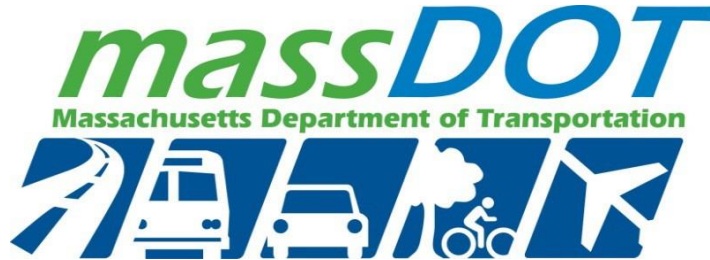


COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION



Request for Information (RFI)

**Four Wheel Drive – Hi-Rail Equipped
Telescopic Excavator**

COMMBUYS Bid Number: BD-23-1030-0T100-0T281-80482

RFI Release Date: Wednesday, October 12, 2022
RFI Submission Deadline: Friday, October 28, 2022 @ 4:00pm

Contact Information:

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Entities responding (“Respondents”) to this Request for Information (RFI) are invited to respond to the specifics in this document. Responses to this RFI shall serve solely to assist the Commonwealth in understanding the current state of the marketplace with regards to the solicited information or to inform the development of a possible solicitation for a Request for Responses (RFR), Request for Quotes (RFQ), or Request for Proposals (RFP) in the future. This RFI does not in any way obligate the Commonwealth to issue or amend a solicitation or to include any of the RFI provisions or responses in any solicitation. Responding to this RFI is entirely voluntary and will in no way affect the Commonwealth’s consideration of any proposal submitted in response to any subsequent solicitation, nor will it serve as an advantage or disadvantage to the respondent in the course of any RFR, RFQ, or RFP that may be subsequently issued or amended.

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1 INTRODUCTION

This is a Request for Information (RFI), is being issued by The Massachusetts Department of Transportation (MassDOT), Rail Division to potential vendors, manufacturers, and or builders for a new four-wheel drive, rail gear-equipped telescopic excavator. The excavator will need to be built as specified in the RFI in section 2. MassDOT reserves the right to remove any options or accessories as needed. MassDOT Rail Division intends to post an additional procurement for the four-wheel drive, rail gear-equipped telescopic excavator upon gathering all the information from the industry.

2 REQUESTS FOR INFORMATION

2.1 Background, Platforms Under Consideration, and Response Instructions

MassDOT Rail and Transit Division is requesting technical specifications based on the drafted to reflect the performance and quality requirements of a new hydraulically operated, four-wheel drive, rail gear equipped telescopic excavator and is not intended to dictate any specific manufacturer, but rather to indicate the general type of equipment and level of performance desired

- A. The vendor shall specify the model offered and furnish a detailed Technical Description of the same. System/sub-systems of the working mechanisms of the excavator and all the items of the specifications, in general, shall be described in detail in the Technical Description.
- B. Example photographs of the proposed excavator model shall be included with the request such as a video if any, of the proposed excavator model.

1) Dimensional and Operating Requirements

- 1) The excavator shall be suitable for travel and work on tangent, spiral and curved track:
 - up to 14° degrees
 - up to a 7% grade
 - up to 6" of super-elevation
 - on standard 4'-8 ½" track gauge
- 2) The excavator on-track clearance during travel as a self-propelled vehicle shall be 8.5' wide and 11.5' high. In work mode (using shoulder jacks) it shall be 11.7' wide and 11.5' high. Tamper weight shall be 47,500 lbs. including rail gear.
- 3) The excavator shall be equipped with eight (8) foam filled 10:00 x 20 industrial tires.
- 4) The powertrain shall consist of an undercarriage drive with a variable displacement high-torque piston motor powering a two-speed power shift transmission. Speed range selection shall be able to be done with the excavator in motion. Maximum speed of the excavator on rail shall be 20 mph operated in either direction.
- 5) The excavator shall be capable of continuous operation during the varying atmospheric and climatic conditions occurring throughout the year. The range of climatic conditions is as follows:
 - Ambient temperature: -30° to 110°F
 - Humidity: 40% to 100%
 - Maximum rail temp.: 150 ° F
- 6) The excavator shall be equipped with an electronic travel alarm that signals with excavator movement.

- 7) The excavator shall be equipped with full-time four-wheel drive. Both axles shall be equipped with internal wet-disc type service brakes. The steering axle shall be fitted with oscillation lock cylinders.
- 8) The excavator shall be equipped with front and rear-mounted rail gear that is pinned to the undercarriage frame. Rail gear shall be DMF RW-1650 CFR or approved equal.
- 9) All operations for work and travel shall be controlled from a fully enclosed all-weather cab permitting unobstructed view in both directions. Cabin to include tinted safety windows, skylight, acoustical lining, four-way adjustable operator's seat, AM/FM radio, air conditioner, filtered fresh air heater, window defroster, a sliding front window (to overhead storage), western-style mirrors on both sides, seat belt, windshield wiper and washer, fire extinguisher axle oscillation lock switch, dual air horn with the front-facing air horn.

2) Operating Equipment and Controls

- 1) The excavator operation shall be controlled with two electronic joysticks (hoist and bucket/telescope and swing). Joysticks shall be mounted on arm pods. Joysticks and foot pedals shall be self-centering; when controls are released, power for movement disengages and the swing/tilt brake set automatically. The excavator shall be equipped with a quick-change joystick pattern switch.
- 2) Excavator shall have a tilting/telescoping steering column and shall have a hydraulic foot pedal to control the braking function. Excavator travel speed shall be regulated with an electronic foot pedal control.
- 3) Gear selection shall be controlled with a switch on the FWD/REV selector control.
- 4) Independent rocker switches shall control the rail gear, axle oscillation, parking brake, and hazard lights. A switch on the steering column shall be provided for marker lights, high/low headlights, and directional indicators.

3) Diesel Engine

- 1) The excavator shall be powered by a Tier 4f compliant four-cycle diesel engine, minimum 5.1-liter displacement developing minimum 173 horsepower at 2,200 rpm.
- 2) The supplier shall furnish the details of the diesel engine and its controls.
- 3) Diesel fuel capacity to be 99 US gallons.
- 4) Excavator to be equipped with a lockable battery disconnect, a 24-volt starter, 100-amp alternator, two SAE #C31-S 1000 CCA batteries, a battery switch lockout tag, two-stage air cleaner with high-efficiency pre-cleaner, vacuator valve, and remote service indicator.
- 5) Excavator shall be equipped with key ignition/starter switch, throttle and lockable main battery disconnect switch, and an air cleaner condition indicator.
- 6) Electronic monitor indicates fuel level, low battery charge, lube oil pressure, high coolant temperature, engine rpm, and engine hours

4) Hydraulic System

- 1) Hydraulic system shall be equipped with one load-sensing axial piston pump; oil flow 0 – 100 GPM. System monitors to be electronic and located in the excavator cab indicating low hydraulic fluid level, high hydraulic fluid temperature, system working pressure, and system pilot pressure.
- 2) Hydraulic system to include ten cylinders – one tool cylinder, two hoist cylinders, one telescope cylinder, two single-acting axle oscillation cylinders, and four rail gear cylinders.
- 3) Hydraulic system to include three hydraulic motors, swing motor (64 hp), tilt motor (21 hp), and propel motor (113 hp). Hydraulic operating pressures as follows: hoist, tool, telescope and propel (4,900 psi); swing (4,200 psi); rail gear (4,000 psi); tilt (2,500 psi); braking & steering (2,400 psi).

4) Rail gear oil capacity to be 65 gallons in a pressurized reservoir with visual oil level gauges

5) Boom

1) The excavator shall be equipped with a two-piece triangular telescoping boom with adjustable boom rollers with eccentric shafts. Boom shall have a 2200 tilt, and 1050 pivot angle and shall telescope a minimum of 12.5'.

6) Lighting and Alarms

1) Excavator shall be equipped with high/low beam headlights, taillights, parking lights, brake lights, four-way hazard lights, and turn indicator lights; also LED swing, work, and boom lights and an FRA specified 3600 strobe light. The excavator undercarriage shall be equipped with FRA-specified on-rail LED white and red directional lighting. Machine to have FRA change in direction alarm and dual air horns.

7) Rail Gear

- 1) Excavator on the guide wheel rail gear system is propelled by the excavator's drive system.
- 2) Hi-Rail axle assemblies shall be DMF 1650 axle assemblies or approved equal.
- 3) Frame assemblies are pinned to the excavator undercarriage for easy removal and service.
- 4) Guide wheels shall be 16" on high-strength alloy steel axles. Front and rear rail gear axles shall have 3" slotted suspension. Rail gear brakes shall work in conjunction with the excavator braking system.
- 5) Rail gear shall be controlled from the operator cab.
- 6) Rail gear to have rail sweeps on each wheel, tow bar plates front and rear, steering lock, and rail gear cylinder guards.

8) Excavator Lifting Capacity

- 1) The hi-rail excavator shall have the following lifting capacities, on rubber tires or on rail, over the end of the machine (boom level above ground without any bucket attached):
 - Minimum radius 12,375 lbs.
 - 20' radius 8,190 lbs.
 - 25' radius 5,820
 - Maximum radius 5,080 lbs.

9) Accessory Equipment

- 1) Excavator shall be equipped with quick change and reversible buckets fabricated of steel plate with high-strength, low-alloy cutting edges. Supply with the excavator a 60" ditching bucket, a 30" excavating bucket, and a 10" cribbing bucket.
- 2) A complete tool kit required for emergency and on-site repairs shall be provided and be capable of being stored in the provisions provided in section 12.1
- 3) All special tools required for the repair and maintenance of the excavator shall be provided with the delivery of the machine.

10) Spare Parts

- 1) The vendor shall provide a list of recommended spare parts, this list of parts should include any part that should be acquired and maintained to support the excavator throughout its service design life. The list of recommended spare parts shall include but not be limited to material from the following categories:

- Wear - Parts that may be expected to require regular replacement under normal maintenance schedules.
 - Consumables - Parts with an expected life of less than one year/based upon expected annual hours of 1,000
 - Long Lead - Parts that are not readily available from distributors or manufacturers
 - Exchange Assemblies - Assemblies that will be exchanged with failed units for overhaul or repair
- 2) Pricing for all spare parts included in this list shall be provided with the proposal. The option to purchase any of the spare parts included in the list may be exercised at any time by MassDOT up to the delivery of the excavator. MassDOT may place one or more orders for additional spare parts for a period of up to two (2) years beyond the delivery date of the Stabilizer. Purchases beyond the delivery of the excavator will be allowed a price adjustment determined by the increase in the Producer Price Index for Railroad rolling stock manufacturing (Bureau of Labor Statistics Series ID PCU336510336510).

11) Regulatory Compliance

1. The equipment and materials provided by the vendor shall comply specifically with the requirements of the FRA, AAR, and all other applicable federal, state, and local codes in effect at the time of submission of a proposal by the vendor.

3 GENERAL INSTRUCTIONS & INFORMATION

1) Information Obtained

Please note that this RFI is issued solely for the purpose of obtaining information. Nothing in this RFI shall be interpreted as a commitment on the part of MassDOT to procure or enter a contract with any respondent.

This RFI will be distributed electronically by posting it on COMMBUYS. COMMBUYS offers an optional, value-added automated COMMBUYS Subscription Service on an annual-fee basis. All vendors are responsible for checking COMMBUYS for any addenda or modifications made to the RFI subsequent to the initial posting on COMMBUYS.

The Commonwealth and MassDOT will accept no liability for and will provide no accommodation to vendors who fail to check for amended RFIs or any other procurement opportunities and subsequently submit inadequate or incorrect responses. Vendors are advised to check the Last Changed Date field on the Summary page or the Amendment History within the Other Information tab of the RFI for which they intend to submit a response in order to ensure they have the most recent files.

Vendors may not alter (manually or electronically) the RFI language or any of its component files. Respondents may contact the COMMBUYS Helpdesk at COMMBUYS@state.ma.us or the COMMBUYS Helpline at 1-888-MA-STATE. The Helpline is staffed from 8:00 AM to 5:00 PM Monday through Friday, Eastern Standard or Daylight time, as applicable, except on federal, state and Suffolk County holidays.

2) Calendar

Times are Eastern Standard/Daylight Savings (US), as displayed on the COMMBUYS system clock displayed to respondents after logging in. If there is a conflict between the dates in this Estimated Calendar and dates in the Bid's Header, the dates in the Bid's Header on COMMBUYS shall prevail. Respondents are responsible for checking the Bid record, including Bid Q&A, on COMMBUYS for Estimated Calendar updates.

EVENT	DATE
RFI Release Date	October 12, 2022
Responses Due Date	November 4th, 2022, 2:00 PM EST

3) **Response Submission**

Respondents should submit one (1) electronic copy by the date and time in the schedule above.

All responses must include on the first page the official name (if any) of the firm or entity submitting the response. Please consecutively number all pages of the response. Your response may include supplemental materials, they should be limited to twelve (12) pages and focused specifically on the subjects contained in this RFI.

Respondents must submit responses via COMMBUYS

Please provide the following information:

1. Please provide your experience in designing, manufacturing, and warranting four-wheel drive, rail gear-equipped telescopic excavator for commuter rail service.
 - i. Please provide information about prior contracts that were in full compliance with FRA, AAR, and all applicable Federal guidelines
 - ii. Please provide information about prior contracts
 - iii. Please provide information about potentially suitable existing designs.
 - iv. Life cycle cost of ownership
2. Please present your level of interest in pursuing a contract such as the one described. If there are specific issues that would deter or encourage your firm from pursuing this contract, please describe what they are?

4) **Potential for Informational Sessions**

In addition to written RFI responses, MassDOT may invite any or none of the responding vendors to make optional, focused, virtual demonstrations of experience, offerings, methodologies, and expertise applicable to the response.

- If there are informational session(s) associated with this RFI they will be scheduled as needed. The date and time will be communicated after the response deadline and may be extended to accommodate a large responder interest.
- MassDOT retains the right to request additional information from respondents.
- MassDOT may request further explanation or clarification from any and all respondents during the review process.
- MassDOT may, at its sole discretion, elect to request formal presentations from selected vendors. Selected vendors will have the option to present focused demonstrations of experience, offerings, methodologies, and expertise applicable to this RFI.
 - Informal presentations may be up to 1 hour in length.
 - Informal presentations must relate directly to MassDOT needs to be outlined in this RFI. Please do not use this time for standard marketing sales presentations.
 - The presentation meetings will allow for a productive interchange of ideas and information that relate to and can help inform MassDOT.

5) Respondent Questions

Respondents may only make inquiries and request clarification concerning this RFI by submitting questions via the COMMBUYS Q&A button under this RFI bid number.

Responses to inquiries and clarification questions will be provided electronically to all interested parties via a posting on COMMBUYS.

Vendors may not communicate directly or indirectly with any employee of MassDOT, except as specified in the RFI or in the ordinary course of business (e.g. in connection with a different contract the vendor may have with MassDOT) regarding this RFI.

A vendor may contact MassDOT Procurement Contact in Section 3 if the RFI is incomplete or if the vendor is having trouble obtaining any information electronically through COMMBUYS

6) MassDOT Contact Information

Please submit all communications and responses to the RFI via COMMBUYS.

4 REVIEW RIGHTS, PUBLIC RECORDS, AND COST

Responses to this RFI may be reviewed by any person(s) at the discretion of MassDOT, including independent consultants retained by MassDOT now or in the future.

All responses to this RFI will be a public record under the Commonwealth's Public Records Law, Massachusetts General Laws Chapter 66 Section 10, regardless of confidentiality notices set forth on such writings to the contrary.

All responses and other documents submitted in response to the RFI become the property of MassDOT. MassDOT is under no obligation to return any documents submitted by a respondent.

By submitting a response, respondents agree that any cost incurred in responding to this RFI, or in support of activities associated with this RFI, shall be the sole responsibility of the Respondent. MassDOT shall not be held responsible for any costs incurred by respondents in preparing their respective responses to this RFI.