

ATTACHMENT 10

SHUTTLE BUS MAINTENANCE SUMMARY

Current Inventory Listings Followed By Recent Maintenance.

| | |
|--------------------------|------------------------------------|
| Number of Total Shuttles | 6 |
| Registered Address | 900 Bagby 2nd Floor |
| City / State | Houston, TX 77002-2527 |
| Owner | City of Houston |
| Parking Management | Lannie Leshner & Reginald Randolph |
| Parking Operator | Republic Parking System |

| Year | Make | Model | Vehicle Identification Number | Mileage | COH Assigned Number | Texas Exempt License Plate Number | Air Brake System |
|---|---------------|------------------|-------------------------------|---------|---------------------|-----------------------------------|------------------|
| 1999 | FORD | E SUPER DUTY RV | 1FDXE40F7XHA71649 | 138,653 | 30266 | 768-484 | No |
| 9.22.09 Texas Bus Sales- \$2,542.94 (\$1538.88 Parts, Vac Pump, Blower Motor (3), Filter Drier, Fitting, Vents Transair, Oil Filter, Fuel Filter, Air Filter, Orings, Pag Oil 100, Fitting, Fee Oil Disposal, Expansion Valve, Thermostat, Arm Rest Compressor) (\$956.25 Labor, Replace Blower Motors, Expansion Valve, Change Oil & Service All Filters, PDI Bus Identify Any Problem Areas, Change Filters, Replace Arm Rest, Check Rear A/ C, Replaced Compressor and Vacuum Pump, Evacuate and Recharge A/C System. R & R Filter Drier & Expansion Valve. (\$47.81 Supplies). | | | | | | | |
| 12.07.09 Texas Bus Sales- \$2,714.03 (\$629.03 Parts, Plywood 4 X 8, Glue, Roof Hatch, Sealer, Door Handle Rear) (\$2,035 Labor, Replace All Plywood On Left Side And Replace Rubber From Behind Driver To Rear Wall, All Rubber Rotten From Roof Leaking, Remove Headliner To Remove ABS, Plywood On Right Side To Wheel Well, Replace Plywood And Bubber, Replace Roof Hatch & Seal, R & R All Seats To Remove Floor, Remove Old Sealer From Roof And Reseal All Seams And Roof Mouldings, Reinstall Interior Header And Replace With New Screws, Replace Door Handle) (\$50 Supplies). | | | | | | | |
| 1999 | FORD | E SUPER DUTY RV | 1FDXE40F5XHA71648 | 148,882 | 30285 | 768-483 | No |
| 11.02.09 Texas Bus Sales- \$1,894.44 (\$1,166 Parts, Orings, Relay, 40/30 AMP, Instrument Panel, Compressor, Belt Kevlor, Orings, Rear View Mirror, Filter Drier, Sensor AB, Sensor A, Connector For 50 A, PAG Oil 100) (\$693.75 Labor, Installed Rear View Mirror, Check Interior Lights, Found Wired Pulled At Fuse Box, Repaired, Check Rear A/ C Needs Rear Compressor And High Side Service Port, Evacuate And Recharge Service Port System, Replace VSS In Transmission And In Rear Differential, Rewired A/C Condenser Circuit Board) (\$34.69 Supplies). | | | | | | | |
| 2001 | FORD | E 450 SUPER DUTY | 1FDXE45F61HB24146 | 55,803 | 32486 | 823-543 | No |
| 1.05.10 Texas Bus Sales- \$587.14-\$587.74 (\$131.93 Parts, Fee Oil Disposal, Oil Disposal, Light LED, Fuel Filter, Oil Filter, Shell Rotella 154W40 Oil,) (\$431.25 Labor, Check Gear Shift Found Bolts Backed Out Cable Bracket, Removed Column and Tightened, Change Oil And Filter, PDI Bus, Identify Any Problem Areas, Replaced Tail Lights) (Supplies \$21.56). | | | | | | | |
| 1.12.10 Texas Bus Sales- \$689.24 (\$279.74 Parts, Battery & Shift Cable) (\$390 Labor, Check Battery Terminal, Cleaned Terminal Ends, Replaced Both Batteries, Found Leaking Acid, Replaced Shifting Cable & Adjusted, PDI Bus, Identify Any Problem Areas) (Supplies \$19.50). | | | | | | | |
| 2001 | FORD | E 450 SUPER DUTY | 1FDXE45F81HB24147 | 65,600 | 32487 | 823-544 | No |
| 11.09.09 Texas Bus Sales- \$1,318.72 (\$569.28 Parts, Brake Pads, Seal, Grease, Brake Pads, Gasket, Rotors Turn, Oil Filter, Oil, Bulb 1156, Emergency Handle) (\$713.75 Labor, Replace Broken Window Lock Latches, Replaced All 10 Latches, Renew Front Brakes, Replace Seals, Replace Bearings, Renew Rear Brakes, Replace Pads, Seal And Axle Flange Gasket) (\$35.69 Supplies). | | | | | | | |
| 1.05.10 Texas Bus Sales- \$528.02 (\$150.96 Parts, Oil Filter, Fuel Filter, Fee Oil Disposal, Oil Disposal, Vacuum Line) (\$356.25 Labor, Change Oil Filter, R & R Fuel Filter, Replace Vacuum Pump, Replace Vacuum Hose To Canister) (Supplies \$17.81). | | | | | | | |
| 2008 | INTERNATIONAL | 3200 SERIES 320 | 1HVBTAAL39H048647 | 8,317 | 38476 | 1059097 | Yes |
| 10.05.09 Texas Bus Sales- \$82.14 (23.08 Parts, Rear View Mirror, Rear View) (\$56.25 Labor, Check Electrical Power To Rear Of Bus, Found Master Switch Turned Off, Installed Rear View Mirror). | | | | | | | |
| 2008 | INTERNATIONAL | 3200 SERIES 320 | 1HVBTAAL19H048646 | 6,697 | 38477 | 1059098 | Yes |
| 10.05.09 Texas Bus Sales - \$ 42.77 (\$23.08 Parts, Rear View Mirror) (\$18.75 Labor, Install Rear View Mirror) (Supplies .94). | | | | | | | |

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➔ **Texas DMV Detail**

| | | | |
|---|---|---|--|
| <i>Owner Name</i> CITY OF HOUSTON 30266 | <i>Current Plate</i> 768484 | <i>Current Registration Expires</i> 00/0000 | <i>Owner Address</i> 900 BAGBY |
| <i>Previous Plate</i> | <i>Previous Registration Expired</i> / | <i>Owner City/State/ZIP Code</i> HOUSTON,TX 77002 | <i>VIN</i> 1FDXE40F7XHA71649 |
| <i>Document Number</i> 29100036408130721 | <i>Title Issue Date</i> Sep 7 1999 | <i>Title Process Code</i> | <i>Title Bind Code</i> |
| <i>Document Type Code</i> 01 | <i>Vehicle Body Type</i> BU | <i>Vehicle Class Code</i> BUS | <i>Vehicle Model Year</i> 1999 |
| <i>Vehicle Make</i> FORD | <i>Vehicle Model</i> | <i>Vehicle Ton</i> 0000 | <i>Registration Sticker Number</i> |
| <i>Registration Transaction Code</i> TITLE | <i>Registration County Code</i> 101 | <i>Registration County Name</i> none found | <i>Registration Effective Date</i> Sep 7 1999 |
| <i>Previous Owner Name</i> HEMPHILL BUS SALES | <i>Vehicle Body VIN</i> | <i>Vehicle Length</i> 00 | <i>Previous owner city/state</i> DENTON,TX |
| <i>Vehicle Odometer Brnd</i> A | <i>Vehicle Odometer Reading</i> 1585 | <i>Vehicle Title Address</i> | <i>Vehicle Sales Price</i> 00000000 |
| <i>Vehicle Sold Date</i> 00000000 | <i>Vehicle Title City/State/ZIP Code</i> , | <i>Vehicle Empty Weight</i> 003250 | <i>Vehicle Gross Weight</i> 014050 |
| <i>Owner Country</i> | <i>Privacy Option</i> 3 | <i>Number of Liens</i> 0 | <i>Last Update</i> Apr 26 2002 |
| <i>Lien 1 Holder</i> | <i>Lien 1 Date</i> | <i>Lien 2 Holder</i> | <i>Lien 2 Date</i> |
| <i>Lien 3 Holder</i> | <i>Lien 3 Date</i> | | |
| <i>Above information as provided by state - below are our annotations</i> | | | |
| <i>Click here for more vehicles in this area</i> 900 BAGBY | <i>Click here for more vehicles in this area</i> 900 BAGBY HOUSTON,TX 77002-2527 | | |

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Lien Holder 1

none found

Lien Holder 2

none found

Lien Holder 3

none found

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➔ **Texas DMV Detail**

| | | | |
|---|---|---|--|
| <i>Owner Name</i> CITY OF HOUSTON 30285 | <i>Current Plate</i> 768483 | <i>Current Registration Expires</i> 00/0000 | <i>Owner Address</i> 900 BAGBY |
| <i>Previous Plate</i> | <i>Previous Registration Expired</i> / | <i>Owner City/State/ZIP Code</i> HOUSTON,TX 77002 | <i>VIN</i> 1FDXE40F5XHA71648 |
| <i>Document Number</i> 29100036408130445 | <i>Title Issue Date</i> Sep 7 1999 | <i>Title Process Code</i> | <i>Title Bind Code</i> |
| <i>Document Type Code</i> 01 | <i>Vehicle Body Type</i> BU | <i>Vehicle Class Code</i> BUS | <i>Vehicle Model Year</i> 1999 |
| <i>Vehicle Make</i> FORD | <i>Vehicle Model</i> | <i>Vehicle Ton</i> 0000 | <i>Registration Sticker Number</i> |
| <i>Registration Transaction Code</i> TITLE | <i>Registration County Code</i> 101 | <i>Registration County Name</i> none found | <i>Registration Effective Date</i> Sep 7 1999 |
| <i>Previous Owner Name</i> HEMPHILL BUS SALES | <i>Vehicle Body VIN</i> | <i>Vehicle Length</i> 00 | <i>Previous owner city/state</i> DENTON,TX |
| <i>Vehicle Odometer Brnd</i> A | <i>Vehicle Odometer Reading</i> 1742 | <i>Vehicle Title Address</i> | <i>Vehicle Sales Price</i> 00000000 |
| <i>Vehicle Sold Date</i> 00000000 | <i>Vehicle Title City/State/ZIP Code</i> , | <i>Vehicle Empty Weight</i> 003250 | <i>Vehicle Gross Weight</i> 014050 |
| <i>Owner Country</i> | <i>Privacy Option</i> 3 | <i>Number of Liens</i> 0 | <i>Last Update</i> Apr 26 2002 |
| <i>Lien 1 Holder</i> | <i>Lien 1 Date</i> | <i>Lien 2 Holder</i> | <i>Lien 2 Date</i> |
| <i>Lien 3 Holder</i> | <i>Lien 3 Date</i> | | |
| <i>Above information as provided by state - below are our annotations</i> | | | |
| <i>Click here for more vehicles in this area</i> 900 BAGBY | <i>Click here for more vehicles in this area</i> 900 BAGBY HOUSTON,TX 77002-2527 | | |

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Lien Holder 1

none found

Lien Holder 2

none found

Lien Holder 3

none found

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➔ **Texas DMV Detail**

| | | | |
|--|----------------------------------|---|---------------------------------|
| <i>Owner Name</i> CITY OF HOUSTON 32486 | <i>Owner Street</i> 900 BAGBY | <i>Owner City</i> HOUSTON | <i>Owner State</i> TX |
| <i>Owner ZipCode</i> 77002- | <i>License Plate</i> 823543 | <i>Registration Effective</i> Feb 8 2002 | <i>Title Date</i> Feb 9 2002 |
| <i>Model Year</i> 2001 | <i>Make</i> ELDO | <i>Model</i> | <i>Body Type</i> BU |
| <i>Vin Number</i> 1FDXE45F61HB24146 | | | |
| <i>Above information as provided by state - below are our annotations</i> | | | |
| <i>Click here for more vehicles at this address</i> 900 Bagby St Houston, TX 77002-2527 | | <i>Click here for more vehicles in this area</i> 900 Bagby St Houston, TX 77002-2527 | |

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➔ **Texas DMV Detail**

| | | | |
|--|---|---|---------------------------------|
| <i>Owner Name</i> CITY OF HOUSTON 32487 | <i>Owner Street</i> 900 BAGBY | <i>Owner City</i> HOUSTON | <i>Owner State</i> TX |
| <i>Owner ZipCode</i> 77002- | <i>License Plate</i> 823544 | <i>Registration Effective</i> Feb 8 2002 | <i>Title Date</i> Feb 9 2002 |
| <i>Model Year</i> 2001 | <i>Make</i> ELDO | <i>Model</i> | <i>Body Type</i> BU |
| <i>Vin Number</i> 1FDXE45F81HB24147 | | | |
| <i>Above information as provided by state - below are our annotations</i> | | | |
| <i>Click here for more vehicles at this address</i> 900 Bagby St Houston, TX 77002-2527 | <i>Click here for more vehicles in this area</i> 900 Bagby St Houston, TX 77002-2527 | | |

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➔ **Texas DMV Detail**

| | | | |
|---|---|---|--|
| <i>Owner Name</i> CITY OF HOUSTON | <i>Current Plate</i> 1059097 | <i>Current Registration Expires</i> 00/0000 | <i>Owner Address</i> 900 BAGBY 2ND FLOOR |
| <i>Previous Plate</i> | <i>Previous Registration Expired</i> / | <i>Owner City/State/ZIP Code</i> HOUSTON,TX 77002 | <i>VIN</i> 1HVBTAAL39H048647 |
| <i>Document Number</i> 10144139635074351 | <i>Title Issue Date</i> Jul 21 2008 | <i>Title Process Code</i> | <i>Title Bind Code</i> |
| <i>Document Type Code</i> 01 | <i>Vehicle Body Type</i> BU | <i>Vehicle Class Code</i> BUS | <i>Vehicle Model Year</i> 2008 |
| <i>Vehicle Make</i> INTL | <i>Vehicle Model</i> | <i>Vehicle Ton</i> 0000 | <i>Registration Sticker Number</i> |
| <i>Registration Transaction Code</i> RLSGRP | <i>Registration County Code</i> 101 | <i>Registration County Name</i> none found | <i>Registration Effective Date</i> Jul 8 2008 |
| <i>Previous Owner Name</i> NATIONAL BUS SALES | <i>Vehicle Body VIN</i> | <i>Vehicle Length</i> 00 | <i>Previous owner city/state</i> JUSTIN,TX |
| <i>Vehicle Odometer Brnd</i> | <i>Vehicle Odometer Reading</i> EXEMPT | <i>Vehicle Title Address</i> | <i>Vehicle Sales Price</i> 00000000 |
| <i>Vehicle Sold Date</i> 00000000 | <i>Vehicle Title City/State/ZIP Code</i> , | <i>Vehicle Empty Weight</i> 017000 | <i>Vehicle Gross Weight</i> 016100 |
| <i>Owner Country</i> | <i>Privacy Option</i> 3 | <i>Number of Liens</i> 0 | <i>Last Update</i> Jul 25 2008 |
| <i>Lien 1 Holder</i> | <i>Lien 1 Date</i> | <i>Lien 2 Holder</i> | <i>Lien 2 Date</i> |
| <i>Lien 3 Holder</i> | <i>Lien 3 Date</i> | | |
| <i>Above information as provided by state - below are our annotations</i> | | | |
| Click here for more vehicles in this area 900 BAGBY 2ND FLOOR | Click here for more vehicles in this area 900 BAGBY 2ND FLOOR HOUSTON,TX | | |

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77002-2527

Lien Holder 1

none found

Lien Holder 2

none found

Lien Holder 3

none found

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VIN Results

[New Search](#)

VIN: 1HVBTAAL39H048647

| World Manufacturer Identifier - 1st, 2nd, 3rd Positions | |
|--|------------------------|
| VIN Code: | 1HV |
| Assembly Country: | United States |
| Make: | International |
| Body Style: | Bus Non School |
| Restraint System Type (Passenger Cars) or Brake Type and GVWR Class (Trucks and Vans) - 4th Position | |
| VIN Code: | B |
| GVWR Range: | 19,501 - 26,000 Pounds |
| Line, Series Body Type - 5th, 6th, 7th Positions | |
| VIN Code: | TAA |
| Vehicle Line: | 3000 |
| Series: | 3200 |
| Vehicle Type: | Truck |
| Engine Type - 8th Position | |
| VIN Code: | L |
| Cylinders: | 6 |
| Fuel: | Diesel |
| Engine Manufacturer: | INTERNATIONAL |
| Model Year - 10th Position | |
| VIN Code: | 9 |
| Model Year: | 2009 |
| Assembly Plant - 11th Position | |
| VIN Code: | H |
| Assembly Plant: | SPRINGFIELD, OHIO |
| Production Sequence Number - 12th - 17th | |
| VIN Code: | 048647 |
| Prod Sequence Number | 048647 |
| Additional Information | |
| Wheel Axles Wheelbase | 0.0 |

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➔ **Texas DMV Detail**

| | | | |
|---|---|---|--|
| <i>Owner Name</i> CITY OF HOUSTON | <i>Current Plate</i> 1059098 | <i>Current Registration Expires</i> 00/0000 | <i>Owner Address</i> 900 BAGBY 2ND FLOOR |
| <i>Previous Plate</i> | <i>Previous Registration Expired</i> / | <i>Owner City/State/ZIP Code</i> HOUSTON,TX 77002 | <i>VIN</i> 1HVBTAAL19H048646 |
| <i>Document Number</i> 10144139635075233 | <i>Title Issue Date</i> Jul 21 2008 | <i>Title Process Code</i> | <i>Title Bind Code</i> |
| <i>Document Type Code</i> 01 | <i>Vehicle Body Type</i> BU | <i>Vehicle Class Code</i> BUS | <i>Vehicle Model Year</i> 2008 |
| <i>Vehicle Make</i> INTL | <i>Vehicle Model</i> | <i>Vehicle Ton</i> 0000 | <i>Registration Sticker Number</i> |
| <i>Registration Transaction Code</i> RLSGRP | <i>Registration County Code</i> 101 | <i>Registration County Name</i> none found | <i>Registration Effective Date</i> Jul 8 2008 |
| <i>Previous Owner Name</i> NATIONAL BUS SALES | <i>Vehicle Body VIN</i> | <i>Vehicle Length</i> 00 | <i>Previous owner city/state</i> JUSTIN,TX |
| <i>Vehicle Odometer Brnd</i> | <i>Vehicle Odometer Reading</i> EXEMPT | <i>Vehicle Title Address</i> | <i>Vehicle Sales Price</i> 00000000 |
| <i>Vehicle Sold Date</i> 00000000 | <i>Vehicle Title City/State/ZIP Code</i> , | <i>Vehicle Empty Weight</i> 017000 | <i>Vehicle Gross Weight</i> 016100 |
| <i>Owner Country</i> | <i>Privacy Option</i> 3 | <i>Number of Liens</i> 0 | <i>Last Update</i> Jul 25 2008 |
| <i>Lien 1 Holder</i> | <i>Lien 1 Date</i> | <i>Lien 2 Holder</i> | <i>Lien 2 Date</i> |
| <i>Lien 3 Holder</i> | <i>Lien 3 Date</i> | | |
| <i>Above information as provided by state - below are our annotations</i> | | | |
| Click here for more vehicles in this area 900 BAGBY 2ND FLOOR | Click here for more vehicles in this area 900 BAGBY 2ND FLOOR HOUSTON,TX | | |

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77002-2527

Lien Holder 1

none found

Lien Holder 2

none found

Lien Holder 3

none found

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VIN Results

[New Search](#)

VIN: 1HVBTAAL19H048646

| World Manufacturer Identifier - 1st, 2nd, 3rd Positions | |
|--|------------------------|
| VIN Code: | 1HV |
| Assembly Country: | United States |
| Make: | International |
| Body Style: | Bus Non School |
| Restraint System Type (Passenger Cars) or Brake Type and GVWR Class (Trucks and Vans) - 4th Position | |
| VIN Code: | B |
| GVWR Range: | 19,501 - 26,000 Pounds |
| Line, Series Body Type - 5th, 6th, 7th Positions | |
| VIN Code: | TAA |
| Vehicle Line: | 3000 |
| Series: | 3200 |
| Vehicle Type: | Truck |
| Engine Type - 8th Position | |
| VIN Code: | L |
| Cylinders: | 6 |
| Fuel: | Diesel |
| Engine Manufacturer: | INTERNATIONAL |
| Model Year - 10th Position | |
| VIN Code: | 9 |
| Model Year: | 2009 |
| Assembly Plant - 11th Position | |
| VIN Code: | H |
| Assembly Plant: | SPRINGFIELD, OHIO |
| Production Sequence Number - 12th - 17th | |
| VIN Code: | 048646 |
| Prod Sequence Number | 048646 |
| Additional Information | |
| Wheel Axles Wheelbase | 0.0 |

[New Search](#)

ATTACHMENT 10

1999 Ford E-450

| | |
|-----------------------------|------------------|
| Driving Condition: | Normal Condition |
| Drivetrain: | RWD |
| Cylinders: | 8 |
| Fuel: | Diesel |
| Transmission: | Automatic |
| Engine Displacement: | 7.3 L |

Recommended maintenance for your vehicle

| Mileage | 15k | 30k | 45k | 60k | 75k | 90k | 100k | 105k | 120k | 135k | 150k |
|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| Change green engine coolant | | | X | | X | | | X | | X | |
| Change automatic transmission fluid | | X | | X | | X | | | X | | |
| Inspect complete exhaust system and heat shields | | X | | X | | X | | | X | | X |
| Change automatic transmission/transaxle fluid and filter | | | | | | | | | | | X |
| Replace fuel filter | X | X | X | X | X | X | | X | X | X | X |
| Add 8 to 10 oz of VC-8 coolant additive to green engine coolant | X | X | X | X | X | X | | X | X | X | X |
| Inspect 4x2 front wheel bearings; replace grease and grease seals, and adjust bearings | | | | X | | | | | X | | |
| Inspect and lubricate all non-sealed steering linkage, ball joints, suspension joints, half and drive-shafts and u-joints | X | X | X | X | X | X | | X | X | X | X |
| Replace rear axle lubricant | | | | | | | X | | | | |
| Inspect brake pads/shoes/rotors/drums, brake lines and hoses, and parking brake system | X | X | X | X | X | X | | X | X | X | X |
| Inspect automatic transmission fluid level (if equipped with underhood dipstick) | X | X | X | X | X | X | | X | X | X | X |
| Replace engine air filter | | X | | X | | X | | | X | | X |
| Inspect engine cooling system and hoses | X | X | X | X | X | X | | X | X | X | X |
| Inspect accessory drive belt(s) | | | | | | | X | | | | |



- Perform multi-point inspection
- Check engine air filter restriction gauge, replace filter as required
- Change engine oil and replace oil filter
- Rotate and inspect tires; check wheel end play and turning noise

ATTACHMENT 10

2001 Ford E-450

| | |
|---------------------------|------------------|
| Driving Condition: | Normal Condition |
| Series: | Super Duty |
| Drivetrain: | RWD |
| Cylinders: | 8 |
| Fuel: | Diesel |
| Transmission: | Automatic |

Recommended maintenance for your vehicle

| Mileage | 15k | 30k | 45k | 60k | 75k | 90k | 100k | 105k | 120k | 135k | 150k |
|---|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| Replace accessory drive belts (if not replaced within last 100,000 miles) | | | | | | | | | | | X |
| Change green engine coolant | | | X | | X | | | X | | X | |
| Replace front 4x2 wheel bearings and grease seals, lubricate and adjust bearings | | | | | | | | | | | X |
| Change automatic transmission fluid | | X | | X | | X | | | X | | |
| Inspect complete exhaust system and heat shields | | X | | X | | X | | | X | | X |
| Change automatic transmission/transaxle fluid and filter | | | | | | | | | | | X |
| Replace fuel filter | X | X | X | X | X | X | | X | X | X | X |
| Add 8 to 10 oz of VC-8 coolant additive to green engine coolant | X | X | X | X | X | X | | X | X | X | X |
| Inspect 4x2 front wheel bearings; replace grease and grease seals, and adjust bearings | | | | X | | | | | X | | |
| Inspect and lubricate all non-sealed steering linkage, ball joints, suspension joints, half and drive-shafts and u-joints | X | X | X | X | X | X | | X | X | X | X |
| Replace rear axle lubricant | | | | | | | X | | | | |
| Inspect brake pads/shoes/rotors/drums, brake lines and hoses, and parking brake system | X | X | X | X | X | X | | X | X | X | X |
| Inspect automatic transmission fluid level (if equipped with underhood dipstick) | X | X | X | X | X | X | | X | X | X | X |
| Replace engine air filter | | X | | X | | X | | | X | | X |
| Inspect engine cooling system and hoses | X | X | X | X | X | X | | X | X | X | X |
| Inspect accessory drive belt(s) | | | | | | | X | | | | |



- Perform multi-point inspection
- Check engine air filter restriction gauge, replace filter as required
- Change engine oil and replace oil filter
- Rotate and inspect tires; check wheel end play and turning noise

SECTION B

SPECIFICATIONS

PART II
TECHNICAL SPECIFICATIONS

1.0 GENERAL REQUIREMENTS:

- 1.1 The purpose of this specification is to describe a transit quality Para transit vehicle manufactured by EIDorado National Company, Aero Elite model, manufactured on an International 3200 chassis or City approved equal. The vehicle shall have provisions for stand-up entry, seating for thirty (30) adult ambulatory passengers or for twenty eight (28) adult ambulatory passengers with one (1) wheelchair position occupied or for twenty four (24) adult ambulatory passengers with two (2) wheelchair positions occupied along with the wheelchair lift and tie downs as depicted on the floor plan attached to these specifications. All body, floor and roof joints must be tightly sealed to eliminate drafts and water leaks. Vehicle shall be aesthetically pleasing in design with attention to workmanship and detail. Vehicles furnished to these specifications must meet or exceed all requirements herein. School buses, modified school buses, vans, or modified vans are not acceptable. The City desires to purchase vehicles approximately thirty one and one half feet (31.5') in length.
- 1.2 All Vehicles delivered in accordance with these specifications shall meet the necessary requirements of the American Disabilities Act herein referred to as ADA.
- 1.3 Vehicles components, assemblies, and accessories shall be standard production items unless otherwise specified herein. These features include but are not limited to: adjustable instrument lights, interior sun visor, exterior backup lamps, variable speed windshield wipers, windshield washers, windshield defroster, coolant recovery system, etc. Standard and other common features if not specifically stated shall not be interpreted as items that can be omitted to reduce price or to provide any other bidding advantage. The vehicles and all related equipment shall be designed to permit ready accessibility for maintenance purposes with minimal disturbances of other components and assemblies. All vehicles supplied under these specifications shall be in full compliance with Federal Motor Vehicle Safety Standards as established by the Department of Transportation and FTA guidelines.
- 1.4 The BIDDER has sole responsibility for, and shall provide the vehicle as specified with all certifications, warranties, and special equipment to The City as a completed vehicle.

2.0 MANUFACTURER'S EXPERIENCE:

- 2.1 BIDDER shall submit with its bid a two (2) year history of the vehicle which it plans to bid and shall list transit authorities or state agencies utilizing similar fleets of vehicles and the dates the vehicles were received by those agencies. Manufacturer shall be ISO (International Organization for Standards) 9001 registered. The bus manufacturer must be able to verify their history of construction with their style of body manufacture ring over 2500 units. It is not the intent of the City to accept a bus that has not been fully tested in the marketplace. BIDDER AND MANUFACTURER SHALL COMPLY WITH ALL STATE AND FEDERAL LAWS.

3.0 GENERAL DIMENSIONS:

| | |
|--------------------------------------|----------------|
| Wheelbase | 217 inches Min |
| Overall Length | 380 inches Max |
| Exterior Width | 96 inches Max |
| Overall Height | 126 inches Max |
| Interior Height | 80 inches Min |
| Interior Width | 90 inches Min |
| First step Height | 12 inch Max |
| Front passenger door entrance Height | 84 inches Min |
| Aisle Width | 17 inches Min |

ITEM NO. 1: SHUTTLE BUSES (continued)

4.0 SUSPENSION AND GROSS VEHICLE WEIGHT:

| | |
|------------------------------------|-----------------|
| Gross Vehicle Weight Rating (GVWR) | 23,500-lbs. Min |
| Front Axle Capacity | 8,000-lbs. Min |
| Rear Axle Capacity | 15,500-lbs Min |
| Front Springs | 8,000-lbs. Min |
| Rear Springs | 10,500-lbs. Min |

- 4.1 Minimum of twenty three thousand and five hundred (23,500) pounds, or higher if required, to support the loaded weight of the completed vehicle including any optional equipment selected. It is the bidder's responsibility to calculate the actual loaded weight and to provide a heavier chassis, tire, wheel, and spring or axle combination if required.
- 4.2 Shock absorbers shall be gas type, heaviest available as specified by chassis manufacturer.
- 4.3 Suspension system shall be a conventional leaf spring of proper design and suitable capacity. Springs shall have anti-squeak characteristics. The suspension system shall take into account capacity on the curb side of vehicle to overcome additional weight of the lift.
- 4.4 Rear air springs shall be air ride and ensure a consistent smooth ride with a passenger load of twenty nine (29) adult ambulatory passengers or twenty two (22) adult ambulatory passengers or for five (5) adult ambulatory passengers with up to five (5) wheelchair positions occupied. Jounce and rebound must both be controlled while providing controlled roll stability.
- 4.5 The rear axle and final drive must be of conventional construction, a truck-type rear axle utilizing heavy tubes pressed into cast center section or one-piece casting.
- 4.6 Ring gear should be bolted, not riveted, to differential carrier.
- 4.7 A differential with the appropriate gear ratio to match the power train is required. The vehicle should be designed to operate at sixty five (65) M.P.H. at 3500 rpm's or less.

5.0 ENGINE:

- 5.1 The engine shall be a model DT-466 manufactured by International Truck and Engine or City approved equal. Engine shall be of the latest design electronic controlled Diesel, 4-Cycle Configuration In-Line 6-Cylinder Displacement 466 cu in (7.6 L) Electronically Controlled Turbocharger, Minimum Horsepower of 210. Engine shall be equipped with radiator and fan of the maximum capacity available. The engine shall incorporate all features which will minimize emissions and maximize the life of the engine.
- 5.2 Engine shall be emissions certified and **shall comply with all 2007 Federal Emissions** and regulations with regard to air and noise pollution and safety that are in effect on the date of manufacture.
- 5.3 The noise level generated by the engine, and other vehicle systems shall not exceed sixty (65) decibels at any point inside the passenger compartment, under normal operating conditions, with the windows closed.
- 5.4 The engine and components are to be arranged and mounted so as to provide convenient access for servicing the engine and all of its accessories when the hood is tilted forward.

6.0 FUEL SYSTEM:

- 6.1 The fuel tank shall have a capacity of sixty five (65) usable gallons.
- 6.2 An appropriate fuel filter shall be provided.

SECTION B: PART II: SPECIFICATIONS (continued) ATTACHMENT 10

ITEM NO. 1: SHUTTLE BUSES (continued)

7.0 EXHAUST SYSTEM:

- 7.1 The vehicles shall be equipped with an exhaust system which meets Federal and State noise level and exhaust emission requirements. The exhaust pipe shall terminate just ahead of the rear corner of the vehicle, exhausting to the street side, and shall be constructed so that it will not cause back pressure in the motor or damage to the paint, bumper, chassis or wiring components of the vehicle. Flexible tubing will not be permitted in exhaust system. An adequately sized, aluminized steel, long-life muffler shall be used.
- 7.2 The exhaust system shall be secured in place with heavy duty hanger system. No part of the exhaust shall hang below departure angle to rear bumper bottom.

8.0 COOLING SYSTEM:

- 8.1 Heavy duty to manufacturers recommended standards. Coolant recovery system shall be factory installed. It shall be super cooling or heavy duty cooling. The cooling system shall have permanent glycol base antifreeze to protect the system to -20 degrees F. and shall maintain engine temperature not to exceed manufacturer's recommended normal operating temperature.
- 8.2 The cooling system shall have a low coolant warning buzzer and light and shall shut the engine off in 45 seconds from initial warning.

9.0 TRANSMISSION:

- 9.1 Transmission shall be an automatic shift, five (5) speeds forward and a reverse gear with an auxiliary oil cooler capable of handling extreme temperature associated with transit type operations.
- 9.2 The transmission shift lever shall be interlocked with the starting motor to prevent engagement of starter in any gear position other than park.
- 9.3 The transmission shall be equipped with an interlock feature that prevents the vehicle from being shifted out of the park position until the lift doors are closed, the lift master switch is off, and the parking brake is released.
- 9.4 A warning signal audible outside of the vehicle shall be activated when the transmission is in reverse

10.0 DRIVE SHAFT:

- 10.1 A drive shaft yoke and guard shall be provided to prevent the drive shaft from dropping to the ground or from whipping through the vehicle floor if it becomes broken or separated.

11.0 STEERING AND CONTROLS:

- 11.1 Heavy duty power steering linkage type shall be provided.
- 11.2 The steering shall be power assist and shall incorporate a tilt and telescoping feature. Steering from full left to full right turn shall be accomplished in no more than five (5) complete turns of the wheel.
- 11.3 The steering wheel shall be no less than fifteen (15") inches nor more than twenty (20") inches in diameter and the wheel ring shall be of all plastic or synthetic resin construction, molded over metal. It shall be provided with puller holes in the hub so that a standard or Universal puller may be used.
- 11.4 All steering linkage wear points, including tie rod ends, shall be fitted with lubrication fittings and replaceable bushings or inserts.
- 11.5 The following controls, in addition to normal steering, braking, and transmission functions are to be provided:

ITEM NO. 1: SHUTTLE BUSES (continued)

11.0 STEERING AND CONTROLS (continued)

- 11.5.1 Column-mounted turn signal lever.
- 11.5.2 Emergency flasher control facing driver and clearly visible.
- 11.5.3 Master exterior light switch including clearance or marker lights. Switch to be of uniform type.
- 11.5.4 Switches and temperature controls for passenger compartment heaters, defrosters. Switches must all be uniform type.
- 11.5.5 Separate switch and temperature controls for driver heaters, defrosters.
- 11.5.6 Heavy duty electric variable speed windshield wipers controlled by a variable speed switch or two speed wipers with intermittent feature shall be furnished. Wiper motor shall be mounted in an easily accessible location for ease in inspection, maintenance and removal. Minimum eighteen (18") inch wiper blades and arm providing 1,037 square inches of wiped area with one hundred and ten (110°) degrees of wiping arc. Windshield washer reservoir shall be mounted in an accessible area and pump shall be electronically operated.
- 11.5.7 Passenger compartment lights.
- 11.6 All controls are to be within arm's reach of a five foot (5'0") driver with seat belt fastened.
- 11.7 All body switches are to be of uniform type, either push-pull or rocker type, mounted in convenient grouping in a panel near the driver.
- 11.8 All controls and switches shall be plainly and permanently marked. Painted masking is unacceptable.
- 11.9 The control panel and a supplemental driver's control panel shall be located conveniently to the driver's seated position and in full view of the driver.
- 11.10 No switches or instruments shall be obstructed controls, trim panels, or other appurtenances, and shall be arranged in a consistent and uniform manner.

12.0 ELECTRICAL SYSTEM:

- 12.1 The vehicle is to be equipped with a twelve (12) volt extreme duty electrical system. All components are to be selected and integrated to function in an environment characterized by low engine (alternator) speeds and high amperage draws (due to lights, wheelchair lift, flashers, air conditioning or heater, and other accessories operating constantly and simultaneously).
- 12.2 An alternator of at least two hundred (200) amperes output at normal engine speed and an idle output of at least one hundred twelve (112) amperes is required. The idle output shall be achieved at an engine speed of no more than seven hundred (700) R.P.M. At no time should the ampere output be less than one hundred and ten percent (110%) of loaded draw.
- 12.3 Starter shall be capable of turning over engine with SAE 40W oil after ten (10) hour cold soak at zero (0°F) degrees.
- 12.4 The vehicle shall be equipped with a fast idle solenoid with manual switch, volt sensor and light which will automatically shut off when brake is applied and transmission is placed in gear. Solenoid is to be original equipment manufacturer parts (OEM) only.

ITEM NO. 1: SHUTTLE BUSES (continued)

13.0 BATTERIES:

- 13.1 Chassis manufacturer supplied batteries shall be supplied. Battery cables shall be color coded for positive and negative number two (#2) battery cable. Cables shall be sleeved with high abrasive resistant flex-guard loom and supported with lined steel clamps on a maximum of fifteen inch (15") centers. All battery terminals shall be coated with anti-corrosion and sealant protector.
- 13.2 Batteries shall be mounted on a steel mounted tray with battery hold down secured with bolts. Battery tray compartment will be located on road (left) side of bus, below the floor line, and with adequate reinforcement brackets mounted to floor supports. Battery compartment should be vented and battery easily serviceable without removal from bus.
- 13.3 A rotary type battery disconnect switch shall be located in the driver side step well within the driver's reach.

14.0 WIRING:

- 14.1 All wiring other than that provided by the original equipment manufacturer (OEM); chassis, wheelchair lift or air conditioning and heating manufacturer shall be cross-linked polyethylene insulated, to two hundred degrees (200°F), shall meet SAE standards, shall be color, numbered and function coded for positive identification every six inches (6"), and shall be permanently labeled in words to their function. Precaution shall be taken to avoid damage from heat, water, solvents or chafing by proper routing, clamping, and the use of grommets or suitable electrometric cushion materials. Harnesses shall be designed to resist abrasion by the use of nylon slit flex loom that has a maximum temperature resistance of four hundred and ten degrees (410°F). Harnesses shall be sectional terminating at insulated multi-pin quick disconnects or junction blocks. Heavy duty circuit board junction panel shall be provided inside the vehicle. The circuit box shall be conveniently mounted and have a secure cover. Board shall be equipped with heavy duty twelve (12) volt DC relays, and twelve (12) volt automatic reset circuit breakers and blade fuses. Inside the circuit box shall be a legend identifying each circuit and wire by color, number, function and location. This legend shall be permanently mounted to the vehicle.
- 14.2 All connectors shall meet the requirements of the Society of Automotive Engineers (SAE) recommended practice J878a, Types GXL and SGX.
- 14.3 All vehicles shall be identically wired.
- 14.4 Bidder shall furnish complete wiring diagram with wire size, maximum current flow in each wire, type of insulation, and code used. Wire diagrams must be vehicle specific, body and chassis combined, and shall correctly show all specified options.
- 14.5 No "T" splices or butt connections shall be made in wiring unless prior approval is given. Harness and wiring shall terminate at appropriate junction terminals set in Bakelite or molded plastic material.
- 14.6 Devices such as lamps and wiring requiring periodic checking and servicing shall be readily and easily accessible. All exterior devices shall be sealed to prevent entry of water.

SECTION B: PART II: SPECIFICATIONS (continued) ATTACHMENT 10

ITEM NO. 1: SHUTTLE BUSES (continued)

15.0 INSTRUMENT GAUGES:

- 15.1 Speedometer/Odometer - Chassis manufacturer's standard design with trip set feature.
- 15.1 Fuel Gauge - Chassis manufacturer's standard fuel gauge.
- 15.2 Oil Pressure Gauge - In addition to the manufacturer's standard gauge, an audible alarm and light shall be installed that will activate when low oil pressure is detected.
- 15.3 Water Temperature Gauge - In addition to the manufacturer's standard gauge, an audible alarm and light shall be installed that will activate when overheating engine is detected.
- 15.4 Voltmeter - In lieu of the chassis manufacturer's standard voltmeter and additional voltmeter shall be installed with graduated charge and discharge indications.

16.0 BRAKES:

- 16.1 Service brakes shall be hydraulic, self-adjusting power disc front and rear. Vehicle shall include an air operated parking brake.
- 16.2 The brake systems shall comply with Federal Motor Vehicle Safety Standard 105.75
- 16.3 The braking system shall be heavy duty and the largest offered by the manufacturer for the GVWR specified.
- 16.4 The brakes shall be free of objectionable noise or squeal when applied.

17.0 WHEELS AND TIRES:

- 17.1 Vehicles shall be equipped with the heaviest available ventilated wheels, 19" x 6.00" minimum. Rear wheels shall be dual and all wheels are to be interchangeable. Rated capacity shall equal or exceed GVW of the vehicle.
- 17.2 Tires shall be 245/70Rx19.5 radial ply, all season, with steel-cord reinforcement and highway type tread. Wheels and tires to be of adequate capacity, as determined by reference to the Tire and Rim Association Yearbook, to support the fully loaded vehicle. One matching spare wheel and tire shall be provided with each vehicle but not mounted in or on the vehicle.
- 17.3 Mud flaps shall be included for each wheel vehicle.

18.0 BUMPERS:

- 18.1 Front bumper shall be chassis manufacturer's standard front chromed bumper.
- 18.2 Rear bumper shall be black "Help" energy absorbent bumper as produced by Romeo Rim, Inc. and shall be equipped with an anti-ride feature. Bumpers shall be securely fastened to the chassis frame to adequately absorb shock from impact. In no case are the bumpers to be fastened directly to the body and allow shock from impact to be transmitted to the body of the vehicle.

19.0 HORN:

- 19.1 Dual 12 volt electrically operated horn shall be furnished and installed so as to be protected from wheel-wash.

SECTION B: PART II: SPECIFICATIONS (continued) ATTACHMENT 10

ITEM NO. 1: SHUTTLE BUSES (continued)

20.0 CRASH WORTHINESS:

- 20.1 The body structure shall be built as an integral vehicle adequately reinforced at all joints and corners where stress concentration may occur to adequately carry required loads and withstand road shock. The following items are representative of the minimum requirements of the vehicle. Body assembly shall meet or exceed FMVSS 220, for roll-over protection.
- 20.2 The vehicle body and roof structure shall withstand a static load equal to one hundred fifty percent (150%) of the curb weight evenly distributed on the roof with no more than a six inch (6") reduction in any interior dimension. Windows shall remain in place and shall not open under such a load.
- 20.3 The vehicle, at GVWR and under static conditions, shall not exhibit deformation or deflection that impairs operation of doors, wheelchair lift, or other mechanical elements. Static conditions include the vehicle at rest with any one wheel on a six inch (6") curb or in a six inch (6") deep hole.
- 20.4 Upon request of The City, the Bidder will present certified actual test results which have been conducted to insure that the vehicle offered meets the FMVSS crash worthiness standards for this type of vehicle.

21.0 BODY CONSTRUCTION:

- 21.1 The body shall be constructed of a matrix of fiberglass reinforced plastic (FRP) with an inner thickness of resin-hardened honeycomb craft material. The matrix assembly shall be as follows: Exterior surface shall be a minimum .020" thickness of high gloss gel-coat to prevent moisture penetration and corrosion. Secondary surface shall be a minimum one eighth inch (1/8") thickness of resin-hardened fiberglass reinforced plastic. The center composite layer consists of a one inch (1") thickness of resin-hardened "Vertical" honeycomb, laid on edge to allow maximum column strength of each cell. Wall structure shall include a minimum of two (2) three inch (3") wide longitudinal sections of eighteen (18) gauge flat steel extending from the forward body seam to the rearward body seam to provide an additional attachment point for the integrally welded sidewall seat rail. Final surface of body structure is a minimum three thirty seconds inch (3/32") thickness of resin-hardened fiberglass reinforced plastic. Window framing in sidewall shall be a heavy gauge steel ladder-type assembly. Window pillars are minimum of one and one half inches (1 1/2") by one inch (1") fourteen (14) gauges dipped, zinc-plated tube. Top and lower horizontal ladder bridge rails are minimum one inch (1") by two inch (2") twelve (12) gauge zinc-plated angle section. Attachment of ladder assembly to roof and lower wall section shall be grade five (5) 1/4" x 3/4" mechanical fasteners on not more than eight inch (8") center. In addition, interface of wall and roof to window ladder assembly surfaces shall include a high contact adhesive, Sikaflex 255 to provide a one hundred percent (100%) bonding and sealing at these locations. All exterior fasteners and screws shall be stainless steel.
- 21.2 Interior panels shall be one tenth inch (1/10") thick Melamine material having the physical properties of twenty-four (24) gauge steel. Side panels around the passenger windows shall be same Melamine material with the color being black. Side panels below the passenger windows shall be gray carpet. Any barriers or modesty panels shall be covered in grey fabric that matches the passenger seats. Ceiling panels between the over head luggage bins shall covered in carnival rainbow fabric that matches the passenger seats. Purchaser to approve color and quality prior to production from samples provided by bidder.
- 21.3 The vehicle when completed shall be rust proofed with premium quality rust-proofing material and undercoated. The entire body frame under-structure of the vehicle is to be fully undercoated with non-flammable resin type material, polyoleum or equivalent, applied after final assembly. Automotive quality undercoating applied at a local dealer is not satisfactory.
- 21.4 Gutters shall be provided to prevent water flowing from the roof onto the side windows and passenger doors. When the vehicle is decelerated, the gutters shall not drain onto the windshield or driver's side window, or into the door boarding area. Cross sections of the gutters shall not be less than 0.25 square inches.

SECTION B: PART II: SPECIFICATIONS (continued)**ITEM NO. 1: SHUTTLE BUSES (continued)****22.0 ROOF:**

- 22.1 The roof shall have sufficient strength and stiffness to prevent vibration, drumming, or flexing under normal use. Roof structure shall include a minimum of three (3) longitudinal, sections of eighteen (18) gauge flat steel extending from the forward body seam to the rearward body seam. All flat steel sections shall be fully integrated into the roof matrix and shall provide additional structural integrity and a secure attachment surface for ceiling panels, handrails and stanchion fixtures.
- 22.2 The roof is to be constructed to provide an aesthetically pleasing design to the vehicle. The sills, when matched, will provide a clean, clear surface at least two inches (2") wide for secure and sufficient roof mounting.

23.0 INSULATION:

- 23.1 Vertical core insulation shall provide for a minimum of a "R-6" thermo-barrier and sound absorption. Side, roof, and front and rear crowns shall be insulated by the vertical core of the body assembly composite.

24.0 FLOOR:

- 24.1 The vehicle floor assembly shall be a lateral body support, structural design, incorporating longitudinal stringers welded in a perimeter structure of steel angle iron. The entire floor assembly shall be a jig welded steel structure. Floor construction methods that utilize wood studs running the length, width, and outside perimeter with a foam core insulation are not acceptable.
- 24.2 The substructure shall be comprised of the following: a combination of fourteen (14) gauge steel lateral outriggers reinforced at each mounting point, eleven (11) gauge steel C-channel longitudinal support members, and a perimeter of fourteen (14) gauge steel angle welded into a ladder type structure.
- 24.3 The substructure shall be bolted through the lateral outriggers, two (2) per outrigger to the chassis through rubber isolator grommets as provided by the chassis manufacturer. Welding of any body understructure to the chassis frame will not be acceptable.
- 24.4 Over the sub floor structure shall be fastened a minimum five eighths of an inch (5/8"), seven (7) ply, marine grade plywood which is pattern cut, edge sealed, and attached with quarter inch (1/4") diameter counter sunk Tek screws. Sub floor understructure shall be completely undercoated and sealed prior to being installed on steel frame understructure.
- 24.5 Floor shall be level throughout and all joints between the floor and vertical surfaces shall be equipped with a cover of molding. Flooring shall be laid in such a manner as to be free from squeaks.
- 24.6 All edges of the plywood shall be sealed prior to installation to resist moisture. All floor joints will be filled and sanded level to result in a smooth, flat floor ready for installation of the flooring material. The entire floor shall be thoroughly sanded and then completely cleaned of all sanding dust and foreign material.
- 24.7 The floor in the under-seat area and wheelchair position area shall be covered with RCA #TR766, smooth rubber floor covering having a minimum thickness of .125 inch (1/8"). Floor covering shall roll up the sidewall to the seat track.
- 24.8 Floor covering in aisle and on steps shall be RCA #TR766, non-skid, wear-resistant, and ribbed. Minimum overall thickness shall be .1875 inch (3/16") measured from top of ribs.
- 24.9 Floor covering shall be laid without gaps or openings between sheets. Seams shall be filled with color matching material so as to be tight against any influx or seepage of water. Seams shall be covered with aluminum trim. The floor covering material shall be thoroughly cemented into position throughout the entire area and will be free of bubbles and blisters.

SECTION B: PART II: SPECIFICATIONS (continued)**ITEM NO. 1: SHUTTLE BUSES (continued)****24.0 FLOOR (continued)**

- 24.10 The floor covering in the platform or standee area shall be three sixteenths inch (3/16") thick top ribbed single piece, with composition covering. The single piece floor covering in the platform area shall have longitudinal and transverse ribs metered at 45 degrees to face the door. The vertical face and top section of the platform step edge backing shall be anchored with A.I.S.I. Type 304 stainless steel screws.
- 24.11 A yellow standee line shall be provided at the driver's modesty panel.

25.0 ROOF LINER:

- 25.1 Interior walls shall provide a finish that is durable, easily cleaned and coordinates with the vehicles interior color scheme. Roof liner shall be molded fiberglass or vinyl clad covered sheeting, neatly installed the full length so as to cover all protrusions.

26.0 WHEELHOUSE:

- 26.1 The entire interior floor shall be flat with no raised protrusion for the wheel housings, and shall be supported by a fully welded steel sub-floor structure.

27.0 DOORS AND STEP WELL:

- 27.1 The passenger entry door and step well shall be located at right front of passenger area, located directly across from the driver's seat at a ninety (90) degree angle for maximum viewing on entry way.
- 27.2 The door shall be an electrically operated, outward folding type, and both door panels shall be actuated together by a single electric powered overhead actuator. The actuator mechanism shall be of high quality and durability, designed for repeated use over an extended period. The door shall be controlled from the driver's seated position. Actuator shall be equipped with a manual release lever to allow opening in case of an emergency.
- 27.3 The step well and doorframe shall be formed and weld fabricated using cold rolled eleven (11) gauge steel in a two-step design. Step assembly shall be cleaned and powder coated prior to installation. It shall be the two-piece transit type and shall have a minimum horizontal opening of thirty-two (32") inches and a minimum vertical opening of eighty (80") inches.
- 27.4 Both vertical closing edges of the door shall be equipped with neoprene bulb seals. At the meeting edge of each door leaf, a two (2") inch neoprene seal shall be installed so that the edges form a tight overlapping seal when closed. Seals shall overlap front over rear to provide an air and water shade.
- 27.5 To prevent accidental opening while the vehicle is in motion, the door opening system shall require at least a one hundred, twenty-five (125) pound force applied at its center in order to manually separate the leaves.
- 27.6 Passenger door windows shall be installed with two (2) piece black ozone treated extruded rubber, lock and key of one (1) piece fixed design. Entrance door windows shall be glazed with three sixteenths inch (3/16") thick, thirty-one (31%) percent gray density, tempered safety glass. Each window shall be installed in the upper and lower portions of the passenger door panels in line with the passenger side windows.
- 27.7 A driver's door shall be provided to the left of the driver's area. This door shall be accessible from inside or outside the vehicle. The driver door shall incorporate an opening window and arm rest.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****27.0 DOORS AND STEP WELL:**

- 27.8 The steps shall be designed so that the top of the first step is no more than twelve (12") inches above the ground with the vehicle loaded. Step well is to have a minimum first step depth of twelve (12") inches and a minimum second step depth of ten (10") inches and shall be at least thirty-two (32") inches in width. Risers shall not exceed nine (9") inches in height. The surface of all entrance steps shall be covered with eighth inch (1/8") thick rubber flooring on all risers and sides and three sixteenths inch (3/16") thick ribbed rubber step treads. All step edges shall have a two inch (2") yellow safety band running the full width of each step. Step wells shall incorporate lights to illuminate step tread area and outside of step well shall be protected from splashed material by door and rubber for tight fit.

28.0 STANCHIONS, GRAB RAILS, AND HANDRAILS:

- 28.1 Vertical handrails shall be securely fastened on both sides of the doorway to assist passengers in entering or exiting the vehicle.
- 28.2 Vertical stanchions shall be provided at the aisle immediately behind the driver's seat and at the step well. A horizontal grab rail shall extend from the wall to each stanchion
- 28.3 Padded modesty panels shall extend from the wall to each stanchion.
- 28.4 A smoked three eighths inch (3/8") thick panel Plexiglas panel shall be provided behind the driver's seat. Panels shall extend from the top of the horizontal grab rail to the ceiling and shall extend from the wall to the vertical stanchion. Stanchion and panel shall not impair driver's seat adjustment
- 28.5 An overhead handrail shall be installed in the roof of the vehicle on the driver curb side and shall run the length of the seating area.
- 28.6 All handrails and stanchions shall be one and one-quarter inch (1 1/4") stainless steel.

29.0 WHEELCHAIR LIFT DOOR:

- 29.1 Side opening double outward opening doors shall be provided for the platform type wheelchair lift. Lift shall be mounted within the vehicle body on the curb side, behind the passenger entry door. Wheelchair door frame structure shall consist of minimum eleven (11) gauge steel, cleaned and powder coated to match vehicle exterior base color. A water deflector shall be integrated into door frame structure at the top. Door panels shall be made of non-corrosive material. Foam core doors with wood frame supports are not acceptable. Door panel hinges shall be piano type with a minimum three sixteenth (3/16") inch diameter pivot pin. Hinges and hinge fasteners shall be stainless steel to resist rust and corrosion. Door latch shall be vertical, rotating; two point type with latch rod at top and bottom. Each door panel shall have its own key lockable latch assembly which shall consist of a pistol grip style twist handle located at the inside center of the door panel. Door latch shall compress perimeter door seal to prevent leaks. Latch adjustment plates shall be located at the top and bottom of the door frame structure. Door panel holders shall be gas shock type mounted at the top and shall allow door panels to open a minimum of one hundred degrees (100°) from the closed position. Wheelchair door clear opening dimensions shall be a minimum of forty-four (44") inches by seventy (70") inches. Lift doors shall be interlocked by a panel door switch controlling the transmission which requires the transmission to be in the "Park" position before lift can be operated. Door windows shall be installed with two (2) piece black ozone treated extruded rubber, lock and key of one (1) piece fixed design. Windows shall be glazed with three sixteenth (3/16") inch thick, thirty-one percent (31%) gray density, tempered safety glass. Each window shall be installed in the upper portion of the lift door panels in line with the passenger side windows. The door will display the international wheelchair symbol.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****30.0 WHEELCHAIR LIFT:**

- 30.1 The complete wheelchair lift vehicle shall be fully automatic, including folding of platform and be electro-hydraulically powered with a minimum test-net load capacity of eight hundred (800) pounds. The lift shall be totally self-contained and installed without modifications to the vehicle body or frame inside of the curbside double service doors. The entire assembly shall be installed with adequate protection to prevent accidental injury to passengers.
- 30.2 The attachment of the wheelchair lift assembly to the vehicle shall allow easy removal and be readily accessible for repair and maintenance. The lift assembly shall be mounted in such a manner that in the fully raised position it shall not interfere with the opening of the double side doors, passenger seating, and passenger/wheelchair movement within the vehicle.
- 30.3 The wheelchair lift shall have a bridge plate designed for a smooth transition from the vehicle floor level to the lift platform level when the platform is in the raised loading position.
- 30.4 Bridge plate and platform shall be coated to resist rusting. Platform, bridge plate, and area between bridge plate and aisle shall be skid resistant.
- 30.5 The lift platform shall have a usable width of not less than thirty-two inches (32") and a usable length of not less than forty-eight inches (48"), less the handrail which is also required.
- 30.6 The wheelchair lift cam handrail shall be twenty-six inches (26") high from lift platform. The handrail shall be automatic folding to prevent any obstructions into the vehicle passenger area.
- 30.7 The overall depth of the lift assembly in the stored position inside the vehicle shall not exceed seventeen inches (17") when measured at the floor level from the lift entry doors. No component accessory to the lift shall extend more than twenty-one inches (21") from the lift entry door.
- 30.8 Bolting of any part of the lift assembly directly to the vehicles walls will not be acceptable.
- 30.9 The installation of the wheelchair lift assembly shall not cause excessive unbalanced loading of the vehicle.
- 30.10 The lift platform shall be designed so as to stop downward movement upon contact with the ground.
- 30.11 The lift platform shall have an end barrier at least four inches (4") in height that will fold outward to provide a ramp for loading of wheelchairs. The ramp shall fold out automatically upon platform contact with the ground.
- 30.12 The vehicle shall be equipped with the following wheelchair lift safety features:
 - 30.12.1 A door cut-off switch shall be installed which prevents the operation of lift when the door is closed.
 - 30.12.3 The maximum capacity in pounds shall be posted on the wheelchair lift within easy view of the operator and wheelchair passenger.
 - 30.12.4 Removable vinyl cover shall be provided for lift platform when in stored position.
 - 30.12.5 The lift platform shall be fitted with a device to prevent the platform from touching or leaning against door after being returned to stored position.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****30.0 WHEELCHAIR LIFT (continued)**

- 30.13 Lift shall be equipped with a manual override to permit lift to be raised or lowered manually in the event of a power failure or emergency. The manual override system shall provide a complete operation of the lift without electrical power being supplied. The manual override hydraulic pump and bleed down valve are to be located inside the vehicle. A detachable hand lever to operate the system is to be stored next to the hand pump. The bleed down valve shall have a flow compensator valve that will limit the maximum descent speed. Manual override instructions shall be visible from inside and outside the vehicle with door open.
- 30.14 The wheelchair lift shall comply with all Federal ADA requirements.

31.0 LIFT CONTROL, ELECTRICAL CIRCUITS, AND WIRING:

- 31.1 The complete wheelchair lift assembly shall operate from the vehicle's electrical system, and shall have one hand-held lift control station with a minimum five foot (5') cable attached so lift may be operated from inside or outside of vehicle.
- 31.2 The control switches on the lift control shall have permanently applied labels identifying their functions.
- 31.3 The power to the lift system shall be controlled through an ON/OFF master switch located on the supplemental driver's control panel.
- 31.4 When the parking brake is properly applied and the master switch is placed in the "ON" position, an electric solenoid shall be activated that will connect the lift's electrical system to the vehicle's electrical system.
- 31.5 The bus lifts shall be protected by a one hundred, five (105) amp circuit sentry system. The electrical power cord shall be loomed to protect cable from outside elements.

32.0 WHEELCHAIR SECUREMENT AND SEATBELTS:

- 32.1 The vehicle shall have a minimum of two (2) forward facing wheelchair positions located in the rear of the bus. Each wheelchair position shall be provided with restraint devices that will secure the wheelchair and its passenger while in the wheelchair. These devices shall be adjustable to accommodate varying track widths of wheelchairs. Each wheelchair shall have a four (4) point securement (2 fronts, 2 back) in the vehicle with recessed anchor points of sufficient strength to secure a wheelchair and/or three wheel scooters. The entire securement system shall comply with all applicable regulations including ADA.
- 32.2 Securement system must safely secure manually and electrically operated wheelchairs, (including 3-wheel scooters), and provide ample space for foot rests and proper wheelchair securement.
- 32.3 No anchoring points shall project more than one-eighth inch (1/8") above the finished floor. For the purposes of this section, the floor is the entire passenger area of the vehicle.
- 32.4 Floor mounted tracks shall be a series type "L" track floor plate. Example: Kinedyne FE200769 Heavy Duty L Track Plate. These plates shall be recessed mounted in the floor with three-eighths inch (3/8") diameter, SAE Grade 5 bolts, washers and self-locking nuts with National Fine Threads.
- 32.5 Where mounting bolts do not pierce or attach through the vehicle frame, sub-frame, body posts or equivalent metal structure, a reinforcement metal plate not less than one-sixteenth inch (1/16") thick is required.
- 32.6 There shall be four (4) retractors assemblies for each wheelchair position in the vehicle to secure the wheelchair to the tracks. Example: Q' Straint QRT Deluxe (Q-8100-A1) System. Each retractor assembly shall consist of a heavy duty series "L" track fitting, the front left and right retractor shall be equipped with manual tension knobs for manual tightening and/or release. Each retractor assembly shall be equipped with a quick release, push-button buckle and buckle connector.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****32.0 WHEELCHAIR SECUREMENT AND SEATBELTS (continued)**

- 32.7 Two (2) seat belts shall be provided for each wheelchair passenger. The torso belts shall be two inches (2") wide, seventy-two inches (72") long, adjustable, with a strength rating of not less than three thousand pounds (3,000 lbs.). One end of the belt shall be secured to a female seat belt fitting and the other end shall have a male seat belt fitting. The seat belt assembly shall provide for a quick-release and also provide for a snap locking to connect both ends together.
- 32.8 A wall mounted height adjustable of approximately twelve inches (12") shoulder harness system shall be provided at each wheelchair securement location that is compatible with the specified restraints. The harness system shall be installed in accordance with all structural requirements established by the restraint supplier and all applicable regulations, including 49 CFR part 571.
- 32.9 All belts, straps, and harness assemblies in bundled sets and shall include a container in which to store them.

33.0 EXTERIOR LIGHTING:

- 33.1 All exterior lights, with the exception of headlights, passenger entry door, lift door, curb light, and rear back-up lights shall be Light Emitting Diode (LED) lights. Lighting shall be in accordance with Federal Motor Carrier Safety Regulations 393.12. All lights shall have wire long enough to move the light at least six inches (6") from vehicle for service. Lights shall be grounded to body framing structure. All lights shall be sealed from moisture. Fixtures which are surfaced mounted to the body shall be sealed from moisture.
- 33.2 Headlights shall be sealed beam type, high and low beam controlled with foot switch or hand switch. Headlights and headlight supports and mountings shall be sufficiently rugged to maintain adjustments under road shock and service conditions. Headlight high beam indicator shall be installed on instrument panel. An audible "headlight on" warning buzzer shall be installed to notify the operator that the lights are on with the engine turned off.
- 33.3 Tail lamps shall be mounted on the rear-end vehicle panels, so as not to be affected by engine exhaust heat. Each side shall include a directional signal, tail light and stop light. Lamp lens shall not protrude from body more than two inches (2"). Lamp lens colors and configuration shall be in accordance with current State of Texas school bus requirements. Light shall be a sealed, single vehicle light fixture.
- 33.4 Brake lights shall not override emergency flashers or turn signals. Backup lights adequate to illuminate for visibility when backing shall be furnished. Light shall be a sealed, single vehicle light fixture.
- 33.5 A collision avoidance light shall be installed on the rear and at the center line of the vehicle. Lamp lens shall not protrude from the body of vehicle more than two inches (2"). Light shall be a sealed, single vehicle light fixture.
- 33.6 Two (2) back-up lights, one mounted on each side of the body rear cap, shall be provided. The lamps shall be of the sealed beam type design.
- 33.7 Directional signal lamps with amber lens to function with directional signals shall be provided, one on each side of coach approximately halfway from front to rear. Side signal lamp lens shall incorporate a brushed aluminum guard to protect lens from damage. All side signal lamps to be same height above ground.
- 33.8 Passenger entry door area shall be lighted by a hooded exterior door light, suitably mounted so that the entire ground area immediately outside the entry door is sufficiently illuminated to comply with ADA requirements.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****33.0 EXTERIOR LIGHTING (continued)**

- 33.9 Vehicle shall be equipped with an exterior curb lamp. Light shall be positioned in manufacturer's standard location in such a manner as to illuminate the ground area in the immediate vicinity of the area of operation of the wheelchair lift. Light shall be automatically activated only when the wheelchair lift doors are opened. Illumination shall be sufficient to comply with ADA requirements.
- 33.10 Roof marker lights, red or amber, one at each corner shall be provide and protected with brushed aluminum guards.
- 33.11 Clearance marker lights, three (3) lamp cluster, surface mounted, amber in front, red lens in rear, shall be provided and protected with brushed aluminum guards.
- 33.12 Vehicle shall be equipped with daytime running lights.

34.0 INTERIOR LIGHTING:

- 34.1 The overhead lights and the step well lights shall provide no less than five foot-candles of illumination on the entrance step area with the door open. This system shall be illuminated automatically when the door is open.
- 34.2 Driver courtesy light shall light when driver door is opened. Overhead and step well lights shall be wired to activate automatically when passenger door is opened. A separate dash mounted switch shall be provided to operate the overhead lights when the door is closed.
- 34.3 Front step well area shall be lighted by a hooded step well light, suitably mounted so that the entire step well area of the vehicle is sufficiently illuminated. Step well light shall be on side away from wheel splash.
- 34.4 All interior lighting shall be incandescent type with the master control located on the dash or near the driver for easy operation by the driver. Lighting in the passenger area shall be mounted in the ceiling cove at the sidewall with a minimum of four (4) fixtures on each side of the vehicle. Lighting intensity for all cross seats shall have a minimum average of fifteen (15) foot candles at the seated passenger reading plane. In addition, an effective lighting level shall be provided for all other seated passengers. The lighting components shall be located and constructed so as to prevent the entrance of water, contaminants and insects. Lighting fixtures shall be reasonably flush with the interior walls and ceiling so as not to present a hazard to the passengers.
- 34.5 Light installation shall be designed to illuminate the wheelchair lift platform for night operation. Light shall be positioned in manufacturer's standard location in such a manner as to illuminate the area in the immediate vicinity of the wheelchair lift. Light shall be automatically activated only when the wheelchair lift doors are open. Light switch shall have a driver override. Illumination shall be sufficient to comply with ADA requirements.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****35.0 AIR CONDITIONING:**

- 35.1 The installed air conditioning system shall cool the interior of the vehicle to seventy two degrees (72°F) measured at a minimum of three points, located four feet above the floor at the longitudinal centerline of the vehicle. The three points shall be (1) near the driver's location; (2) at the mid-point of the body; and (3) two feet forward of the rear of the vehicle.
- 35.1.1 The test conditions under which the above performance must be achieved shall consist of: (1) placing the vehicle in a room (such as a paint booth) where ambient temperature can be maintained at one hundred and ten degrees (110°F); (2) heat soaking the vehicle at one hundred and ten degrees (110°F) with windows open for at least one hour; and (3) closing windows, turning on the air conditioner and cooling the interior of the vehicle at seventy two degrees (72°F) plus or minus two degrees (2° F) within a maximum of 30 minutes while maintaining 110°F. The system shall have a dash driver's area evaporator vehicle.
- 35.1.2 The test shall be performed at the vehicles manufactures' recommended fast idle speed.
- 35.2 Driver's in-dash heavy-duty air conditioning vehicle shall be chassis manufacturer supplied system. Substitution of other than the chassis air conditioner is acceptable provided that the front and rear systems are compatible and warranty work is performed at one location. The system shall be separately controlled from the passenger area system and shall have a three-speed continuous duty permanently lubricated motor. Air from dash vehicle shall have provision to divert air to defrosters. In-dash vehicle shall not interfere with removal or replacement of the engine cover or be blocked by the door control mechanism.
- 35.3 The passenger area air conditioning unit shall be an American Cooling Technology, 9333 MAX system. The system shall be separately controlled from a supplemental driver's control panel located at the driver's position. Controls shall include on and off, three (3) speed blower switch and a rotary thermostat switch.
- 35.4 Front and rear systems shall operate independently of each other.
- 35.5 Dual compressors shall be provided. Driver's in-dash compressors shall have a nominal ten (10) cubic inches of displacement. The passenger area air conditioning unit compressors shall have a nominal nineteen (19) cubic inches of displacement. It shall be a TM-31 compressor. The compressors shall be protected by high and low pressure switches. Compressors shall be driven off the vehicle's engine.
- 35.6 Two three (3) fan condensers shall be provided with a minimum rating of seventy six thousand (76,000) BTU's each. The condenser fans and motors shall be enclosed within the condenser housing. Coil shall be copper tube, expanded into aluminum fins. Integral high/low pressure cut outs to be wired in to the clutch circuit or low pressure cut out to be wired to suction line and high pressure cut out to be wired to liquid or discharge line. The fans shall be dynamically balanced with permanent magnet totally enclosed motors. The condensers shall blow air on an angle down from the vehicle chassis to prevent recirculation of hot air. The condenser shall have a sight glass and a filter dryer. The system shall be skirt mounted located on driver (road) side, in front of rear wheels, and installed to minimize collection of road dirt and facilitate maintenance.
- 35.7 Two evaporators shall be provided, a rear mounted evaporator and an evaporator mounted over the windshield. The rear evaporator shall have a minimum rating of fifty two thousand (52,000) BTU's. The front evaporator shall be a minimum of thirty five thousand (35,000) BTU rating. Three-speed continuous duty permanently lubricated motors shall be provided. The blower assembly shall be rated at a minimum of five hundred and seventy (570) Cubic Feet per Minute. Coil shall be copper tube, expanded into aluminum fins three (3) rows deep. Thermostatically controlled expansion valve shall be provided. Frame shall be galvanized heavy-duty metal with integral drain pan and washable filter. The cover shall be made of durable ABS plastic.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****35.0 AIR CONDITIONING (continued)**

- 35.7.1 Evaporator shall be equipped with two (2) independent drain lines each with a check valve to maintain positive condensation drain flow.
- 35.7.2 Evaporator filter shall be installed in a manner that it may be routinely removed, serviced, or replaced for maintenance without damaging the filter.
- 35.8 Installation of the air conditioning system(s) shall be by the vehicle body manufacturer or by an authorized factory air conditioning dealer, who normally stocks, sells, installs and services a vehicle of the type being furnished.
 - 35.8.1 All air conditioning systems shall use 134A refrigerant.
 - 35.8.2 The components of the air conditioning system shall be readily accessible for maintenance. Refrigerant hoses shall meet the latest revision of SAE J-2064, double-braided Barrier type.
 - 35.8.3 Two (2) back-seated valves shall be installed at the dryer to facilitate evacuation and charging of the air conditioning system and replacement of the dryer vehicle. The system shall also be equipped with Schrader valves to promote efficient testing and servicing.
 - 35.8.4 Refrigerant fittings shall be ATCO or Aeroquip
 - 35.8.5 Air Conditioning Circuits shall be protected with auto-resetting circuit breakers or thermal relays. The total electric current required by the two (2) systems in high fan speed mode shall not exceed sixty (60) amperes.
 - 35.8.6 Poor quality of installation shall be grounds for immediate rejection of the complete vehicle.
- 35.9 Bidder shall submit data with bid which encompasses design criteria, evaporator coil size and location, condenser size and location, and performance and reliability studies of the entire system.
- 35.10 Air Conditioning System(s) shall have affixed a legible and durable nameplate with the following information:
 - 35.10.1 Name and address of A/C manufacturer.
 - 35.10.2 Cooling capacity (BTU/hr.) and blower capacity (CFM).
 - 35.10.3 Type of refrigerant and recommended operating charge.
 - 35.10.4 Type of refrigerant oil and amount.
- 35.11 Bidder shall provide a list of companies or individuals, and their addresses, who stock repair parts in The City's area and who can perform service on the products furnished.
- 35.12 The bidder shall furnish one copy of complete installation, maintenance and operating instructions for each different model, size and type of equipment furnished to each purchaser. The instructions shall accompany the vehicle when delivered.
- 35.13 A replacement parts list shall be provided.
- 35.14 The entire rear air conditioning system shall be warranted for 24 months and shall cover 100% parts and labor.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****36. HEATING AND DEFROSTING:**

- 36.1 Vehicle shall be equipped with a combination fresh air and recirculating air heaters. The heater controls shall be mounted in the dash panel and in the supplemental control panel, located conveniently to the driver's position and properly labeled. Heater hose connections shall be installed above the floor of the vehicle body and through the fire wall to the engine compartment. The length of the hot water hoses shall be as short as possible consistent with good installation practices; however, the hoses shall not be installed in such a manner so as to interfere with normal motor maintenance operations, such as the removal of the air filter. The hoses shall not dangle or rub against the chassis or sharp edges and shall not interfere with or restrict the operation of any motor function. Heater hose shall conform to SAE 2083, Class C, as defined in SAE Standard J20E, or latest revision thereto.
- 36.2 The front heater shall be a hot water type having a minimum free-flow output of the highest capacity offered by the chassis manufacturer.
- 36.3 A second hot water heater with blower fan shall have a BTU rating of at least thirty thousand (30,000) installed under a seat near the rear of the vehicle.
- 36.4 Easily accessible all brass gate valve(s) shall be furnished to cut off the flow of coolant water to the rear heater.
- 36.5 Defrosting equipment shall keep the windshield, the window to the left of the driver and glass in the service door clear of fog, frost, and snow, using heat from the heater and circulation from fans. All defrosting equipment shall meet the requirements of FMVSS No. 103 or latest revision thereto.

37.0 WINDSHIELD AND WINDOWS:

- 37.1 The windshield is to be a one-piece design as is provided by the vehicle chassis manufacturer. Windshield shall be laminated, tinted safety glass.
- 37.2 Driver's window shall be chassis manufacturer's standard window. The window shall permit unobstructed side vision and shall have a sufficient opening to permit arm signaling. Provisions shall be made to draw in or exclude outside air from the driver's compartment.
- 37.3 Side windows shall be provided the full length of the vehicle. These windows shall be forty one inches (41") tall and twenty nine and one half inches (29.5") wide, transit type upper T-slider ventilating design windows. The upper T-slider shall have a positive lock in the closed position. The glazing shall be a minimum of one eighth inch (1/8") thick with thirty one percent (31%) gray density, tempered safety glass. Tinted window film is not acceptable. Windows shall be installed in black powdered or anodized aluminum frames with an interior clamp ring attachment design.
- 37.4 At least one (1) window on each side and the rear window of the vehicle shall be equipped with emergency release latches to provide emergency exits. Release instructions shall be provided at or near the release handles. An audible alarm shall be activated when any emergency window is opened. Emergency egress windows shall be designed to meet FMVSS 217.

38.0 MIRRORS:

- 38.1 Rearview mirrors shall be a minimum of nine (9) inch by eight and one half (8.5) inch flat mirror surface and nine (9) inch by three and three quarter (3.75) inch convex mirror surface in a heavy-duty A.S.A. resin injection-molded housing. Both flat and convex mirrors shall be heated and separately motorized in four directions.
- 38.2 An additional mirror shall be furnished for the driver to view the passengers. The mirror shall have a minimum of ninety six (96) square inches of clear vision. Dimensions shall be approximately six inches (6") by sixteen inches (16") of reflective surface area.
- 38.3 Chassis manufacturer's standard sun visor shall be provided at the driver's position.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****39.0 SEATS AND SEAT LAYOUT:**

- 39.1 Twelve (12) double mid-high back, forward facing ambulatory seats shall be provided on the bus. Seats shall have a minimum width of seventeen and one half inches (17.5") wide and shall be twenty-five inches (25") overall front to back. Passenger seats shall have a minimum of fifteen inches (15") of hip to knee room.
- 39.2 Two (2) double high back, forward facing flip-seats shall be provided along the back wall and on 3-step foldaway split back – high back seat shall be provided on the road side of the bus. Seats shall a minimum width of thirty-five inches (35") wide and shall be twenty-five inches (25") overall front to back. Passenger seats shall have a minimum of fifteen inches (15") of hip to knee room. The seats shall be of the same design as the other passenger seats. They shall be installed over the wheelchair positions for use when the wheelchair positions are not occupied by wheelchairs
- 39.3 The seat frames shall be cold-roll one inch (1") steel tubing and be sixteen (16) gauge or metal of equal mechanical properties. The front seat cushions shall have foam padding and be individually wedged to each passenger for occupant's comfort and retention. The indentation load deflection shall be sixty five (65) to eighty five (85) pounds. Seat cushion shall meet the flammability requirements of FMVSS-302.
- 39.4 Seats and all visible surfaces shall be upholstered in Carnival Rainbow level 4 material. The City will pre-approve all colors prior to production.
- 39.5 Seat backs shall be high impact ABS material which is recessed to provide one and one half inches (1-1/2") of additional passenger hip to knee room.
- 39.6 A retractable seatbelt shall be provided for each seated passenger. The retractor shall be emergency locking with anti-cinch capability. The retractor must be attached to the seat structure. Passenger Seatbelts shall be "A" type one seat belt assembly conforming to current FMVSS 209 requirements.
- 39.7 Aisle seats shall include an energy absorbent grab bar three quarter inch (3/4"), twenty (20) gauge steel covered with custom molded, wear and vandal resistant eight (8) pound density, self-skinning polyurethane foam. Grab bar shall be located in the top of the seatback.
- 39.8 All seats shall be recessed track mounted. Floor anchorage shall be neat and of a non-trip able design
- 39.9 Aisles shall not be less than seventeen inches (17") wide.
- 39.10 Final approval of the interior layout including passenger seating, wheelchair positions, and driver's seat, location of stanchions, hand holds, driver's barrier, and modesty panels will be made by The CITY.

40.0 DRIVER'S SEAT:

- 40.1 Driver's seat shall be an air ride suspension type. Seat shall be provided with a folding armrest, tilt riser and shall recline. A three (3) point safety belt shall be mounted to the seat frame and shall be equipped with an emergency locking retractor that has a feature which prevents it from progressively tightening the belt around the driver. Seat material shall be the same as the passenger seats. A screw mounted operator's coat hook shall be furnished and installed by the Bidder in the operator's area. Location to be approved by The CITY after bid award.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****41.0 SAFETY EQUIPMENT:**

- 41.1 A standard twenty four (24) unit First Aid Kit shall be provided. It shall include a one way airway apparatus and one pair of disposable gloves. Kit shall be securely mounted near the driver's seat.
- 41.2 A ten (10) pound rechargeable - type 210 ABC fire extinguisher with metal head shall be provided. It shall be easily accessible in a bracket mounted and near the driver's seat.
- 41.3 Web Cutters shall be provided.
- 41.4 A three (3) triangular reflectors with a storage container shall be provided, securely mounted near the driver's seat.
- 41.5 A Back-up alarm that is electrically operated and produces an intermittent sound when the vehicle is shifted into reverse shall be furnished to warn others during vehicle movement. Alarm shall be in compliance with SAE J994B with respect to acoustical performance for Type B device (IE107db) (A) and plus or minus 4db with a supply voltage of fourteen (14) volts.
- 41.6 A Fresnel lenses shall be provided on the rear window of the vehicle.
- 41.7 Emergency Exit(s)
- 41.7.1 A heavy duty emergency door shall be provided at the rear of the bus. The door frame structure shall consist of minimum eleven (11) gauge steel, cleaned and powder coated to match vehicle exterior base color. A water deflector shall be integrated into door frame structure at the top. Door panels shall be made of non-corrosive material. Foam core doors with wood frame supports are not acceptable. Door panel hinges shall be piano type with a minimum three sixteenth (3/16") inch diameter pivot pin. Hinges and hinge fasteners shall be stainless steel to resist rust and corrosion. Door latch shall be vertical, rotating; two point type with latch rod at top and bottom. The door panel shall have its own key lockable latch assembly which shall consist of a pistol grip style twist handle located at the inside center of the door panel. Door latch shall compress perimeter door seal to prevent leaks. Latch adjustment plates shall be located at the top and bottom of the door frame structure. Door panel holder shall be a gas shock type mounted at the top and shall allow door panels to open a minimum of one hundred degrees (100°) from the closed position. Door windows shall be installed with two (2) piece black ozone treated extruded rubber, lock and key of one (1) piece fixed design. Two windows shall be installed on the back of the vehicle, one on each side of the emergency door. The windows shall be glazed with three sixteenth (3/16") inch thick, thirty-one percent (31%) gray density, tempered safety glass. Door window height shall match the top of the rear windows on each side of the emergency door.
- 41.7.2 A combination roof ventilator and emergency escape hatch shall be provided towards the rear of the vehicle. Example: Trans-Spec Ventilator Hatch

42.0 AM/FM/CD/DVD:

- 42.1 An AM/FM/CD/DVD player shall be installed on all vehicles. Four (4) monitors shall be provided and mounted in the overhead luggage bins. Radio antenna shall be furnished and mounted on the vehicle exterior.

43.0 PUBLIC INFORMATION SYSTEM:

- 43.1 Driver activated PIS to announce stops and other necessary passenger information. The system shall include an adequate number of speakers spaced throughout the coach above the passenger seating area enabling sound to reach each passenger.

SECTION B: PART II: SPECIFICATIONS (continued):**ITEM NO. 1: SHUTTLE BUSES (continued)****44.0 OVERHEAD LUGGAGE BINS:**

- 44.1 Overhead luggage bins shall be provided and placed over the passenger seats. The bins shall be on both sides and shall run from the front to the rear of the bus

45.0 PAINTING AND DECALS:

- 45.1 Complete vehicle shall be Bright White in color. The area around the passenger windows shall be black.

- 45.2 Decals shall be furnished by Bidder as follows:

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✓ 45.2.1 "NO FOOD, DRINK, OR TOBACCO USE ALLOWED" at the centerline or right of center on the front header.

45.2.2 "WATCH YOUR STEP" to be mounted on the front top riser step.

45.2.3 "WELCOME ABOARD" to be mounted on the front lower riser step.

45.2.4 "VEHICLE HEIGHT DECAL" to be posted over the windshield within easy view of the driver.

- 45.3 In addition to the decals described above, safety decal(s) shall be furnished and shall be affixed at any applicable area; emergency exit, steps, wheelchair lift, etc. The decals shall include necessary warnings and precautions. Permanent decals are required.

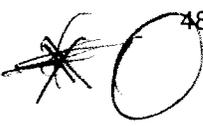
46.0 DELIVERY:

- 46.1 The item(s) specified above, with delivery tickets and other required documents shall be delivered Prepaid FOB Destination to the location(s) shown on the purchase order(s) within **one hundred eighty (180) calendar days** after receipt of City of Houston Purchase Order. Full delivery is termed ALL items.

47.0 REGISTRATION:

- 47.1 Successful bidder shall provide necessary documents to enable the purchaser to register the vehicle in the State of Texas. Necessary fees and state taxes will be paid by the purchaser; do not include such fees and taxes in bid price.

48.0 MANUALS:

-  48.1 A line setting sheet and manual(s) containing operating and servicing instructions for the vehicle and lift shall be provided with each vehicle. The manual(s) shall be as detailed as possible outlining all necessary operating and servicing instructions for each vehicle and lift including the vehicle's driveline components. Necessary warnings and safety precautions shall be included. In addition, manual(s) containing illustrated parts lists, operating and servicing instructions for related and special equipment supplied with the vehicle and lift shall be provided with the vehicle.

49.0 WARRANTY:

- 49.1 The vehicle shall be warranted against defects in material and workmanship for a period of not less than twelve (12) months or twelve thousand (12,000) miles, whichever occurs first and shall cover one hundred percent (100%) parts and labor for the vehicle. If the manufacturer's standard warranty exceeds twelve (12) months then the standard warranty period shall be in effect. Bidder shall furnish manufacturer's warranty to The CITY at time of delivery.

SECTION B: PART II: SPECIFICATIONS (continued): ATTACHMENT 10

ITEM NO. 1: SHUTTLE BUSES (continued)

50.0 PARTS AND SERVICE:

50.1 The bidder providing the vehicle shall be an authorized dealer for the vehicle manufacturer and hold the required current license(s) with the Texas Motor Vehicle Division. The dealer shall have factory-trained personnel available for warranty repairs and the performance of service with-in the City. The dealer shall also maintain an inventory of high-usage parts and a quick source for low-usage parts. The using purchaser will assume the expense for replacement filters, fuel, cleaning, painting and other minor items normally consumed in day to day operations. The City will assume responsibility for cost of repairs resulting from collision, theft, vandalism, operator negligence and/or acts of God.

51.0 INSTRUCTION ON SAFETY, OPERATION AND PREVENTIVE MAINTENANCE:

51.1 The bidder shall provide The CITY sufficient instruction on safety, operation and preventive maintenance of the vehicle after it has been delivered and is ready for operation. Training shall be completed prior to payment