appropriate and within the discretion and authority of the city. Remedies in this section shall also apply to the party or parties aiding and abetting in any violation of this chapter.

(e) Private right of action. Any Covered Employee, or any person who was formerly employed by a Beneficiary, may bring an action to enforce the provisions of this Chapter to recover back pay and benefits, attorneys fees and costs, by filing suit against a Beneficiary in any court of competent jurisdiction.

(f) Remedies herein non-exclusive. No remedy set forth in this Chapter is intended to be exclusive or a prerequisite for asserting a claim for relief to enforce the right granted under this Chapter in a court of law. This Chapter shall not be construed to limit an employee's right to bring a common law cause of action for wrongful termination.

(g) Retaliation and discrimination barred. A Covered Employer shall not discharge, reduce the compensation or otherwise retaliate against any employee for making a complaint to the City, otherwise asserting his or her rights under this Chapter, participating in any of its proceedings or using any civil remedies to enforce his or her rights under the Chapter. The City shall investigate allegations of retaliation or discrimination and shall, if found to be true, after notice and a hearing, order appropriate relief as set out in paragraphs (c) and (d) herein.

2.121.100 Severability.

In the event any provision of this ordinance shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provisions hereof.

2.121.110 Effective Date.

This law shall be effective sixty (60) after final passage.

In City Council December 21, 2015.
Passed to be ordained by a yea and nay vote:-
Yeas 9; Nays 0; Absent 0; Present 0.
Attest:- Donna P. Lopez, City Clerk.

A true copy;

Name of Bidder: _____

ATTEST:-

Donna P. Lopez
City Clerk

The Living Wage Ordinance (2.121) provides, at 1.121.030(b) that the wage shall be upwardly adjusted each year no later than March 1st in proportion to the increase in the Annual Average Consumer Price Index for the prior calendar year for All Urban Consumers (CPI-U) in the Boston area, as published by the federal Bureau of Labor Statistics.

For calendar year 1999, the CPI-U increased by 2.5%. Therefore the new living wage, as of March 1, 2000 is \$10.25.

For calendar year 2000, the CPI-U increased by 4.3%. Therefore the new living wage, as of March 1, 2001 is \$ 10.68.

For calendar year 2001, the CPI-U increased by 4.3%. Therefore the new living wage, as of March 1, 2002 is \$11.11.

For calendar year 2002, the CPI-U increased by 2.6% . Therefore the new living wage, as of March 1, 2003 is \$11.37.

The City Council has voted to amend the section of the Living Wage Ordinance (1.121.030 (b) that provides the method for calculating cost of living increases each year. As a result of this change, the living wage as of March 30, 2003 is \$11.44.

For calendar year 2003, the CPI-U increased by 3.76%. Therefore the new living wage, as of March 1, 2004 is \$11.87.

For calendar year 2004, the CPI-U increased by 2.7%. Therefore the new living wage, as of March 1, 2005 is \$12.19.

For calendar year 2005, the CPI-U increased by 3.3%. Therefore the new living wage, as of March 1, 2006 is \$12.59.

For calendar year 2006 the CPI-U increased by 3.1 %. Therefore the new living wage, as of March 1, 2007 is \$12.98.

For calendar year 2007 the CPI-U increased by 1.9 %. Therefore the new living wage, as of March 1, 2008 is \$13.23.

For calendar year 2008 the CPI-U increased by 3.5 %. Therefore the new living wage, as of March 1, 2009 is \$13.69.

For calendar year 2009 the CPI-U decreased by .67 %. Therefore the new living wage, as of March 1, 2010 will remain at \$13.69.

For calendar year 2010 the CPI-U increased by 1.57%. Therefore the new living wage, as of March 1, 2011 is \$13.90.

Name of Bidder: _____

For calendar year 2011 the CPI-U increased by 2.71%. Therefore the new living wage, as of March 1, 2012 is \$14.28.

For calendar year 2012 the CPI-U increased by 1.58%. Therefore the new living wage, as of March 1, 2013 is \$14.51.

For calendar year 2013 the CPI-U increased by 1.37%. Therefore the new living wage, as of March 1, 2014 is \$14.71.

For calendar year 2014 the CPI-U increased by 1.61% Therefore the new living wage, as of March 1, 2015 is \$14.95.

For calendar year 2015 the CPI-U increased by .06% Therefore the new living wage, as of March 1, 2016 is \$15.04.

Name of Bidder: _____

City of Cambridge
Articles of Agreement
SAMPLE

Commodity:

File Number:

This agreement is made and entered into this _____, by and between the **City Of Cambridge** ("the CITY"), a municipal corporation organized and existing under the laws of the **Commonwealth of Massachusetts**, and _____, a _____ duly organized and existing under the laws of the State of _____ ("the Contractor").

Address:

Telephone: ,Fax: ,E-mail:

Article I. Definition. "This Contract" as used herein shall mean these Articles of Agreement and "the bid documents," which include, but are not limited to, the instructions to bidders, the Contractor's bid or proposal, the specifications, the general conditions, the requirements, the applicable addenda, and all documents and forms submitted with the Contractor's bid or proposal that were accepted by the City.

Article II. Duration. The Contractor shall commence the performance of this contract for the period beginning on _____ and ending on _____ .

Article III. Terms. The Contractor agrees to provide the services all in accordance with the bid documents of (bid opening date) or (proposal if appropriate).

Contract Value:

Article IV. Payment. The City agrees to pay to Contractor the sum set forth in the Contractor's bid or proposal. **Contractor shall invoice department to which it provided the service, not the Purchasing Department.**

Article V. Termination. The following shall constitute events of default under this Contract requiring immediate termination: a) any material misrepresentation made by the Contractor, b) any failure by the Contractor to perform any of its obligations under this Contract including, but not limited to, the following: (i) failure to commence performance of this Contract at the time specified in this Contract due to a reason or circumstance within the Contractor's reasonable control, (ii) failure to perform this Contract with sufficient personnel and equipment or with sufficient material to ensure the completion of this Contract within the specified time due to a reason or circumstance within the Contractor's reasonable control, (iii) failure to perform this Contract in a manner reasonably satisfactory to the City, (iv) failure to promptly re-perform within reasonable time the services that were rejected by the City as erroneous or unsatisfactory, (v) discontinuance of the services for reasons not beyond the Contractor's reasonable control, (vi) failure to comply with a material term of this Contract, including, but not limited to, the provision of insurance and nondiscrimination, and (vii) any other acts specifically and expressly stated in this Contract as constituting a basis for termination of this Contract.

Except as otherwise provided in the Articles of Agreement, the City may terminate the contract upon seven days notice.

Article VI. Damages. From any sums due to the Contractor for services, the City may keep for its own the whole or any part of the amount for expenses, losses and damages as directed by the Purchasing Agent,

Name of Bidder: _____



incurred by the City as a consequence of procuring services as a result of any failure, omission or mistake of the Contractor in providing services as provided in this Contract.

Article VII. Conflict. In the event there is a conflict between these Articles and the bid documents, the bid documents shall supersede these articles.

Article VIII. Governing laws and ordinances. This Contract is made subject to all the laws of the Commonwealth and the Ordinances of the City and if any such clause thereof does not conform to such laws or ordinances, such clause shall be void (the remainder of the Contract shall not be affected) and the laws or ordinances shall be operative in lieu thereof.

Article IX. Performance Security. Upon execution of this Contract by the Contractor, the Contractor shall furnish to the City security for the faithful performance of this Contract in the amount of 0% of the value of the bid in the form of a performance bond issued by a surety satisfactory to the city or in the form of a certified check.

Article X. Equal Opportunity. the Contractor in the performance of all work under this contract will not discriminate on the grounds of race, color, sex, age, religious creed, disability, national origin or ancestry, sexual orientation, marital status, family status, military status, or source of income in the employment practices or in the selection or retention of subcontractors, and in the procurement of materials and rental of equipment. The city may cancel, terminate or suspend the contract in whole or in part for any violation of this article.

Article XI. Assignability. the Contractor shall not assign, sell, subcontract or transfer any interest in this contract without prior written consent of the city.

In witness whereof the parties have hereto and to three other identical instruments set their hands the day and year first above written.

The City:

The Contractor:

Richard C. Rossi
City Manager

Signature and Title

Amy L. Witts
Purchasing Agent

Approved as to Form:

Nancy E. Glowa
City Solicitor

Name of Bidder: _____



540 CMR: REGISTRY OF MOTOR VEHICLES

540 CMR 7.00 MINIMUM STANDARDS FOR CONSTRUCTION AND EQUIPMENT OF SCHOOL BUSES

Section

7.01: Purpose

7.02: Scope and Applicability

7.03: Definitions

7.04: Bus Chassis Standards

7.05: Bus Body Standards

7.06: Equipment Requirements

7.07: Specially Equipped School Bus Standards

7.08: Out-of-service Criteria

7.01: Purpose

540 CMR 7.00 is adopted by the Registrar of Motor Vehicles pursuant to M.G.L. c. 90, §§ 7A, 7C and 31 to establish uniform standards for the construction, maintenance, and inspection of school buses.

7.02: Scope and Applicability

(1) The standards established in 540 CMR 7.00 are minimum standards for the construction, equipping, maintenance and inspection of Type A, B, C, and D school buses, as defined in 540 CMR 7.00, in addition to the applicable Equipment Requirements in M.G.L. c. 90, § 7B.

(2) 540 CMR 7.00 applies to school bus bodies and chassis placed in production after January 1, 1989, which shall be constructed in accordance with all applicable Federal Motor Vehicle Safety Standards (FMVSS) in addition to applicable Massachusetts General Laws and shall be maintained to assure continued compliance with such construction standards, while used to transport school pupils.

(3) School buses which were manufactured prior to January 1, 1989 in compliance with all applicable Federal Motor Vehicle Safety Standards, Massachusetts General Laws, and Rules and Regulations applicable in the model year of the chassis, and continue to or have been retrofitted to meet such standards, shall be deemed to comply with 540 CMR 7.00.

(4) The Registrar, in his or her discretion, may issue a written waiver for any of the requirements of 540 CMR 7.00 if, after investigation, he or she determines that such waiver is in the best interest of the public good.

7.03: Definitions

Type A. The Type "A" school bus is a conversion or body constructed on a van-type compact truck or a front-section vehicle, with a gross vehicle weight rating of 14,500 pounds or less, designed for carrying more than ten persons.

Type B. The Type "B" school bus is constructed utilizing a stripped chassis with a gross vehicle weight rating greater than 12,500 pounds. The entrance door is behind the front wheels.

Type C. The Type "C" school bus is a body installed on a flat back cowl chassis with a gross vehicle weight rating of more than 12,500 pounds, designed for carrying more than ten persons. In a Type C school bus, all of the engine is in front of the windshield and the entrance door is behind the front wheels. (May have a left side driver door).

Type D. The Type "D" school bus is a body installed on a chassis, with the engine mounted in the front, midship, or rear, with a gross vehicle weight rating of more than 12,500 pounds, designed for carrying more than ten persons. In a Type D school bus, the engine may be behind the windshield and beside the driver's seat or at the rear of the bus behind the rear wheels, or midship between the front and rear axles. The entrance door is ahead of the front wheels.

7.04: Bus Chassis Standards(1) Air Cleaner.

- (a) The engine intake air cleaner system shall be furnished and properly installed by the chassis manufacturer to meet engine manufacturer's specifications.
- (b) The intake air system for diesel engines may have an air cleaner restriction indicator properly installed by the chassis manufacturer to meet engine specifications.

(2) Axles. The front and rear ends including suspension assemblies shall have a gross axle weight rating, at ground, at least equal to that portion of the load as would be imposed by the chassis manufacturer's maximum gross vehicle weight rating.

(3) Brakes. A braking system, including service brake and parking brake, that meets the following standards shall be provided.

- (a) Buses using air or vacuum in the operation of the brake system shall be equipped with warning signals, readily audible and visible to the driver, that will give a continuous warning when the air pressure available in the system for braking is 60 psi (pounds per square inch) or less or the vacuum in the system available for braking is eight inches of mercury or less. An illuminated gauge that will indicate to the driver the air pressure in pounds per square inch or the inches of mercury vacuum available for the operation of the brakes shall be provided.
- (b) Vacuum-assist brake systems shall have a reservoir used exclusively for brakes that shall be adequate to ensure loss in vacuum at full stroke applicable of not more than 30 percent with the engine not running. Brake systems on gas-powered engines shall include suitable and convenient connection for the installation of a separate vacuum reservoir.
- (c) Any brake system dry reservoir shall be so safeguarded by a check valve or equivalent device that, in the event of failure or leakage in its connection to the source of compressed air or vacuum, the stored dry air or vacuum shall not be depleted by the leakage or failure.
- (d) Buses using a hydraulic-assist brake system shall be equipped with warning signals, readily audible and visible to the driver, that will provide continuous warning in the event of a loss of fluid flow from primary source or loss of electric source powering the back-up system.
- (e) The brake lines and the hydraulic-assist lines shall be protected from excessive heat and vibration and be so installed as to prevent chafing.
- (f) All brake systems shall be designed to permit visual inspection of brake lining wear without removal of any chassis components.

(4) Front Bumper.

- (a) School buses shall be equipped with a front bumper. The front bumper shall be furnished by the chassis manufacturer for all school bus types unless there is a specific agreement between the chassis manufacturer and the body manufacturer.
- (b) The front bumper shall be of pressed steel channel or equivalent material (except Type A buses having a GVWR of 12,500 pounds or less which may be OEM supplied) at least 3/16" thick and not less than eight inches wide (high). It shall extend beyond the forward-most part of the body, grille, hood, and fenders and shall extend to the outer edges of the fenders at the bumper's top line.
- (c) The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight (G.V.W.) without permanent distortion to the bumper, chassis, or body.
- (d) Tow eyes or hooks may be furnished. Tow eyes or hooks if provided, shall be attached so as not to project beyond the front bumper. Tow eyes or hooks attached to the frame chassis shall be furnished by the chassis manufacturer. This installation shall be in accordance with the chassis manufacturer's standards.
- (e) The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow eyes. For the purpose of meeting this specification, the bus shall be empty and positioned on a level, hard surface and both tow eyes shall share the load equally.
- (f) An energy absorbing front bumper may be used providing its design shall incorporate a self-restoring energy absorbing system of sufficient strength to:

540 CMR: REGISTRY OF MOTOR VEHICLES

7.04: continued

1. push another vehicle of similar G.V.W. without permanent distortion to the bumper, chassis, or body; and
2. withstand repeated impacts without damage to the bumper, chassis, or body according to the following FMVSS performance standards:
 - a. 7.5 MPH fixed barrier impact (FMVSS cart & barrier test);
 - b. 4.0 MPH corner impact at 30° (49 CFR 581).
3. The manufacturer of the energy absorbing system shall provide evidence from an approved test facility (capable of performing the above FMVSS tests) that its product conforms to the above standard.

(5) Rear Bumper. The rear bumper shall be made of pressed steel channel or equivalent material at least 3/16-inch thick and eight inches wide (high), and of sufficient strength to permit pushing by another vehicle without permanent distortion.

- (a) The bumper shall be wrapped around the back corners of the bus, and shall extend forward at least 12 inches, measured from the rear-most point of the body at the floor line;
- (b) The bumper shall be attached to the chassis frame as to be easily removed, and to discourage the hitching of rides, and shall be braced to develop the full strength of the bumper section from rear or side impact;
- (c) The bumper shall extend at least one inch beyond the rear-most part of body surface measured at the floor line;
- (d) The bumper provided by the chassis manufacturer may be used on Type A vehicles;
- (e) An energy-absorbing rear bumper may be used, providing its design shall incorporate a self-restoring energy absorbing bumper system of sufficient strength to:
 1. permit pushing by another vehicle without permanent distortion to the bumper, chassis, or body;
 2. withstand repeated impacts without damage to the bumper, chassis, or body according to the following FMVSS performance standards;
 - a. 2.0 MPH fixed barrier impact (FMVSS cart & barrier test)
 - b. 4.0 MPH corner impact at 30° (49 CFR 581)
 - c. 5.0 MPH center impact (49 CFR 581)
 3. The manufacturer of the energy-absorbing system shall provide evidence from an approved test facility (capable of performing the above FMVSS test) that its product conforms to the above standard.

(6) Certification. Upon request, a chassis manufacturer will certify to the Registrar that its product meets Massachusetts minimum standards on items not covered by certification issued under the National Traffic and Motor Vehicle Safety Act.

(7) Drive Shaft. The drive shaft shall be protected by a metal guard or guards around each section to reduce the possibility of it whipping through the floor or dropping to the ground if broken.

(8) Exhaust System. The exhaust system, including the exhaust manifold, gaskets, pipes and mufflers, shall be secure, tight and free from exhaust leaks. Exhaust pipe will exit flush with bumper and left side will exit flush with outside of the bus body.

- (a) The exhaust pipe, muffler and tailpipe shall be outside the bus body compartment and attached to the chassis.
- (b) The tailpipe shall be constructed of a corrosion-resistant tubing material at least equal in strength and durability to 16-gauge steel tubing and shall extend to, but not beyond, the perimeter of the body or bumper.
- (c) The tailpipe shall extend beyond the rear axle and at least five inches beyond the chassis frame. It may be mounted outside of the chassis frame rail at end point, or may extend to the left side of the bus, behind the driver's compartment, outboard of the chassis centerline. It shall terminate from the chassis centerline as follows:

Type A vehicles	-	Manufacturer's standard
Type B, C, and D vehicles	-	48.5 inches

540 CMR: REGISTRY OF MOTOR VEHICLES

7.04: continued

- (d) On Type C and D buses, no exhaust pipe shall exit beneath an emergency exit or fuel fill.
- (e) The exhaust system on a gas-powered chassis shall be properly insulated from fuel tank connections by a metal shield securely attached at each point where it is 12 inches or less from tank or tank connections.
- (f) The muffler shall be constructed of corrosion-resistant material.
- (g) The exhaust system may be routed to the left of the right frame rail to allow for the installation of a lift on the right side of the vehicle.

(9) Frame.

- (a) The frame (or equivalent) shall be of such design and strength characteristics as to correspond at least to standard practices for trucks of the same general load characteristics which are used for highway service.
- (b) Any secondary manufacturer that modifies the original chassis frame shall guarantee the performance of workmanship and materials resulting from such modification.
- (c) Frames shall not be modified for the purpose of extending the wheelbase.
- (d) Holes in top or bottom flanges or side units of frame, and welding to frame shall not be permitted except as provided or accepted by chassis manufacturer.
- (e) Frame length shall be established in accordance with the design criteria for the complete vehicle.

(10) Fuel Tank.

- (a) Fuel tank (or tanks) having a minimum 30-gallon capacity shall be provided by the chassis manufacturer. The tank shall be filled and vented to the outside of the body and the fuel filler should be placed in a location where accidental fuel spillage will not drip or drain on any part of the exhaust system.
- (b) Fuel lines shall be mounted to the chassis frame in such a manner that the frame provides the maximum possible protection from damage.
- (c) The fuel system shall comply with FMVSS No. 301.
- (d) Fuel tank(s) may be mounted between the chassis frame rails or outboard of the frame rails on either the left or right side of the vehicle.
- (e) The actual draw capacity of each fuel tank shall be a minimum of 83% of the tank capacity.
- (f) Installation of alternative fuel systems, including fuel tanks and piping from the tank to the engine, shall comply with all applicable fire codes in effect on the date of manufacture of the bus.

(11) Horn. Buses shall be equipped with a horn or horns of standard make, each horn capable of producing complex sound in bands of audio frequencies between 250 and 2,000 cycles per second and tested per Society of Automotive Engineers Standard J377.

(12) Instruments and Instrument Panel and Ignition Lock. Chassis shall be equipped with the following instruments and gauges or warning lights:

- (a) Speedometer.
- (b) Odometer which will give accrued mileage including tenths of miles.
- (c) Voltmeter. Ammeter with graduated charge and discharge with ammeter and its wiring compatible with generating capabilities is permitted instead of voltmeter or warning light.
- (d) Oil-pressure gauge and/or warning light.
- (e) Water temperature gauge and/or warning light.
- (f) Fuel gauge.
- (g) High beam headlight indicator.
- (h) Brake indicator gauge (vacuum or air). Light indicator instead of gauge is permitted on a vehicle equipped with hydraulic-over-hydraulic brake system. If ABS equipped, must have indicator light.

7.04: continued

- (i) Turn signal indicator.
 - (j) Glow-plug indicator light where appropriate.
 - (k) Ignition lock, key or device to prevent starting of the engine by an unauthorized person.
 - (l) All instruments shall be easily accessible for maintenance and repair.
 - (m) Instruments and gauges shall be mounted on the instrument panel in such a manner that each is clearly visible to the driver while in a normal seated position, in accordance with School Bus Manufacturers Institute School Bus Design Objectives, January, 1985.
 - (n) Instrument panel shall have lamps of sufficient candlepower to illuminate all instruments and gauges and shift selector indicator for automatic transmission.
 - (o) Vehicles with an automatic transmission shall be equipped with a neutral safety switch to prevent starting in any gear other than park or neutral. For vehicles with a standard transmission clutch, pedal must be depressed to start vehicle.
- (13) Openings. All openings in the floorboard and the firewall between the chassis and the passenger-carrying compartment, such as for gearshift selector and parking brake lever, shall be sealed.
- (14) Shock Absorbers. Buses shall be equipped with front and rear double-action shock absorbers compatible with manufacturer's rated axle capacity at each wheel location.
- (15) Springs. Capacity of springs or suspension assemblies shall be commensurate with chassis manufacturer's gross vehicle weight rating.
- (16) Steering Gear. The steering gear shall be approved by chassis manufacturer and designed to assure safe and accurate performance when the vehicle is operated with maximum load and at maximum speed.
- (a) Steering mechanism must be accessible to accomplish any required external adjustments.
 - (b) No changes shall be made in the steering apparatus unless approved by chassis manufacturer.
 - (c) There shall be clearance of at least two inches between steering wheel and cowl instrument panel, windshield or any other surface.
 - (d) Power steering is required and shall be of the integral type with integral valves.
 - (e) The steering system shall be designed to provide means for lubrication of all wear-points that are not permanently lubricated.
- (17) Tires. All tire must have a minimum tread depth of 4/32". Reject all tires with less than 4/32" tread depth when measured at any point in a major tread groove.
- (18) Undercoating. A chassis manufacturer shall coat the undersides of front fenders with rustproofing compound. The compound manufacturer must issue to the chassis manufacturer a notarized certification that the compound meets or exceeds all performance and qualitative requirements of Federal Specification TT-C 520b, paragraph 3.4 (General Services Administration) using modified test.
- (19) Weight Distribution. Weight distribution of a fully loaded bus on a level surface shall be within the manufacturer's front gross axle weight rating and rear gross axle weight rating.
- (20) Wiring. All wiring shall comply with applicable recommended practices of the Society of Automotive Engineers.

7.05: Bus Body Standards

- (1) Aisle. Clearance of all aisles shall be 12 inches or greater.
- (a) The seat backs shall be slanted sufficiently to give aisle clearance of 15 inches at tops of seat backs.
 - (b) At all times, the aisle shall be unobstructed by any barrier or seat.

7.05: continued

(2) Back Up Warning Alarm. An automatic audible alarm shall be installed behind the rear axle and shall comply with published Backup Alarm Standards (SAE J994B), providing a minimum of 112 dBA.

(3) Battery Carrier.

(a) Batteries mounted within the engine compartment must be secured to prevent dislodging in the event of vehicle upset or roll over.

(b) Batteries mounted outside the engine compartment shall be in a closed, drained, weather tight and vented compartment in the body skirt; be readily accessible from the outside for convenience of servicing; and be secured to prevent dislodging in the event of vehicle upset or roll over.

(4) Construction. Must meet Federal Motor Vehicle Safety Standards for School Bus Construction.

(5) Signage and Reflective Material. Effective August 20, 1997, every school bus shall display a sign located below the rear window of the bus which reads "unlawful to pass when red lights are flashing." The sign shall have black letters not less than four inches nor more than six inches high on a white reflective background. Alternative signage and reflective material must be approved by the Registrar. Other reflective material may be installed on the bus, provided it is of automotive engineering grade or better, meets initial reflectance values in FHWA FP-85 and retains at least 50% of those values for a minimum of six years. Reflective materials and markings may include:

(a) Rear of bus body: may be marked with a strip of reflective National School Bus Yellow material no greater than two inches in width to be applied to the back of the bus, extending from the left lower corner of the "SCHOOL BUS" lettering, across to left side of the bus, then vertically down to the top of the bumper, across the bus on a line immediately above the bumper to the right side, then vertically up to a point even with the strip placement on the left side, and concluding with a horizontal strip terminating at the right lower corner of the "SCHOOL BUS" lettering.

(b) "SCHOOL BUS" signs: may be marked with black letters on a reflective National School Bus Yellow material comprising background for lettering of the front and/or rear "SCHOOL BUS" signs unless equipped with a lighted sign.

(c) Sides of bus body: may be marked with reflective National School Bus Yellow Material at least two inches but not more than 12 inches in width, extending the length of the bus body and located (vertically) as close as practicable to the beltline.

(d) Effective June 1, 2004, any bus entering service in the Commonwealth of Massachusetts shall display a sign that states "Bus Stops at all R/RCrossings."

Such sign shall:

1. Be of reflective white material.
2. Shall be black letters of four inches minimum height.
3. Sign shall be 36 inches in length placed on the rear bumper.
4. Alternative signage must be approved by the Registrar.

(e) Front bumper: May be marked diagonally 45° down the centerline of pavement with a two-inch wide strip of non-contrasting reflective material. (See FHWA FP-85 Appendix)

(6) Defrosters.

(a) Defrosters and defogging equipment shall direct a sufficient flow of heated air onto the windshield, the window to the left of the driver and the glass in the viewing area directly to the right of the driver to eliminate frost, fog and snow.

(b) The defrosting system shall conform to Society of Automotive Engineers Standards J381 and J382.

(c) The defroster and defogging system shall be capable of furnishing heated outside ambient air except that the part of the system furnishing additional air to the windshield, entrance door and stepwell may be of the recirculating air type.

(d) Auxiliary fans are not considered defrosting or defogging systems.

(e) Portable heaters may not be used.

7.05: continued

(7) Service Door.

- (a) The service door shall be in the driver's control, designed to afford easy release and to provide a positive latching device on manual operating doors to prevent accidental opening. When a hand level is used, no part shall come together that will shear or crush fingers. Manual door controls shall not require more than 25 pounds of force to operate at any point throughout the range of operation, as tested on a 10% grade both uphill and downhill.
- (b) The service door shall be located on the right side of the bus opposite the driver and within the direct view of driver.
- (c) The service door shall have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches. Type A vehicles shall have a minimum opening area of 1,200 square inches.
- (d) The service door shall be split, sedan, or jack-knife type. (Split type door includes any sectioned door which divides and opens inward or outward.) If one section of split type door opens inward and the other opens outward, the front section shall open outward.
- (e) Lower, as well as upper door panels shall be of approved safety glass. The bottom of the lower glass panel shall not be more than ten inches from the top surface of the bottom step. The top of the upper glass panel shall not be more than three inches from top of door. Type A vehicles shall have the upper panel (window/s) of safety glass with an area of at least 350 square inches.
- (f) The vertical closing edges on split type or folding type entrance doors shall be equipped with flexible material to protect the passengers' fingers. Type A vehicles may be equipped with chassis manufacturer's standard entrance door.
- (g) There shall be no door to the left of the driver on Type B or D vehicles. Type A and C vehicles may be equipped with chassis manufacturer's standard left-side door.
- (h) All doors shall be equipped with padding at the top edge of each door opening. The pad shall be at least three inches wide and one inch thick and extend the full width of the door opening.
- (i) On power-operated service doors, the emergency release valve, switch or device to release the service door must be placed above or to the immediate left or right of the service door and clearly labeled.

(8) Emergency Door. The emergency door shall be hinged on its right side if in the rear end of bus, and on its front side if on the left side of bus. It shall open outward and shall be labeled inside to indicate how it is to be opened. If double emergency doors are used on Type A vehicles, they shall be hinged on the outside edge and shall have a three-point fastening device. A device shall be used to hold the door open during emergencies and school bus evacuation drills. When the release mechanism is not in the position that causes an emergency door to be closed and the vehicle's ignition is in the "on" position, a continuous warning sound shall be audible at the driver's seating position and in the vicinity of the emergency door, as required by 49 CFR 571.217. When the release mechanism is not in the position that causes an emergency door to be closed and the vehicle's ignition is in the "on" position, emergency doors shall be identified by a red light which shall be lighted as required and readily visible to passengers.

- (a) The upper portion of the emergency door shall be equipped with approved safety glazing, the exposed area of which shall be not less than 400 square inches. The lower portion of the rear emergency door on Type B, C and D vehicles shall be equipped with a minimum of 350 square inches of approved safety glazing.
- (b) There shall be no steps leading to the emergency door.
- (c) The words "EMERGENCY DOOR" both inside and outside in letters at least two inches high, shall be placed at the top of or directly above the emergency door or on the door in the metal panel above the top glass.
- (d) The emergency door shall be equipped with padding at the top edge of each door opening. The pad shall be at least three inches wide and one inch thick and extend the full width of the door opening.
- (e) The side emergency door, if installed, must meet the requirements set forth in FMVSS 217 S5.4.2.1, (b), regardless of its use with any other combination of emergency exits.
- (f) There shall be no obstruction higher than 1/4 inch across the bottom of any emergency door opening.

7.05: continued

(9) Emergency Exits.

(a) For school bus bodies and chassis placed in production after August 31, 2004, Type A, B, C, and D vehicles shall be equipped with emergency exits in the following capacity vehicles:

one to 42 Passengers = one emergency exit per side and one roof hatch

43 to 78 Passengers = two emergency exit per side and two roof hatches

79 and above Passengers = three emergency exits per side and two roof hatches

(b) On buses manufactured after August 31, 2004, there shall be no seating position located at or adjacent to the side emergency door.

(c) In addition to side and rear emergency exits, doors, or windows, one or more roof hatches may be installed, provided they meet all requirements specified in 49 CFR 571.217.

(d) For all buses entering service after August 31, 2004, emergency windows shall be hinged vertically on the forward side.

(10) Floor. The floor in the underseat area, including tops of wheelhousing, driver's compartment and toeboard, shall be covered with rubber floor covering or equivalent having minimum overall thickness of .125 inch.

(a) Floor covering in the aisle shall be of the aisle-type rubber or equivalent, wear-resistant and ribbed. Minimum overall thickness shall be .187 inch measured from the tops of the ribs.

(b) Floor covering must be permanently bonded to the floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof and shall be of a type recommended by the manufacturer of floor-covering material. All seams must be sealed with waterproof sealer.

(11) Heaters. Heaters shall be of hot-water or combustion type.

(a) If only one heater is used, it shall be of fresh-air or combination fresh-air and recirculating type.

(b) If more than one heater is used, additional heaters may be of recirculating air type.

(c) The heating system shall be capable of maintaining bus interior temperatures as specified in SAE Test Procedure J2233.

(d) All heaters installed by body manufacturers shall bear a name plate indicating the heater rating in accordance with School Bus Manufacturers Institute Standard No. 001. The plate, as affixed by the heater manufacturer, shall constitute certification that the heater performance is as shown on the plate.

(e) Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or sharp edges and shall not interfere with or restrict the operation of any engine function. Heater hoses shall conform to Society of Automotive Engineers Standard J20c. Heater lines on the interior of the bus shall be shielded to prevent scalding of the driver or passengers.

(f) Each hot water system installed by a body manufacturer shall include a shutoff valve installed in the pressure and return lines at or near the engine in an accessible location, except that on all Type A and B buses, the valves may be installed in another accessible location.

(g) For Type B, C and D buses there shall be a water flow regulating valve installed in the pressure line for convenient operation by the driver while seated.

(h) All combustion type heaters shall be approved by Underwriters Laboratories, Inc. and shall be in compliance with current Federal Motor Carrier Safety Regulations.

(i) Accessible bleeder valves shall be installed in an appropriate place in the return lines of body company-installed heaters to remove air from the heater lines.

(j) Heater motors, cores and fans must be readily accessible for service. Access panels shall be provided as needed.

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7.05: continued

(12) Identification. No signs or lettering shall appear on the front, back or sides of the bus, other than those specified in M.G.L. c. 90, § 7B and those required or permitted by 540 CMR 7.00, but the rated seating capacity and the owner's name shall be displayed. The designated seating capacity shall be displayed on the right side, to the left of the service door in two inch letters. Owner/Operator information shall be displayed on both sides of the bus in two inch letters or greater. The seating capacity and the owner's telephone number may also be displayed as specified above. The company bus number shall be displayed on the left and right sides and rear of the bus, said numbers and lettering to be not less than four inches in height and not less than 1/2 inch in stroke. The company bus number shall be displayed on the roof of the bus left to right, said numbers and lettering to be not less than 24 inches in height and not less than eight inches in stroke. The body and chassis manufacturer's trade name may be displayed if applied by the manufacturer. The Registrar in his or her discretion may authorize in writing such other markings as deemed appropriate.

(13) Inside body height. The inside body height shall be 72 inches or more, measured metal to metal, at any point on longitudinal center line from the front vertical bow to the rear vertical bow.

(14) Insulation. The ceiling and walls shall be insulated with proper material to deaden sound and to reduce vibration to a minimum. If thermal insulation is used, it shall be of fire-resistant material of a type approved by Underwriters Laboratories, Inc.

If floor insulation is required, it may be five-ply, at least 5/8 inches thick, or it shall equal or exceed properties of exterior type softwood plywood, C-D Grade, as specified in standard issued by the United States Department of Commerce. If plywood is used, all exposed edges shall be sealed.

(15) Interior. The interior of the bus shall be free of all unnecessary projections likely to cause injury and shall be kept clean. This standard requires inner lining on ceilings and walls. If the ceiling is constructed to contain lapped joints, the forward panel shall be lapped by the rear panel and exposed edges shall be beaded, hemmed, flanged or otherwise treated to minimize sharp edges.

(a) The driver's area forward of the foremost padded barriers must permit the mounting of required safety equipment and vehicle operating equipment.

(b) Every school bus shall be constructed and maintained so that the noise level taken at the ear of the occupant nearest to the primary vehicle noise source shall not exceed 85 dBA when tested according to the procedure found in the School Bus Manufacturers Institute School Bus Design Objectives, January, 1985.

(16) Lamps and Signals. Interior lamps shall be provided which adequately illuminate the aisle and stepwell. Body instrument panel lights shall be controlled by a rheostat switch.

(a) School bus alternately flashing signal lamps shall comply with all applicable provisions of United States Department of Transportation Motor Vehicle Safety Standard--108 (49 CFR 571.108), and the applicable provisions of M.G.L. c. 90, § 7B. Such lamps must also be equipped with a continuous warning signal, readily audible or visible to the driver in the event that any of the lamps are inoperative. A monitor board shall be utilized for this purpose.

(b) The area around the lens of each alternately flashing signal lamp and extending outward approximately one to three inches shall be painted black. In installations where there is no flat vertical portion of body immediately surrounding the entire lens of lamp, a circular or square band of black approximately one to three inches wide, immediately below and to both sides of the lens, shall be painted on the body or roof area against which the signal lamp is seen (from distance of 500 feet along the axis of vehicle). Visors or hoods with an appropriate black background to fit the shape of hoods/visors and roofcap may also be used.

7.05: continued

(17) Turn Signal and Stop/Tail Lamps. Bus bodies shall be equipped with rear turn signal lamps which are at least seven inches in diameter or if not round, a minimum of 38 square inches of illuminated area, and which meet the specifications of the Society of Automotive Engineers. These signals must be connected to the chassis hazard warning switch to cause the simultaneous flashing of turn signal lamps when needed as vehicular traffic hazard warning. Turn signal lamps are to be placed as wide apart as practical and their centerline shall be approximately eight inches below the rear windows. Type A conversion vehicle lamps must be 21 square inches in the lens area, and be in Manufacturer's Standard Color.

(a) Buses shall be equipped with four combination red stop/tail lamps. Two combination lamps with a minimum diameter of seven inches or, if not round, a minimum of 38 square inches of illuminated area, shall be mounted on the rear of the bus just inside the turn signals.

(b) Two combination lamps with a minimum diameter of four inches or, if not round, a minimum of 12 square inches, of illuminated area shall be placed on the rear of the body between the belt line and the floor line. The rear license plate lamp may be combined with one lower tail lamp. Stop lamps shall be activated by the service brakes and shall emit a steady light when illuminated. Type A buses with bodies supplied by chassis manufacturer may have manufacturer's standard stop and tail lamps.

(18) Metal Treatment. All metal used in the construction of a bus body shall be zinc coated or aluminum coated or treated by equivalent process before the bus is constructed. This includes such items as structural members, inside and outside panels, door panels and floor sills. Excluded are such items as door handles, grab handles, interior decorative parts and other interior plated parts.

(a) In addition to the above requirements, all metal parts that will be painted shall be chemically cleaned, etched, zinc-phosphate-coated and zinc-chromate or epoxy primed or conditioned by equivalent process.

(b) In complying with these requirements, particular attention shall be given to lapped surfaces, welded connections of structural members, cut edges, punched or drilled hole areas in sheet metal, closed or box sections, unvented or undrained areas and surfaces subjected to abrasion during vehicle operation.

(c) As evidence that 540 CMR 7.05(18)(a) requirements have been met, samples of materials and sections used in construction of a bus body, when subjected to 1,000-hour salt spray test, as provided for in latest revision of American Society For Testing And Materials Standard B-117 "Standard Method of Salt Spray (Fog) Testing," shall not lose more than 10% of material by weight.

(19) Mirrors.

(a) Interior mirror: Shall be either clear view laminated glass or clear view glass bonded to a backing which retains the glass in the event of breakage. The mirror shall have rounded corners and protected edges. Type A bus shall have a minimum of a six inch x 16 inch mirror, and Type B, C and D buses shall have a minimum of a six inch x 30 inch mirror.

(b) Exterior Mirror: Each school bus shall be equipped with a system of exterior mirrors (as defined in FMVSS No. 111)

1. Rear Vision Mirror: The mirror system shall be capable of providing, along the left and right sides of the vehicle, the driver with a view of the rear tires at ground level, a minimum distance of 200 feet to the rear of the bus and at least 12 feet perpendicular to the side of the bus at the rear axle line.

2. Crossview Mirror System: The crossview mirror system shall provide the driver with indirect vision of an area at ground level from the front bumper forward and the entire width of the bus to a point where the driver can see by direct vision. The cross view system shall also provide the driver with direct vision of the area at ground level around the left and right front corners of the bus to include the tires and service entrance on all types of buses to a point where it overlaps with the rear vision mirror system.

3. This system of mirrors shall be easily adjustable but be rigidly braced so as to reduce vibration.

7.05: continued

(20) Mounting. Chassis frame shall support rear body cross member. Except where chassis components interfere, bus body shall be attached to chassis frame at each main floor sill, to prevent shifting or separation of body from chassis under severe operating conditions.

Insulating material shall be placed at all contact points between body and chassis frame on Type B, C and D buses, and shall be so attached to chassis frame or body that it will not move under severe operating conditions.

(21) Overall Length and Width. Overall length of bus shall not exceed 45 feet excluding accessories. Overall width of bus shall not exceed 102 inches, as provided in M.G.L. c. 90, § 19.

(22) Rub Rails. There shall be one rub rail located on each side of bus approximately at seat level which shall extend from rear side of entrance door completely around bus body (except emergency door) to point of curvature near outside cowl on left side.

(a) There shall be one rub rail located approximately at floor line which shall cover the same longitudinal area as upper rub rail, except at wheel-housing, and shall extend only to radii of right and left rear corners.

(b) Both rub rails shall be attached at each body post and all other upright structural members.

(c) Both rub rails shall be four inches or more in width in their finished form, be of 16-gauge steel or suitable material of equivalent strength, and be constructed in corrugated or ribbed fashion.

(d) There shall be a rub rail or equivalent bracing located horizontally at the bottom edge of the body side skirts.

(e) Both rub rails shall be applied outside the body or outside the body posts. Pressed-in or snap-on rub rails do not satisfy 540 CMR 7.05(22). For Type A and B vehicles using chassis manufacturer's body, or for Type C and D buses using rear luggage or rear engine compartment, rub rails need not extend around rear corners.

(23) Seat Belt for Driver. A Type 2 lap belt/shoulder harness seat belt shall be provided for the driver. The assembly shall be equipped with an emergency locking retractor (ELR) for the continuous belt system. The lap portion of the belt shall be guided or anchored where practical to prevent the driver from sliding sideways under it. The lap/shoulder belt shall be designed to allow for easy adjustment in order to fit properly and to effectively protect drivers varying in size from the 5th percentile adult female to the 95th percentile adult male.

(24) Seats and Restraining Barriers.

(a) Passenger Seating. All seats shall have a minimum cushion depth of 15 inches and must comply with all requirements of FMVSS No. 222. School bus design capacities shall be in accordance with 49 C.F.R. 571.3 and FMVSS No. 222. In determining the seating capacity of a bus the average rump width shall be a minimum of 13 inches.

(b) All restraining barriers and passenger seats shall be constructed with materials that comply with FMVSS No. 302 (Flammability of Interior Materials).

(c) Each seat leg shall be secured to the floor by a minimum of two bolts, washers and nuts. Flange-head nuts may be used in lieu of nuts and washers, or seats may be track-mounted in conformance with FMVSS No. 222. If track seating is installed, the manufacturer shall supply minimum and maximum seat spacing dimensions applicable to the bus provided such installation complies with FMVSS No. 222. This information shall be on a label permanently affixed to the bus.

(d) All seat frames shall be fastened to the seat rail with either two bolts, washers and nuts or flange-head nuts.

(e) All school buses (including Type A) shall be equipped with restraining barriers which conform to FMVSS No. 222.

(f) All materials or hardware used to replace or repair seats or restraining barriers shall comply with FMVSS standards as they apply to school buses.

7.05: continued

(25) Steps. The first step at the service door shall be not less than 12 inches and not more than 16 inches from the ground, based on standard chassis specifications.

- (a) The service door entrance may be equipped with a two-step or three-step stepwell. In either case, risers shall be approximately equal. When a plywood floor is used on steel, differential may be increased by the plywood thickness.
- (b) When a three-step stepwell is specified, the first step at the service door shall be approximately ten to 14 inches from the ground when the bus is empty, based on standard chassis specifications.
- (c) Type D vehicles shall have a three-step stepwell with the first step at service door 12 to 16 inches from the ground.
- (d) Steps shall be enclosed to prevent the accumulation of ice and snow.
- (e) Steps shall not protrude beyond the side body line.
- (f) A grab handle not less than 20 inches in length shall be provided in an unobstructed location inside doorway.

(26) Step Treads. All steps, including the floor line platform area, shall be covered with 3/16-inch rubber floor covering or other materials equal to top grade rubber in wear and abrasion resistance.

- (a) The metal back of the tread, minimum 24-gauge cold roll steel, shall be permanently bonded to ribbed rubber; of grooved design with grooves running at 90° angle to the long dimension of step tread.
- (b) A three-sixteenth inch ribbed step tread shall have a 1 1/2 inch white nosing as integral piece without any joint.
- (c) Rubber portions of step treads shall have the following characteristics:
 1. Special compounding for good abrasion resistance and high coefficient of friction.
 2. Flexibility so that it can be bent around a 1/2 inch mandrel both at 130° F and 20° F without breaking, cracking or crazing.
 3. Show a durometer hardness 85 to 95.

(27) Stirrup Steps. There shall be at least one folding stirrup step or recessed foothold and suitably located handles on each side of the front of the body for easy accessibility for cleaning the windshield and lamps except when windshield and lamps are easily accessible from the ground. Steps are permitted in or on the front bumper, in lieu of the stirrup steps, if the windshield and lamps are easily cleaned from that position.

(28) Stop Warning Device. Stop warning devices must meet the applicable requirements of the Society of Automotive Engineers Standards, J1133--April 1984. Arms shall be of an octagonal shape with a white border and with the word STOP in white letters not less than six inches high and one inch wide on a red background, to be visible on both sides with the arm extended. Two red lamps, incandescent strobe lights or LED lights not less than four inches in diameter or the word STOP in LED lighting shall be mounted on the arm, one above the word stop and one below, to be visible on both sides of the arm when in the extended position. The arm shall automatically be activated with the lights flashing whenever the red school bus warning lights are illuminated.

- (a) In accordance with M.G.L. c. 90, § 7B, stop warning devices are required on all school buses.
- (b) The stop warning device shall be installed on the left side forward of the bus center line. The top of the arm shall be below the lowest point of the window line and shall be positioned to assure it will not obscure the operator's reflected view of the area immediately forward of the rear wheels.

(29) Sun Shield. An interior adjustable transparent sun shield not less than six inches x 30 inches for Types B, C and D vehicles, manufacturer standard sunshades for Type A vehicles, with a finished edge, shall be installed in a position convenient for use by the driver.

7.05: continued

(30) Undercoating. The entire underside of the bus body, including floor sections, cross member and below floor line side panels, shall be coated with a rust-proofing compound for which the compound manufacturer has issued to the bus body builder a notarized certification of compliance that the compound meets or exceeds all performance and qualitative requirements of Federal Specification TT-C 520b, paragraph 3.4 (General Services Administration) using the following modified test procedures:

- (a) Salt spray resistance-pass test modified to 5% salt and 1,000 hours.
- (b) Abrasion resistance-pass.
- (c) Fire resistance-pass.

*Test panels to be prepared in accordance with Federal Specification TT-C 520b, paragraph 4.6.12 with modified procedure requiring that tests be made on a 48- hour air cured film at thickness recommended by compound manufacturer.

(d) The undercoating compound shall be applied with suitable airless or conventional spray equipment to the recommended film thickness and shall show no evidence of voids in cured film.

(31) Ventilation. Auxiliary fans, if used, shall meet the following requirements:

- (a) Fan for the left and right sides shall be in a location where it can be adjusted to its maximum effectiveness.
- (b) These fans shall be a nominal six-inch diameter.
- (c) Fan blades shall be covered with a protective cage. Each of these fans shall be controlled by a separate switch.
- (d) Body shall be equipped with a suitably controlled ventilating system of sufficient capacity to maintain the proper quantity of air under operating conditions without opening of windows except in extremely warm weather.
- (e) Static-type non-closeable exhaust ventilation shall be installed in the low-pressure area of roof.
- (f) Roof hatches designed to provide ventilation in all types of extreme weather conditions may be provided.

(32) Wheelhousing. Wheelhousing opening shall allow for easy tire removal and service.

- (a) Wheelhousing shall be attached to floor sheets in such a manner to prevent any dust, water or fumes from entering the body. Wheelhousing shall be constructed of a minimum 16-gauge steel or material of equivalent strength.
- (b) The inside height of the wheelhousing above the floor line shall not exceed 12 inches.
- (c) The wheelhousing shall provide clearance for installation and use of tire chains on single and dual (if so equipped) power-driving wheels.
- (d) No part of a raised wheelhousing shall extend into the emergency door opening.

(33) Windows. Each full side window shall provide an unobstructed emergency opening at least nine inches high and 22 inches wide, obtained by lowering the window. Push-out type, split-sash windows may be used.

(34) Windshield Wipers and Washers. A windshield wiping system, two-speed or more, shall be provided.

- (a) The wipers shall have one or more air or electric motors of sufficient power to operate wipers. If one motor is used, the wipers shall work in tandem to give full sweep of the windshield.
- (b) The bus shall have a windshield washer which will effectively clean the entire area covered by both windshield wipers.

(35) Wiring. All wiring shall conform to applicable current standards of Society of Automotive Engineers.

(36) Paint Design, White Roof. Roof color to stop 5.5" above rain visor or gutter over passenger windows. Paint design to include a 10.5" radius at both front and rear roof caps which are painted body color.

7.06: Equipment Requirements

All school buses shall have equipment conforming to the following standards.

(1) Fire Extinguishers. The bus shall be equipped with at least one pressurized, dry chemical fire extinguisher complete with hose, to meet Underwriters Laboratories, Inc.'s approval. Extinguisher must be mounted in a bracket, located in the driver's compartment and readily accessible to the driver and passengers. A pressure gauge shall be mounted on the extinguisher so as to be easily read without moving the extinguisher from its mounted position.

(a) The fire extinguisher shall be of a type approved by Underwriters Laboratories, Inc. with a total rating of 2A10BC or greater. The operating mechanism shall be sealed with a type of seal which will not interfere with the use of the fire extinguisher.

(b) An automatic fire extinguisher system may be provided within the engine compartment. This in no way eliminates the requirements 540 CMR 7.06(1)(a).

(2) First-aid Kit. The first-aid kit shall be removable, moistureproof, dustproof, and mounted in an accessible and marked place within the driver's compartment. The contents shall include:

- two - 1" x 2 1/2 yards adhesive tape rolls
- 24 - sterile gauze pads 3" x 3"
- 100 - 3/4 " x 3" adhesive bandages
- eight - 2" bandage compress
- ten - 3" bandage compress
- two - 2" x 6 yards sterile gauze roller bandages
- two - non-sterile triangular bandages approximately 39" x 35" x 54" with two safety pins
- three - sterile gauze pads 36" x 36"
- three - sterile eye pads
- one - rounded end scissors
- one - pair medical examination gloves
- one - mouth-to-mouth airway

(3) Body Fluid Clean-up Kit. Each bus shall have a removable and moistureproof body fluid clean-up kit. It shall be properly mounted and identified as a body fluid clean-up kit.

- The contents shall include:
- one - Absorbent powder
 - one - Hard surface disinfectant towelette
 - one - Scoop and spatula
 - one - Biohazard bag
 - one - Unmarked bag
 - ten - Paper towelette
 - two - Medical examination gloves
 - two - Antiseptic toweletts

(4) Warning Devices for Disabled Vehicles. At least three red electric lanterns or red emergency reflectors which comply with United States Department of Transportation Motor Vehicle Safety Standards 125 shall be provided.

(5) Wheel Chocks. Each bus shall have one pair of secured rubber chocks, in compliance with M.G.L. c. 90, § 13.

(6) Storage of Equipment. All required equipment shall be readily accessible to the driver and passengers and secured to prevent dislodging in the event of vehicle upset. Any optional equipment or supplies must also be so secured. Any trash receptacle shall be securely mounted in a proper location and emptied daily. Any broom shall be securely mounted in a location away from passengers.

(7) Locked Compartment. The fire extinguisher, first-aid kit, warning devices, and wheel chocks may be stored under lock and key provided that the locking device is connected with an automatic audible warning signal to notify the driver of the locked compartment when the ignition is turned on, and a device to prevent activation of the starter mechanism of the vehicle engine while said compartment is locked. The compartment shall be legibly labeled to indicate storage of the required equipment.

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7.06: continued

(8) Belt Cutter. All buses shall contain a belt cutter visibly mounted in the driver's area for use in emergencies including evacuations.

7.07: Specially Equipped School Bus Standards

The specifications in 540 CMR 7.07 are supplemental to specifications in the chassis and body sections and, generally, specially equipped buses should meet all the requirements of 540 CMR 7.05 and 7.06 in addition to those listed in 540 CMR 7.07. Because the field of special transportation is characterized by varied needs for individual cases and by a rapidly emerging technology for meeting these needs, a flexible, common-sense approach to the adoption and enforcement of specifications for these vehicles is prudent.

The following standards address modifications to school buses that, with standard seating arrangement prior to modification, would accommodate more than ten persons. If, by addition of a power lift, mobile seating device positions or other modifications, the capacity is reduced so that a vehicle is classified as Multipurpose Passenger Vehicle (MPV), rather than a school bus, under Federal regulations, such vehicle is required to meet the same standards it would have had to meet prior to modification, and such MPV's are included in all references to school buses and subject to all requirements for school buses.

The Registrar will not approve of the structural modification of a school bus originally meeting Federal Motor Vehicle Safety Standards (FMVSS) unless the modifications are performed by the original vehicle manufacturer or its authorized representative.

(1) General Requirements.

(a) School buses designed for transporting students with special transportation needs shall comply with National Standards and with Federal Motor Vehicle Safety Standards applicable to their GVWR category.

(b) Any school bus to be used for the transportation of children who are confined to a wheelchair or other mobile positioning device, or who require life support equipment which prohibits use of the regular service entrance, shall be equipped with a power lift, unless a ramp is needed for unusual circumstances related to passenger needs.

(2) Aisles. All school buses equipped with a power lift shall provide a 30 inch aisle leading from wheelchair position to at least one emergency door and the lift area.

(3) Communications. All school buses should be equipped with an electronic voice communication system.

(4) Glazing. Tinted glazing may be installed in all doors, windows and windshield consistent with federal, state, and local regulations.

(5) Identification. Buses with power lifts used for transporting physically handicapped students shall display universal handicapped symbols located below the windowline on the lift door. A second handicapped placard shall be displayed on the side of the school bus opposite the lift door not less than five inches in height below the windowline. Such emblems shall be white on blue background, shall not exceed 12 inches in size, and shall be of a high intensity reflectorized material meeting U.S. Department of Transportation FHWA FP-85 Standards.

(6) Power Lift.

(a) Power lift shall be located on the right side of the bus body, and confined within the bus body when not extended. No lift shall be installed above the vehicle fuel fill.

(b) Lifting mechanism and platform shall be able to lift a minimum weight of 800 pounds. Lift platform shall have minimum 30" clear usable width, unobstructed by required handrail. The minimum clear length of the platform between the outer edge barrier and inner edge shall be 40 inches.

(c) When the platform is stowed, it shall be secured by a method built into the lift system.

(d) Controls shall be provided that enable the operator to activate the lift mechanism from either inside or outside of the bus. There shall be a means of preventing the lift platform from falling while in operation due to a power failure or a single component mechanical failure.

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7.07: continued

- (e) Power lifts shall be equipped with a manual backup system for use in the event of a power failure.
- (f) Lift travel shall allow the lift platform to rest securely on the ground.
- (g) Outboard platform edge and sides shall be designed to restrain wheelchairs or other mobile seating devices from slipping or rolling off the platform. Platform outer edge barriers shall be able to be automatically or manually lowered when the platform is at ground level, but shall not be equipped with any type of latch that could result in a lowered barrier when the platform is above ground level.
- (h) Platform shall be equipped with at least one handrail, approximately 25 - 34 inches in height and a minimum of 18 inches in length. The handrail shall be designed to fold when in stowed position so as not to add to overall lift projection into the vehicle.
- (i) A self-adjusting, skid resistant plate shall be installed on the outer edge of the platform to minimize the incline from the lift platform to the ground level. This plate, if so designed, may also suffice as the restraining device described in 540 CMR 7.07(6)(g). The lift platform must be skid resistant.
- (j) A circuit breaker shall be installed between power source and lift motor if electrical power is used.
- (k) Lift design shall prevent excessive pressure that could damage the lift system when the platform is fully lowered or raised, or that could jack the vehicle.
- (l) The lift mechanism shall be designed to prevent folding or stowing of the lift when the lift platform is occupied.

(7) Ramps. When a power lift system is not adequate to load and unload students having special and unique needs, a ramp device may be installed.

- (a) If a ramp is used, it shall be of sufficient strength and rigidity to support the special device, occupant, and attendant(s). It shall be equipped with a protective flange on each longitudinal side to keep the special device on the ramp.
- (b) The floor of ramp shall be of non-skid construction.
- (c) The ramp shall be of weight and design, and equipped with handle(s), to permit one person to put the ramp in place and return it to its storage place.

(8) Regular Service Entrance.

- (a) Steps.
 1. On power-lift equipped vehicles, steps shall be the full width of the stepwell, excluding the thickness of doors in the open position.
 2. Steps shall be enclosed to prevent accumulation of ice and snow.
 3. Steps shall not protrude beyond the side body line.
- (b) A grab handle not less than 20 inches in length shall be provided in an unobstructed location inside the doorway.

(9) Restraining Devices. Seat frames may be equipped with attachments or devices to which belts, restraining harnesses or other devices may be attached. Attachment framework or anchorage devices, if installed, shall conform with 49 CFR 571.210.

(10) Seating Arrangements. Flexibility in seat spacing to accommodate special devices shall be permitted to meet passenger requirements. All seating shall be forward-facing and seat spacing shall be in conformance with FMVSS No. 217 and FMVSS No. 222.

(11) Securement System For Mobile Seating Device/Occupant.

- (a) For vehicles manufactured on or after January 15, 1993, the body shall be designed for forward-facing positioning and securement of mobile seating devices and occupants. Securement system hardware and attachment points for the forward-facing system shall be in compliance with FMVSS No. 222.
- (b) The mobile seating device securement system shall utilize four-point tie-downs, with a minimum of two body floor attachment points located at both the front and the rear of the space designated for the mobile seating device.
- (c) A Type 2 occupant securement system shall provide for securement of the occupant's pelvic lap area and upper torso area.

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(d) The mobile seating device/occupant securement system shall be successfully dynamically sled-tested at a minimum impact speed/force of 30 mph/20 G's. The dynamic test shall be performed using system components and hardware (including attachment hardware) which are identical to the final installation in type, configuration, and positioning. The body structure at the attachment points may be simulated for the purpose of the sled test, but the simulated structure used to pass the sled test may not exceed the strength of the attachment structure to be used in the final body installation. The mobile seating device used for test purposes shall be a 150 pound powered wheelchair and the occupant shall be a 50th percentile male test dummy as specified in 49 CFR 571.208. Measurements shall be made on the test dummy during the test for head acceleration, upper thorax acceleration, and upper leg compressive force. These measurements shall not exceed the upper limits set forth in 49 CFR 571.208, S6.1.2, 6.1.3, and 6.1.4. The test dummy shall be retained within the securement system throughout the test and forward excursion shall be such that no portion of the test dummy's head or knee pivot points passes through a vertical transverse plane intersecting the forward-most point of the floor space designated for the mobile seating device. All hardware shall remain positively attached throughout the test and there shall be no failure of any component. Each mobile seating device belt assembly, including attachment hardware and anchorages, shall be capable of withstanding a force of not less than 2,500 pounds to provide equal mobile seating device securement when subjected to forces generated by forward, rear or side impact.

The belt materials at each space designated for the mobile seating device and the occupant restraint system shall be similar in size and fabric.

(e) Occupant securement belt assemblies and anchorages shall also be certified to meet the requirements of 49 CFR 571.209 and 571.210.

(f) The occupant securement system must be designed to be attached to the bus body either directly or in combination with the mobile seating device securement system, by a method which prohibits the transfer of weight or force from the mobile seating device to the occupant in the event of an impact.

(g) All securement system attachments or coupling hardware not permanently attached shall be a "positive latch" type to prohibit accidental disconnecting.

(h) All attachment or coupling systems designed to be connected or disconnected frequently shall be accessible and operable without the use of tools or other mechanical assistance.

(i) All securement system hardware and components shall be free of sharp or jagged areas and shall be of a non-corrosive material or treated to resist corrosion.

(j) The occupant securement system shall be made of materials which do not stain, soil, or tear an occupant's clothing.

(k) No mobile seating device securement system hardware shall be placed so that a mobile seating device can be placed blocking access to lift door.

(l) The following information shall be provided with each vehicle equipped with a securement system:

1. Detailed instructions, including a parts list, regarding installation and use of the system.
2. Detailed instructions, including a diagram, regarding the proper placement and positioning of the system, including correct belt angles.

(12) Special Light. Lights shall be placed inside the bus to sufficiently illuminate the lift door area.

(13) Special Service Entrance.

(a) Power lift equipped bodies shall have a special service entrance to accommodate the power lift.

(b) The special service entrance and door shall be located on the right side of the bus and shall be designed so as not to obstruct the regular service entrance.

(c) The opening may extend below the floor through the bottom of the body skirt. If such an opening is used, reinforcements shall be installed at the front and rear of the floor opening to support the floor and give the same strength as other floor openings.

(d) A drip molding shall be installed above the opening to effectively divert water from the entrance.

7.07: continued

(e) Door posts and headers from the entrance shall be reinforced sufficiently to provide support and strength equivalent to the areas of the side of the bus not used for special service entrance.

(14) Special Service Entrance Doors.

- (a) A single door or double doors may be used for the special service entrance.
- (b) All doors shall have positive fastening devices to hold doors in the open position.
- (c) All doors shall be weather sealed.
- (d) When manually-operated dual doors are provided, the rear door shall have at least a one-point fastening device to the header. The forward-mounted door shall have at least three-point fastening devices, one to the header, one to the floor line of the body, and the one to the rear door. The door and hinge mechanism shall be of a strength that is equal to or greater than the emergency exit door.
- (e) Door materials, panels and structural strength shall be equivalent to the conventional service and emergency doors. Color, rub rail extensions, lettering and other exterior features shall match adjacent sections of the body.
- (f) Each door shall have windows set in rubber compatible within one-inch of the lower line of adjacent sash. Glazing shall be of same type and tinting (if applicable) as standard fixed glass in other body locations.
- (g) Doors shall be equipped with a device that will activate an audible or flashing visible signal located in the driver's compartment when a door is not securely closed and ignition is in "on" position.
- (h) A switch shall be installed so that the lifting mechanism will not operate when the lift platform door is closed.
- (i) Special service entrance doors shall be equipped with padding at the top edge of the door opening. The pad shall be at least three inches wide and one inch thick and extend the full width of the door opening.

(15) Support Equipment And Accessories. Portable student equipment or special accessory items shall be secured at the mounting location to withstand a pulling force of five times the weight of the item, or shall be retained in an enclosed, latched compartment. Such special items, if used, shall meet the following specifications:

- (a) Belt Cutter. Buses shall contain a belt cutter for use in emergencies, including evacuations. Belt cutters should be designed to eliminate the possibility of the operator or others being cut during use, and should be secured in a safe location such as a first-aid kit.
- (b) Crutches, Walkers, Canes, and Similar Devices. Any of these items shall be secured as specified above.
- (c) Medical Support Equipment. Medical support equipment, including oxygen bottles, ventilators, and other items, shall be secured as specified in 540 CMR 7.07(15).

7.08: Out-of-service Criteria

The purpose of these criteria is to identify critical school bus components and to further provide standards that an inspector(s) shall utilize in determining if a school bus is safe for pupil transportation. These criteria are intended to establish minimum standards for inspecting and placing school buses out of service. Pursuant to M.G.L. c. 90, § 31, any authorized inspector finding a violation of the following criteria shall affix an out-of-service decal to the vehicle's windshield.

(1) Brake System.

- (a) Adjustment. Any one brake beyond the adjustment LIMIT (49 CFR 396.9, Subchapter B, Appendix G).
- (b) Air System. Fails to maintain pressure when:
 1. the leakage rate (brakes released) exceeds 2psi/min.
 2. the leakage rate (brakes applied) exceeds 3psi/min.
 3. fails to recover air pressure as recommended.

7.08: continued

(2) Brake System (Hydraulic).(a) Master Cylinder.

1. reservoir is below minimum level.
2. any leakage of fluid in the master cylinder unit system.

(b) Pedal Reserve. Fails to maintain manufacturer designed height and travel requirements (OEM).(c) Power Assist Unit. Fails to function as designed (OEM).(3) Brake Components (Air and Hydraulic).(a) Brake Hoses/Tubing.

1. brake hose with any damage extending through the outer reinforcement ply.
2. any bulge or swelling when brakes are applied.
3. any restriction due to cracked, broken or crimped line/hose.
4. any line, tubing, hose, or connection that is not constructed to meet all applicable manufacturing codes and standards (OEM).

(b) Brake Lining.

1. any lining/pad worn to the recommended replacement measurement or wear mark.
2. lining pad is broken, not firmly attached to shoe or plate, or is contaminated with oil or grease.
3. fails to make contact with drum (frozen, binding, uneven).

(4) Parking Brake. Not present and working as designed.(5) Steering System.(a) Steering Column.

1. any modification or other condition that interferes with the free movement of any steering component.
2. any absence or looseness of U-bolt(s) or positioning part(s).
3. worn or faulty, or obvious repair-welded universal joint(s).
4. steering wheel not properly secured.

(b) Front Axle Beam. Any cracks(s) or obvious welded repair.(c) Steering Gear Box.

1. any mounting bolt(s) loose or missing.
2. any crack(s) in gear box or mounting brackets.
3. any obvious welded repair.

(d) Pitman Arm.

1. any looseness of the Pitman Arm on the steering gear output shaft.
2. any obvious welded repair.

(e) Power Steering.

1. auxiliary power assist cylinder loose.
2. power steering pump inoperable.

(f) Ball and Socket Joints.

1. any movement under steering load of a nut stud.
2. any motion, other than rotational, between any linkage member and its attachment point of more than 1/8 inch measured with hand pressure only.
3. any obvious welded repair.

(g) Tie Rods and Drag Links.

1. loose clamp(s) or clamp bolt(s) on tie rod or drag links.
2. any looseness in any threaded joint.

(h) Nuts. Loose or missing fasteners on tie rod, Pitman Arm, drag link, steering arm or tie rod arm.(i) Hoses and Fluids. Any faulty fluid control device, leak, or empty reservoir.(6) Suspension Components Axle Parts/Members.

(a) any U-bolt or other spring to axle clamp bolt(s) cracked, broken, loose, or missing.

(b) any spring hanger(s), or other axle positioning parts cracked, broken, loose, or missing that results in shifting of an axle from its normal position.

(c) any worn (beyond manufacturer's specifications) or improperly assembled U bolt, shock, king pin, ball joint, strut, air bag and positioning component (OEM).

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- (d) any spring hanger, assembly part or leaf, broken or missing.
- (e) coil spring broken.

(7) Chassis/Frame/Unibody.

(a) Frame.

- 1. any cracked, loose, sagging or broken frame siderail.
- 2. any obvious bend or damage resulting from a collision.
- 3. any worn or loose mounting hole.

(b) Cross Members. Any cross member, outrigger or other structural support cracked, missing or deformed.

(c) Outriggers/Body Support. Any missing, broken, shifted or corroded part that would affect the safe operation of the vehicle.

(d) Bumpers. Any bumper missing or not secured.

(8) Exhaust System-Leaks. Any part of the exhaust system that has a measurable leak (audible or felt) or discharges under the passenger or engine compartment.

(9) Fuel System-Fuel Container/Connection.

(a) any fuel tank not securely attached to the vehicle.

(b) any part of the fuel system not properly secured or fastened.

(c) any liquid fuel leak at any point.

(10) Drive Shaft - Drive Shaft Guard. Loose or missing.

(11) Differential. Cracked housing.

(12) Engine.

(a) Components. Any critical component that fails to function as designed.

(b) Leaks. Any fluid leaks that would affect the safe operation of the engine.

(13) Tires/Wheels/Hubs.

(a) Tire Tread Depth. Any tire worn to less than 4/32 inch.

(b) Tire Sidewall.

- 1. any sidewall that is cut, worn, or damaged to the extent that the plycord is exposed.
- 2. any observable bump, bulge, or knot related to sidewall or tread separation.

(c) Tire Inflation. Tire is flat or has noticeable leak.

(d) Tire Type. Not of proper type (load range, size, mismatched, etc.).

(e) Wheels/Rims/Spiders.

1. any nuts, bolts, studs, lugs, missing, damaged or loose.

2. any wheel/rim is cracked, improperly seated, damaged, or welded.

(f) Hub. Excessive wheel bearing play that exceeds OEM specifications.

(14) Aisle.

(a) Clearance. Aisle does not have the required clearance.

(b) Obstruction. There are objects blocking aisles or exits.

(15) Electrical - Wiring. Any required wire or electrical component charred or showing evidence of being burnt or exposed.

(16) Battery.

(a) Condition. Battery will not activate the starter.

(b) Wires. Wiring is exposed or loose.

(c) Battery Securement. Battery not secured.

(17) Windshield Wipers. Broken, missing or inoperative.

(18) Body Interior.

(a) Panels. Any panel (ceiling, side, wheel well, etc.) protruding, having sharp edges, or not secured, that may cause injuries.

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- (b) Floors. Floor pan or inner panels having excessive perforated areas or openings sufficient to cause a hazard to an occupant.
- (c) Step Well. Any part of the step well or support structure is damaged.
- (d) Step Treads. Any condition that would present a tripping hazard.
- (e) Handrail.
 - 1. Missing.
 - 2. fails the NHSTA nut/drawstring test or has not complied with recall.
- (f) Seats/Barriers.
 - 1. any seat/barrier that is not secured properly.
 - 2. any seat/barrier material so defective that it compromises the integrity of occupant protection and compartmentalization.
 - 3. seat spacing fails to comply with FMVSS No. 222.
- (g) Seat (Driver).
 - 1. fails to adjust or hold proper adjustment.
 - 2. any part of the driver's safety restraint assembly is missing, not properly installed or so defective as to prevent proper securement.
- (h) Doors (Service).
 - 1. the service door does not open or close properly.
 - 2. the door control handle does not lock in the closed position.
 - 3. door is equipped with a padlock or similar non-OEM locking device. (Excludes vehicles equipped with an interlock system)
- (i) Doors (Emergency Exits).
 - 1. any emergency door that does not open freely or completely, as designed.
 - 2. any door(s) warning device that is defective.
 - 3. door or roof hatch is equipped with a padlock or similar non-OEM locking device (Excludes vehicles equipped with an interlock system).

(19) Windows.

- (a) any glass that is broken through or missing.
- (b) not of approved type.
- (c) every school vehicle windshield shall be free of discoloration or other damage in that portion thereof extending upward from the height of the topmost portion of the steering wheel, but not including a one inch border at the top and a one-inch border at each side of the windshield or each panel thereof, except that discoloration and damage as follows are allowed:
 - 1. coloring or tinting applied during manufacture, for reduction of glare;
 - 2. any crack not over three inches wide, if not intersected by any other crack;
 - 3. any damaged area which can be covered by a disc 3/4 inch in diameter, if not closer than three inches to any other such damaged area.
- (d) driver's side area window(s) have chips, clouding or cracks that obscure the driver's vision.
- (e) Windows (Emergency Exits).
 - 1. any Emergency window that fails to open properly.
 - 2. lacks the required number of emergency windows/roof hatches. (Fails to comply with FMVSS No. 217)
 - 3. required audible warning device(s) not working properly.
- (f) Defrosters. Fails to operate.

(20) Body Exterior.

- (a) Panels, Rub Rails, Trim. Any school bus body part that is loose, torn, dislocated or protruding from the surface of the bus, creating a hazard.
- (b) Compartment Doors. Any engine, battery or other doors that are not secured properly.
- (c) Mirrors. Any required mirror missing, broken, discolored or will not hold a set adjustment.

(21) Lamps and Signals.

- (a) Horn. Fails to function as designed.

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(b) Gauges/Brake Warning. Any critical brake, telltale light, buzzer or gauge that fails to function as designed.

(c) Stop Arm/Optional Crossing Device. Required stop arm(s), or if equipped any crossing control device failing to function properly.

(22) Emergency Equipment-Fire Extinguisher. Any required fire extinguisher(s) which is missing, not of proper type / size, not fully charged, has no pressure gauge, is not secured or is not accessible to the driver.

(23) Wheelchair Equipped Vehicles.

(a) wheelchair lift does not function as designed or is inoperable.

(b) any hydraulic line leaking during lift operation.

(c) wheelchair securement missing or improperly installed, loose or damaged.

(d) any required wheelchair occupant restraint system not in compliance with FMVSS No. 222.

REGULATORY AUTHORITY

540 CMR 7.00: M.G.L. c. 90, §§ 7A, 7C and 31.

CHAPTER 90 MOTOR VEHICLES AND AIRCRAFT**Section 7B Equipment and operation of school buses**

Section 7B. No person shall operate any school bus, and the owner or custodian of a school bus shall not permit the same to be operated upon or to remain upon any way, unless the following requirements are complied with:—(1) The words "SCHOOL BUS" shall be painted or otherwise displayed on the front and rear of each such vehicle in black letters of eight inches in height and conform to series "B" of the standard alphabets for highway signs on a National School Bus Yellow background, or shall be so painted upon signs attached to the front and rear of each vehicle. School buses being operated on a public highway and transporting primarily passengers other than school pupils shall have the words "SCHOOL BUS" covered, removed, or otherwise concealed, and stop arms and equipment required by clauses (7) and (11) shall not be activated during the transportation of such passengers; (2) The operator of a school bus shall not allow the number of school pupils riding in the bus at any one time to exceed the number of adequate thirteen inch seats therein nor shall the operator drive said bus until each pupil is seated; provided however, that any such bus, in which adequate straps, handles or other supports are available for standing passengers, may carry not more than three standees in any case of an emergency for a period not to exceed five consecutive school days; (3) All doors shall be kept closed while the bus is in motion; (4) Each school bus shall be operated by a person eighteen years of age or over who is licensed under section eight A or who is licensed under section nine of chapter one hundred and fifty-nine A and is subject to an annual physical examination in conformity with such minimum physical qualifications as shall be determined by the registrar in collaboration with the commissioner of the department of telecommunications and energy; provided, however, that in case of any emergency such school bus may, for a period not to exceed three consecutive school days, be operated by any person, eighteen years of age or over, who is duly licensed by his state of residence for operation of the class of vehicle being operated and has said license in his possession; and provided, further, that no person shall operate a school bus whose license to do so is suspended or revoked, or whose application to operate a school bus has been rejected by the registrar; (5) No fueling shall take place while any school bus is occupied by passengers;

(6) Beginning with the chassis model year nineteen hundred and seventy-five and subsequent model years, each school bus body and fenders, shall be painted a color matching what is commonly known as "National School Bus Glossy Yellow" in accordance with United States motor vehicle D.O.T. Safety standard No. 17, as amended, and bumpers, lettering, wheels and trim shall be painted a glossy black, in accordance with such standard. The hood of vehicles manufactured for model year nineteen hundred and seventy-five and subsequent model years shall be painted lusterless black or lusterless yellow, in accordance with federal standards. This clause shall not apply to a motor vehicle operated under a certificate issued under section seven of chapter one hundred and fifty-nine A and a permit issued under section eight of said chapter which is designed primarily for other than pupil transportation; (7) Each school bus shall be equipped with Type I Class A turn signal lamps, which shall have a four-way hazard warning signal switch to cause simultaneous flashing of the turn signal lamps which may be activated when a bus is approaching a stop to load or discharge school pupils and when needed as a vehicular traffic hazard warning. Each school bus shall also be equipped with front and rear alternating flashing school bus red signal lamps, which shall remain flashing when school pupils are entering or leaving the bus. School buses manufactured with a chassis of nineteen hundred and eighty-four model year and thereafter shall be equipped with the eight-lamp system, so-called, which, in addition to the aforementioned lamps, shall include alternating flashing amber signal lamps of the same size as, and placed adjacent to, said red signal lamps, and which shall be activated when said bus is approaching a stop to load or discharge school pupils. On buses equipped with the eight-lamp system, so-called, the use of the four-way hazard warning lamps for the purpose of warning motorists of the vehicle's impending stop to load or discharge school pupils shall be discontinued. Use of alternating flashing school bus red signal lamps for any other purpose, and at any time other than when the school bus is stopped to load or discharge school pupils, shall be prohibited. All aforementioned lamps shall comply with applicable Federal Motor Vehicle Safety Standards and any applicable rules and regulations promulgated by the registrar. The operator of a school bus shall cause its headlamps to be illuminated while such bus is in operation. Any person who operates such a bus shall not permit the boarding or discharging of school pupils therefrom unless the school bus is stopped as close as is practicable to the right-hand side or edge of the ways and shall announce when discharging passengers therefrom that all persons who wish to cross to the other

side of the way shall do so by passing in front of the bus immediately upon alighting therefrom. No person shall operate a school bus on a way after discharging passengers therefrom unless all persons who wish to cross to the other side have done so; (8) Every school bus shall be equipped with a safety belt for the operator thereof, and said operator shall securely fasten said seat belt while transporting school pupils; (9) Every school bus shall be equipped with two operable front windshield wipers; (10) No person shall smoke or consume alcoholic beverages on a school bus while such bus is being used to transport school pupils; (11) Type I and Type II school buses purchased, leased or contracted after January first, nineteen hundred and eighty-nine for use in the commonwealth shall be equipped with an octagonal stop warning device incorporating alternately flashing red lights approved by the registrar and mounted in accordance with the registrar's regulations upon the left side and shall only be activated to extend outward when picking up or discharging school pupils. All other Type I and Type II school buses shall be so equipped with said device no later than January first, nineteen hundred and ninety-four. Such device, when fully extended, shall not protrude more than twenty-two inches outward from the left side of the body. The use of such device shall not be construed as increasing the width of such bus beyond the limits prescribed by section nineteen. The registrar shall promulgate rules and regulations providing for a certification process for the installation of said device; (12) Every school bus shall be equipped with at least one interior mirror and at least two flat-surfaced rectangular exterior mirrors approved by the registrar in accordance with regulations issued by the registrar. Further, every school bus shall be equipped with a system of mirrors that give the driver a view of the roadway to each side of the bus and of the area immediately in front of the front bumper in accordance with rules and regulations issued by the registrar. All such mirrors shall meet all applicable Federal motor vehicle safety standards; (13) Every school bus shall be equipped with a first-aid kit; (14) Any school bus meeting the identification requirements of this section that is permanently converted for use wholly for purposes other than transporting pupils to and from school shall be painted a contrasting color other than National School Bus Glossy Yellow, and shall have the equipment required by clauses (1), (7), and (11) removed; (15) All pupils transported in a school bus shall receive classroom instruction in safe riding practices at least three times during the following periods of each school year: the first week of the school year, the period between the months of September and January and the period between the month of January and the end of the school year.

During each school year all such pupils shall participate at least twice in on-bus emergency evacuation drills; (16) School bus drivers shall be required to perform daily pretrip inspections of their buses and to report promptly in writing to their employer any defects or deficiencies discovered that may affect the safety of the vehicle's operation or result in its mechanical breakdown. Pretrip inspection and condition reports for school buses shall be performed in accordance with regulations established by the registrar and the commissioner of telecommunications and energy; (17) School bus drivers shall perform daily post-trip inspections of the interior of their buses including behind and underneath each seat. Any school bus driver who fails to perform such inspection shall be punished by a fine of not less than \$50 nor more than \$100; (18) Every school bus operated on any way shall be chassis model year 1977 or any subsequent model year.

The provisions of clauses (4) and (6) shall not apply to any vehicle having permanent seating accommodations for not more than fifteen passengers and used for the transportation of children enrolled in a camp, except that the driver of such a vehicle shall be a person eighteen years of age or over and of good moral character who is duly licensed by the registrar and has in his possession a Class 1 or Class 2 Massachusetts motor vehicle operator's license, and has not had a license to operate a school bus suspended or revoked nor had an application therefor denied.

No school bus having seating accommodations for more than sixteen school pupils equipped with passenger restraint systems shall be operated on the ways of the commonwealth unless said passenger restraint systems meet the requirement of one passenger restraint system for each seated passenger; and the minimum requirements of Federal Motor Vehicle Safety Standards for buckles, belts, and seats. Only anchorages and seats installed as original equipment at time of manufacture of the school bus, or retrofitted by the original manufacturer of said school bus shall be used. No school bus manufactured before nineteen hundred and seventy-seven equipped with passenger restraint systems shall be operated on the ways of the commonwealth.

In addition to the requirements of the preceding paragraph, every school bus having seating accommodations for more than sixteen school pupils manufactured or retrofitted with passenger restraint systems after July first, nineteen hundred and eighty-six shall have sets of belts at each seat which are distinctively color coded; and each such belt shall consist of one nonadjustable buckle end no longer than twelve inches and one adjustable end no longer than twenty-nine inches; and each seating position adjacent to an aisle shall have the nonadjustable buckle end mounted on the aisle side; and each passenger restraint system shall comply with the minimum requirements of Federal Motor Vehicle Safety Standards for anchorages.

No person shall operate a moving school bus while using a mobile telephone except in the case of an emergency. For the purpose of this paragraph, an emergency shall mean that the operator of the school bus needs to communicate with another to report any of the following: (a) that the school bus is disabled; (b) that medical attention or assistance is required for a passenger on the bus; (c) that police intervention is necessary for the personal safety of a passenger or to otherwise ensure the safety of the passengers; and (d) the presence of a disabled vehicle or an accident in the roadway.