

TRA 25-01 - Supply and Delivery of School Buses - Quote Form - Bus Unit Price: Type A2 Electric

<u>Line Item</u>	<u>Bus Description</u>	BYD Canada Company Ltd	Dynamic Specialty Vehicles (MICROBIRD)
		<u>Submission 1</u>	<u>Submission 1</u>
		<u>Unit Price</u>	<u>Unit Price</u>
1	Type A2 Over 6350kg GVW Chassis. All units and components must meet Federal and Provincial regulations and requirements and current D250 standards.	\$408,000.00	\$379,135.00
2	Type A2 (MFSAB) Over 6350kg GVW Chassis. All units and components must meet Federal and Provincial regulations and requirements and current D250 standards.	\$408,000.00	\$382,646.00

TRA 25-01 - Supply and Delivery of School Buses - Quote Form - Option Pricing: Type A2 Electric

<u>Line Item</u>	<u>Optional Pricing</u>	BYD Canada Company Ltd			Dynamic Specialty Vehicles Ltd.		
		<u>Charge Type</u>	<u>Unit Price</u>	<u>Additional Information</u>	<u>Charge Type</u>	<u>Unit Price</u>	<u>Additional Information</u>
1	Price per additional row of seating positions ranging from 24 - 29 passenger	No Charge			Not Available	\$767.00	per bench
2	Power and Range upgrade / downgrade -Price for each range option available	Not Available			Not Available		
3	Recommended Level 2 charging system for your bus	No Charge		All AC Level 2 charging system that complied with AC-J1772 standard are compatible	Additional		In Charge Nuve Polara pricing available upon request
4	Recommended Level 3 charging system for your bus	No Charge		All DC fast chargers Level 3 with SAE Combo CCS 1 (Combo Charging System) are compatible	Additional		In Charge Nuve Polara pricing available upon request shipped loose
5	One (1) additional spare tire mounted	Not Available			Additional	\$695.00	
6	Pre-wiring for 2-way radios thru noise suppression switch - power and antenna	Additional	\$1,000.00	Pre-wire only	Additional	\$125.00	
7	Driver's compartment storage overhead	Not Available			Not Available		
8	Driver's clipboard storage - assessable from drivers seat	Additional	\$300.00	Storage Pouch behind driver seat	No Charge		
9	Traction control through ABS	No Charge		Included with Standard configuration	No Charge		
10	Limited Slip Rear Axle	Not Available			Additional	\$418.00	
11	Acoustic ceiling panels throughout	No Charge		Included with Standard configuration	Not Available		
12	Winter front and bug screen	Not Available			Additional	\$280.00	
13	Interior - Exterior intercom	Not Available			Additional	\$730.00	
14	Emergency hatch roof vent with exhaust fan	Additional		Emergency Roof Hatch is standard. Exhaust Fan is available at additional cost.	Additional	\$1,299.00	
15	Luggage racks (interior) - and seat belt equipped seats for 24 passenger or greater MFSAB activity bus only.	Not Available			Additional	\$7,683.00	3-pt bench seats with left hand and right hand parcel racks
16	Integrated child seat - specify options available	Additional	\$1,500.00	HSM 3PT ICS	Additional	\$907.00	C.E. White model CR11 ICS 39" wide with two integrated child seat positions
17	Wheelchair lift specify OEM in attached info. Supply and install wheelchair lift with one chair position across from lift inclusive of tie down system.	Additional	\$14,500.00	RICON Wheelchair lift; Seating Capacity will be reduced to 24 pax	Additional	\$12,911.00	Braun Century NCL2 Series - 34"x54" platform
18	Track seating per wheelchair space	No Charge		Standard for ADA configuration	Additional	\$1,270.00	
19	Drivers side running board	No Charge		Included with Standard configuration	Additional	\$340.00	
20	OPTION # 18 CLARIFICATION: MFSAB PRICE IS FOR 24 CE WHITE FAMILY SEAT (HIGH BACK BUCKET WITH 3 POINT SEATBELT) VS. BENCH SEATS ON 177" WB GM 4500 GAS CHASSIS; PARCEL RACKS INCLUDED.	Additional		CE White Seat is available at additional cost. Price may vary based on seating layout	Not Available		24 high back individual seats not available as the bus would be overweight reduced capacities are available
21	Stop Arm Camera	Additional		Stop Arm Camera is available at additional cost	Additional	\$550.00	Seon camera only Gatekeeper Stop Arm Camera & License Reader 1250
22	Pedestrian Detection System	Additional		Pedestrian Detection System is available at additional cost	Not Available		
23	Collision Mitigation System	Additional		Collision Mitigation System is available at additional cost	Not Available		
24	At the request of the customer dealers and manufacturers are required to supply install and invoice 3rd party options from but not limited to the following providers: CalAmp Espar First Light Safety Products Gatekeeper Geotab Proheat Safefleet Safety Vision Tyler Drive Webasto Zonar.	No Charge		Custom configurations are available we will provide the details upon request.	Additional		quoted upon request

TRA 25-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Body - Type A2 Electric

<u>Line Item</u>	<u>Body Specifications</u>	<u>BYD Canada Company Ltd</u>		<u>Dynamic Specialty Vehicles Ltd.</u>	
		<u>Yes/No</u>	<u>Additional Information</u>	<u>Yes/No</u>	<u>Additional Information</u>
1	Driver's Seat - Cloth Covered	Yes		Yes	
2	MIRRORS Right and left side primary and convex mirrors; be remote adjustable Exterior convex crossovers self-defrosting mounted on right and left sides of hood	Yes		Yes	
3	One (1) LED stop arm with strobe lights (red) - electric operated front mounted with wind guard.	Yes	The LED stop arm with red strobe lights and wind guard is located on the side-rear of the bus.	Yes	
4	Wet arm windshield wipers intermittent / delay preferred	Yes		Yes	
5	Eight (8) light warning system roof mounted white flashing strobe light	Yes		Yes	
6	Steering - Full Power and Tilt	Yes		Yes	
7	School buses must be equipped with heating units and be able to sustain 15.5 degrees C (plus or minus 2 degrees) inside the vehicle when the outside temperature is 0 degrees C ambient. Heaters should not decrease vehicle range by more than one percent. Please describe achievable in vehicle temperature when outside temperature is -30C and provide the expected impact of heating the interior cabin temperate on vehicle range especially when outside temperature conditions are very cold	Yes	Our standard PTC heaters can meet the requirements however a diesel powered heater working in conjunction with our electric heat pump may be required in extreme weather conditions in order to maintain consistant performance. The diesel powered heater can heat the cabin at more than 10C in a hour and more than 16C in 2 hour according to the simulation analysis conducted at -30C.	Yes	
8	73" minimum interior headroom at highest point	Yes		Yes	76"
9	Horns - Dual Electric	Yes		Yes	
10	Sun Visor - 6" X 30"	Yes		No	OEM supplied sun visor
11	One (1) roof emergency hatch/vent	Yes		Yes	
12	Min. 97dB Back up alarm	Yes		Yes	
13	Lights and Instrumentation - Specify Details	Yes	The LCD includes a drive performance indicator (speed power odometer transmission gear parking air temperature) propulsion indicator (state of charger) and a function warning indicator (braking water temperature light).	Yes	Lights are LED. Instrumentation - DPI (driver performance indicator) SOC indicator (state of charge) transmission gear indicator various warning lights related to the electric drive train
14	Crossing arm deactivation switch	Yes		Yes	
15	Vendors should 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 should also describe their proposed system for pre-heating vehicle cabins.	Yes	BYD RIDE's school buses have an electric PTC (Positive temperature coefficient) heater and an HVAC system to preheat the bus.	Yes	Fuel fired heaters currently not available. Additional electric heaters to be added for extreme cold climates
16	INSULATION Body insulation including walls ceiling & roof bows - to be fiberglass or equivilant	Yes		Yes	1 1/2" fiberglass insulation (roof walls front cab & roof bows)
17	FLOOR: 5/8" Plywood subfloor secured with screws only (no nails) water-proofed and sealed at joints with silicone sealer including floor to wall seams; floor covering and entry steps	Yes		Yes	
18	Lettering - Ext. Belt line both sides- Purchasers Name (Six Inch)	Yes		Yes	
19	Bus # two front corners and opposite license plate rear. (Four Inch) Capacity GVW (Purchaser name) on side panel back of entrance door and side panel below driver. (Two Inch)	Yes		Yes	
20	Vandal Locks - Emergency and Entrance Doors	Yes		Yes	
21	Outward opening entrance door w/heavy duty control. Specify Control	Yes		Yes	Electric control standard
22	Driver's and rear dome lights to be on separate switches	Yes		Yes	
23	AM/FM CD radio minimum four (4) speakers flush mounted	Yes		Yes	AM/FM/BT/USB w/4 flush mounted speakers
24	EMERGENCY EQUIPMENT COMPARTMENT Above windshield with emergency equipment	Yes		No	Extinguisher & reflectors mounted to floor seat belt cutter on doghouse first aid kit on bulkhead
25	Body fully undercoated for noise and enhanced rust protection. Please describe what is included and optional levels of protection available including costs	Yes		Yes	
26	Each unit shall be equipped with a Sound Generator that complies with FMVSS and CMVSS	Yes		Yes	

TRA 25-01 - Supply and Delivery of School Buses - Specification - Base Bus Specifications: Chassis - Type A2 Electric

Line Item	BYD Canada Company Ltd		Dynamic Specialty Vehicles Ltd.	
	Yes/No	Additional Information	Yes/No	Additional Information
1 Chassis make year model.	Yes	The model is the Achiever Type A 2026.	Yes	2026 Ford E450
2 Propulsion system - vehicle performance include: A sustained speed of 70 kph on a 2.5% grade; and 20 kph on a 20% grade. An ability to accelerate to 20 kilometers per hour (kph) in four seconds; to 40 kph in 10 seconds; 50 kph in 20 seconds and 70 kph in 35 seconds. Expectations are that the school bus shall be cable of a minimum of 160 kilometer range on a single battery charge on route measured with 50% city miles and 50% highway miles. Vehicles should be capable of operating at minus 30 degrees Celsius (-30C) to 35C with limited loss of range (no more than 10% reduction of documented range) in these variable conditions. This range rating must be tested with all normal accessories running in the conditions described including terrain encountered in BC.	Yes	1) The powertrain deferential ratio would NOT impact the range performance but the top speed and torque or we can say climbing speed by driving BYD bus. 2) Under extremely cold weather a diesel heater will be used for heating the cabin a 5% reduction is estimated. Under extremely hot weather AC will be used for cooling down the cabin. Range of 169km. BYD RIDE Performance Under GVWR: A sustained speed of 70 kph on a 2.5% grade: YES A sustained speed of 20 kph on a 20% grade: Yes. An ability to accelerate to 20 kilometers per hour (kph) in four seconds: YES An ability to accelerate to 40 kph in 10 seconds: YES An ability to accelerate to 50 kph in 20 seconds: YES An ability to accelerate to 70 kph in 35 seconds: YES The bus is able to achieve a minimum range of 200 km at GVWR with all accessories on under a driving condition of 50% city miles and 50% highway miles.	Yes	1.Sustained speeds of 7 kph on a 2.5% grade and 20 kph on a 20% grade. a.Achievable. 2.Accelerate to 20 kilometers per hour (kph) in four seconds; to 40 kph in 10 seconds; 50 kph in 20 seconds and 70 kph in 35 seconds. a.Achievable. 3.160 km range is achievable with the 140 kWh Micro Bird. We expect up to 240km of total range. 4.Vehicles should be capable of operating at minus 30 degrees Celsius (-30C) to 35C with limited loss of range a.Vehicle can operate in these conditions. We cannot guarantee a range loss no less than 10% especially in freezing temperatures of -35C. b.Extreme temperatures hot or cold will push the HVAC to operate at max capacity for extended periods. Range loss will be higher than 10%.
3 Describe vehicle performance while fully loaded in terms of maximum operating speed grade-ability and acceleration. Please provide documentation of for verifying submitted vehicle performance claims to meet above performance specifications.	Yes	The vehicle can reach 100km/h as a max speed with up to 17 degree gradeability. The restorability is 28% at the GVWR (21500lbs)	Yes	1.Max Speed: 120 km/h 2.Gradability : 25% 3.Acceleration: 335 HP 1420-FT-LBS torque
4 Wheelbase info - up to 170"	Yes		Yes	158"
5 Wheels - Disc Hub Piloted	Yes		Yes	OEM Ford
6 Tires - Six (6) - specify OEM supplied	Yes	The bus uses Michelin tires.	Yes	LT225/75R16E Hankook
7 Vehicles should have the ability to change the powertrain deferential ratio to maximize range performance in mountain routes city routes highway routes or a combination of mountain city and highway routes. Please describe your process for achieving this?	No	The Type A drive train only have 1 gear ratio. (different from last year, better wording last year) Yes BYD School Bus can change the powertrain deferential ratio to maximize range performance in mountain routes city routes highway routes or a combination of mountain city and highway routes. automatically	Yes	1.Vehicle is equipped with a direct drive single-speed motor. a.We do not plan to change the differential ratio as our setup is balanced for both maximum gradeability and a 120 kph top speed. Changing the differential ratio will have minimal effect between those two extremes.
8 BATTERY Vendors should describe their proposed energy storage/battery system including the number of battery packs and battery chemistry. " Battery efficiency (kilometers per kWh) " Time (in minutes) to charge batteries from 20% to 100% state of charge on a level 2 charger. " Time (in minutes) to charge batteries from 20% 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. " Total battery pack E-rate " 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 when vehicle is in use and not in use	Yes	The 5-pack configuration has a 156.4kW capacity. The battery is composed of lithium iron phosphate (LFP). Using a DC fast charger the bus can receive a full charge at 120kW in 1-2 hours. Otherwise the AC charger's full charge time at 19.2 kW is 8-9 hrs. Based on the characteristics of LFP batteries the battery needs to be charged to 100% as much as possible to better ensure the battery performance. If it must be stored it is recommended to keep the charge at 50%. Store the bus in a cool and dry place and conduct a charge and discharge cycle every six months to maintain the battery characteristics.	Yes	1.# of battery packs : 4 2.Battery Chemistry : a.Lithium Iron Phosphate (LFP) 3.Expected Battery efficiency: a.550-800 Wh/km 4.L2 19.2kW charger: a.full charge 0 – 100%: approx. 7- 8 hours b.20% to 100% : Approx 5 hours c.20% to 80% : Approx 4 hours d.Charging times will vary based on ambient and battery pack temperatures. 5.Amps/Hour/Cell: a.228 Ah 6.Battery capacity: a.140 kWh 7.Total usable kWh: a.140 kWh 8.Battery pack C-rate : a.Peak : 3 C b.Continuous discharge/Charge : 1 C 9.Pack E-rate: a.140 kWh 10.Battery Life cycle : a.Expected : 3000+ cycles b.DOD : 0% to 100% c.Usage and applications may affect total life cycle (Driving VS V2G/V2B) 11.Battery thermal management type a.BTMS Active cooling and heating is installed with glycol loop through the pack with a PTC heater (10 kW capacity) and AC compressor. b.No special maintenance is expected.
9 Additional power supply feeds available to power end user devices	Yes	It can be powered for 2-4 devices	Yes	
10 Rear tow hooks	Yes		Yes	
11 On-Board Charging Systems Vendors should describe their preferred charging/discharging systems including EVSE noting that the expectation is that vehicles will be fitted with on board AC (19.2 kW) bidirectional charging/discharging systems that conform to the most recent SAE J1772 standards and/or other relevant standards for V2B bi-directional power flow. The vehicles should also be fitted with DC charge/discharge coupler capable of a sustained maximum of 90kW of power transfer at a maximum of 200 AMPS. The coupler should conform to all current SAE standards. All charging system components shall have CSA certification or provide acceptable documentation. Charging systems shall be capable of operating from -30C to 40C with no more than 10% degradation in performance	Yes	RIDE features a standard CCS1 connector supporting both Level 2 AC charging and Level 3 DC fast charging. The level 2 AC charges at 240V AC and the maximum charging power reaches 19.2 kW. Without limitations from the charging station a full 0-100% charge takes approximately 8.5 hours. The level 3 DC Fast Charging charges with a maximum power of 135 kW and can achieve a 0-100% charge in 1.5 hours provided there are no output restrictions from the charging station. It is compatible with major charging station brands. The maximum discharge power is equal to the charging power. However Vehicle-to-Grid functionality is only compatible with V2G charging stations. Charging systems shall be capable of operating from -30C to 40C with no more than 10% degradation in performance with the battery functioning.	Yes	1.On board AC (19.2 kW) bidirectional charging/discharging systems a.Not Available. 2.DC charge/discharge coupler capable of a sustained maximum of 90kW of power transfer at a maximum of 200 AMPS . a.Yes. 3.Charging systems shall be capable of operating from -30C to 40C with no more than 10% degradation in performance a.As stated above we cannot guarantee a range loss no less than 10% especially in freezing temperatures of -35C.
12 Data collection for performance and analytical comparisons must be available on a regular basis for both ASTSBC and the purchaser. Training must be provided. *Refer to Documents section for sample data report*	Yes	A telematics box is equipped as a standard configuration which allows customers to monitor the bus for preventive maintenance. It also allows for location tracking. (Cloud web service is provied by a Canadian company--Teciium which is an option for quote); Training will be provided.	Yes	1.Monthly report is already submitted to ASTSBC. Similar report will be provided. 2.Data available through custom Ecotuned Telematics. 3.Training available.
13 Mud Flaps - Front and Rear. Rear with rubber fender skirts	Yes		Yes	
14 OWNER'S MANUAL AND DIAGNOSTIC SOFTWARE Supply those available for end users.	Yes		Yes	
15 Supply line setting ticket	Yes		Yes	
16 Supply Driver Training and Orientation to ASTSBC Trainers to supply training for drivers upon bus delivery.	Yes		Yes	
17 FULLY ILLUMINATED Stop Arm (electric drive) Stop Sign - red octagon with white lettering	Yes		Yes	
18 ILLUMINATED SCHOOL BUS SIGN (front and rear) approved by BC Ministry of Transportation	Yes		Yes	