

# Massachusetts Bay Transportation Authority



## MBTA COMMUTER RAIL CONSTRUCTION SAFETY DIRECTIVE

From: Ryan Coholan, Chief Railroad Officer

July 2022



Charles D. Baker, Governor  
Karyn E. Polito, Lieutenant Governor  
Jamey Tesler, MassDOT Secretary & CEO  
Steve Poftak, General Manager



## RAILROAD OPERATIONS CONSTRUCTION DIRECTIVE

**To:** Distribution

**From:** Ryan Coholan  
Chief Railroad Officer

**Date:** August 12, 2022

**RE:** MBTA Commuter Rail Construction Safety Directive

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This directive is intended to provide clarity, guidance, and consistency for Contractors, Subcontractors, Vendors, and other entities performing services or work on or around MBTA right-of-way.

In the event that conditions warrant deviation from this directive, a waiver signed by the MBTA Railroad Operations Directorate, MBTA Commuter Rail Safety, and the department owning the scope of work will be required of the project. Should the Contractor not comply with the restrictions of the waiver, the waiver becomes null and void.

All workers shall comply with standards as prescribed by Code. MBTA Standards shall apply only where Code does not address a topic or the MBTA requires a standard above and beyond Code. The more stringent shall always apply.

**Failure to comply with any of the following sections, regardless of the level of noncompliance, can result in restriction from property at the discretion of MBTA Railroad Operations and further consequences, not subject to any claim action or dispute from the Contractor. The judgment of MBTA Railroad Operations in such cases, in consultation with MBTA Commuter Rail Safety, shall in all cases be final.**

### OBJECTIVE

The objective of this directive is to require that all projects take the necessary measures to protect existing MBTA infrastructure and to effectively identify and mitigate potential hazards before they create unsafe conditions, inflict damage, and/or cause impacts to service. This directive is also intended to identify documentation that may be required for reporting purposes.

## CODES, STANDARDS, POLICIES, REFERENCES, AND GUIDELINES

The direction provided herein shall be used in coordination with all other documented MBTA Standards and Guidelines as well as all applicable codes, policies and procedures. In the event conflicting guidance is provided, the more stringent direction shall be followed, and be documented as such.

Relevant codes, standards, and policies include but are not limited to:

- MBTA Railroad Operations Directorate
- MBTA Railroad System Safety Program
- MBTA Section 01520 Procedure for Work Vehicles
- MBTA Section 01568 Construction Safety
- MBTA Capital Delivery Transit-Oriented Development Group Design/Construction Review for Projects within the MBTA’s Zone of Influence: A Guide for Owners, Developers, and Contractors (ODCs)
- 49 CFR 214 Railroad Workplace Safety
- 49 CFR 219 National Drug Screening
- 49 CFR 225 Railroad Accidents/Incidents: Reports Classification and Investigations

## APPLICABILITY

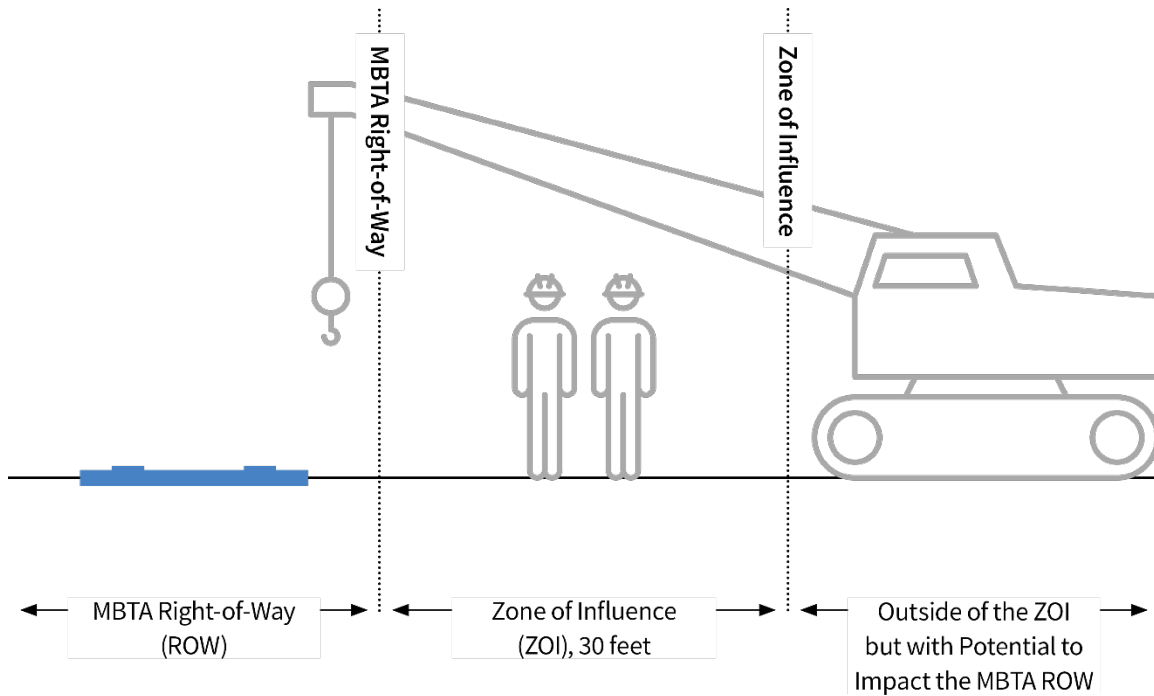
This directive applies to Contractors, Subcontractors, Vendors, and other entities performing services or work on or around MBTA right-of-way. This includes **work on or around both active and inactive railroad right-of-way**, unless otherwise determined during MBTA review of a Contractor’s Work Plan and Safety and Health Plan.

**This directive applies to all entities performing services or work on or around the MBTA right-of-way, such as:**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Contractors    | <input checked="" type="checkbox"/> Vendors        |
| <input checked="" type="checkbox"/> Subcontractors | <input checked="" type="checkbox"/> Other Entities |

**Work on or around MBTA right-of-way** includes any activities in air-rights, on, adjacent to, or in close proximity (30-foot horizontal-plan dimension from proposed work zone limit to MBTA property line) to existing MBTA property, facilities, and/or with the potential to endanger, impact, or obstruct the operational right-of-way.<sup>1</sup> The following graphic provides an example of workers within the Zone of Influence, and equipment placed outside of the Zone of Influence with the potential to impact the operational right-of-way.

<sup>1</sup> For additional guidance related to process requirements associated with this “Zone of Influence”, please refer to the MBTA’s *Design/Construction Review for Projects within the MBTA’s Zone of Influence: A Guide for Owners, Developers, and Contractors (ODCs)*.



## REQUIREMENTS

### Compliance and Documentation of Personnel Qualifications

Each Contractor is responsible for documenting compliance with applicable codes and standards. The Contractor is responsible for the adequacy of their documentation and records, which can be audited at any time. The Contractor shall follow their plan in place. Failure to comply can result in restriction from property and further consequences, not subject to any claim action from the Contractor.

#### *Initial Preparation for Documenting Compliance*

##### **Key Considerations**

*Contractor must:*

- ☑ Develop an MBTA approved **work plan**.
- ☑ Assign an MBTA-approved **railroad-qualified Safety Supervisor** prior to starting work.
- ☑ Document any applicable **certifications, qualifications, and licenses** for all individuals working on a project.

The Contractor shall have an MBTA Railroad Operations and MBTA Commuter Rail Safety approved work plan. At a minimum, the approved work plan should include but is not limited to the following contents:



Step-by-step **construction sequence**, including steps taken before, during, and after work on or around the right-of-way



Description of **access points** to the right-of-way, including railroad protection and any license of entry where required<sup>1</sup>



**Schedule** of when work will be conducted on or around the right-of-way, including for steps taken after construction is completed<sup>2</sup>



**Job hazard analysis** to identify potential hazards and recommend actions or procedures to mitigate them, including additional job-specific training

**Notes:**

1. *A license of entry must be secured with Amtrak prior to entry on any ROW operated by Amtrak.*
2. *The schedule should include activities after construction is completed, such as testing and commissioning for track, signal, and communications upon completion of work following the procedures of the Operating Railroad required to return the railroad to unimpeded, unrestricted operations.*

Depending on the scope of the work, the project should anticipate and account for impacts to adjacent services, as the work may impact adjacent lines and tracks.

MBTA Railroad Operations and MBTA Commuter Rail Safety reserve the right to require additional information at their discretion.

Prior to the start of work on a project, the Contractor must assign an MBTA-approved railroad-qualified safety professional to supervise the project. Section 1.2.D of Spec Section 01568 details requirements for the Safety Supervisor. The Safety Supervisor will have the following responsibilities:

- Provide safety oversight for the project.
- Serve as a point of contact to the MBTA to provide updates and answer any questions about project safety.

The Contractor must also document for each individual working on a project on or around MBTA right of way:

- Copies of roadway worker protection (RWP) training certification.
- Copies of other qualifications and certifications applicable to the work performed.
- Copies of qualifications, certifications, and licenses as applicable to use any operating equipment or machinery that will be used on the work site. This may include driver's license, hoisting license and medical certificate.

For bridge work, the Contractor shall document compliance with FRA regulations on bridge worker safety and fall protection.



The Contractor should also have an FRA approved drug and alcohol plan, as detailed in the subsequent section on Compliance with 49 CFR Part 219.

### *Daily Verification*

#### **Key Considerations**

*Contractor must:*

- Maintain a **list of all individuals** working on MBTA property.
- Document that all workers have **proper PPE and certification**.
- Document that all workers have **participated in and acknowledged the project briefing** before starting each shift.
- Require all workers to **carry their RWP notebook** on their person.
- Have their **work plan available** on site.

The project staff must maintain a list of Contractors and Subcontractors working on MBTA property.

Prior to starting each shift, the Contractor must document the following information for each roadway worker working on the project site or on or around MBTA right-of-way:

- The roadway worker has the proper PPE
- The roadway worker has a valid, non-expired RWP training certification card
- The roadway worker has participated in a job briefing and verbally acknowledged understanding of the foul zone and level of protection – no person shall enter the railroad envelope without a job briefing
- Any roadway worker operating equipment or machinery must have valid, non-expired certification and licenses as applicable to operate that equipment or machinery. This may include driver's license, hoisting license and medical certificate.

Documentation shall be provided to MBTA Railroad Operations and MBTA Commuter Rail Safety on request. The MBTA reserves the right to examine operators to determine their fitness.

Each roadway worker shall carry their RWP notebook while on the project site or while on or around the MBTA right-of-way.

The Contractor shall have their MBTA Railroad Operations and MBTA Commuter Rail Safety approved work plan on site, which they must display to MBTA Railroad Operations and MBTA Commuter Rail Safety as applicable or on request in the field.

*Compliance with 49 CFR Part 219*

**Key Considerations**

*Contractors must provide the MBTA with:*

- FRA-approved **drug and alcohol plan.**
- Certifications that plans comply** with 49 CFR Part 219.
- FRA acceptance letters.**
- Quarterly updates** of testing activities.

All Contractor, Subcontractors, and Consultants performing work must comply with the requirements of 49 CFR Part 219, as detailed in Section 3.12 of Spec Section 01568. This includes, but is not limited to:

- Providing the MBTA with copies of FRA-approved drug and alcohol plans, which must include an on-call testing facility that is available 24-hours per day, 7-days per week.
- Providing the MBTA and the commuter rail operator with copies of FRA Acceptance letters and certifications from Contractor and Subcontractors that plans are in compliance with the requirements of 49 CFR Part 219
- Providing updates of testing activities per Section 3.12 of Spec Section 01568 every quarter or as requested by the MBTA.

Absent hospitalization or unusual circumstances, any individual required to submit to a drug and alcohol screen must do so at an on-call testing facility included in the Contractor or Subcontractor's FRA-approved drug and alcohol plan.

All project reporting related to 49 CFR Part 219 must be provided to the MBTA Capital Project Team overseeing the project.

## Compliance and Documentation of Equipment Operations

### Key Considerations

*Contractors must:*

- ☑ **Obtain permission** to place and operate equipment adjacent to a track.
- ☑ **Inspect equipment daily** prior to use.
- ☑ Ensure that all equipment operators are **properly certified and licensed**.
- ☑ Comply with **additional requirements related to hi-rail equipment**.
- ☑ **Notify the MBTA** at least 2 days prior to bringing hoisting equipment onto MBTA property.

Each Contractor is responsible for documenting compliance with applicable codes and standards. The Contractor is responsible for the adequacy of their documentation and records, which can be audited at any time. The Contractor shall follow their plan in place. Failure to comply can result in restriction from property and further consequences, not subject to any claim action from the Contractor.

All equipment used on MBTA Railroad Property may be inspected by the MBTA and shall not be used if considered unsatisfactory. Equipment shall not be placed or put into operation adjacent to a track without first obtaining the permission. The Contractor must ensure and document that all equipment has been properly inspected prior to use each day.

Additional requirements related to hi-rail equipment include:

- Hi-rail equipment shall pass a run test in the areas it will be utilized to the satisfaction of the MBTA before it can be used for work. Subsequent to passing the required tests, the equipment shall receive certification. Only certified equipment shall be allowed to operate.
- Hi-rail equipment must be inspected by the equipment operator for compliance with 49 CFR Part 214.527 prior to using the machine at the start of the operator's work shift.
- Hi-rail gear shall include adjustable flanged wheels which can be engaged with standard "T" track. Wheels shall be capable of being mechanically locked in the rail operating position.
- The hi-rail gear of all hi-rail equipment shall be inspected for safety at least annually.

Please see Section 1.5 of Spec Section 01520 for further guidance and requirements related to hi-rail equipment.



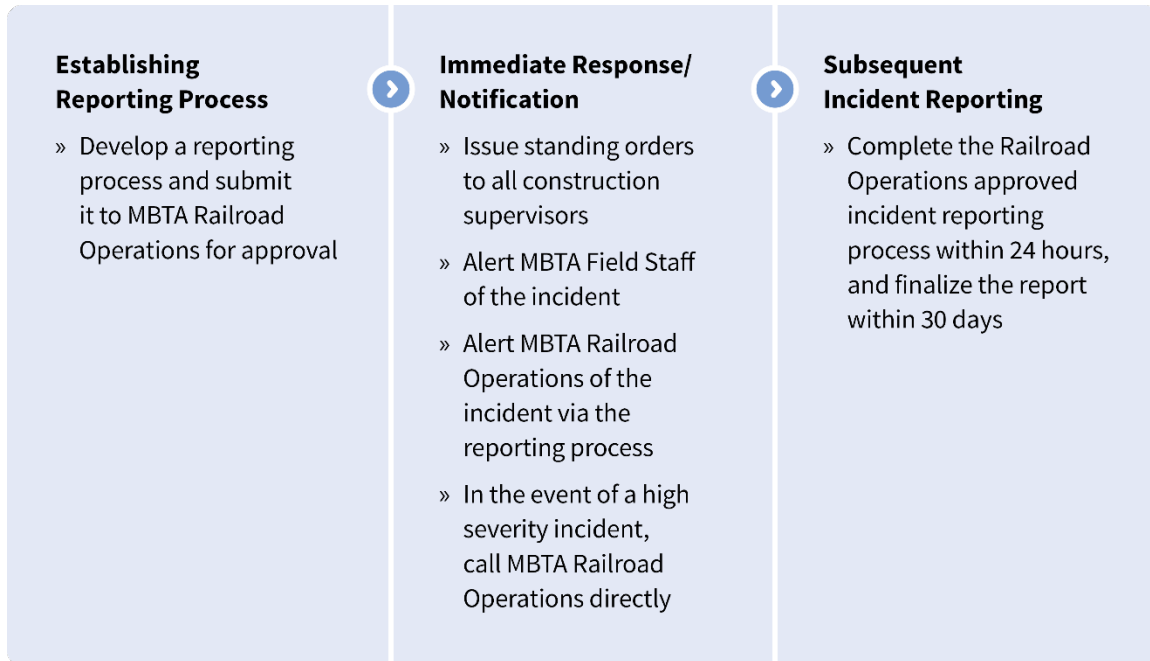
The Contractor shall notify the MBTA at least two (2) days prior to bringing in any hoisting equipment on the Authority's property, including but not limited to cranes. Section 3.5.F of Spec Section 01568 and the MBTA Railroad Operations Directorate detail additional requirements related to hoisting.

Only railroad-qualified employees may move equipment across grade crossings, unless sufficient on-ground protection is established and approved by MBTA Railroad Operations and MBTA Commuter Rail Safety.

As described in the section on compliance and documentation of personnel qualifications, operators of all equipment must be properly licensed and may be examined by the MBTA.

### Incident Reporting

Contractors must report incidents when safety-related events occur. Failure to comply can result in restriction from property and further consequences, not subject to any claim action from the Contractor. This section describes some of the Contractor requirements for establishing the reporting process, immediate response and notification, and subsequent incident reporting (including 24-hour reporting and 30-day reporting), as summarized in the graphic below and following subsections.



#### *Establishing Reporting Process*

At the onset of a project, the Contractor must establish a reporting process. The process can be completed through a system of the Contractor's choosing, which must be approved in advance by MBTA Railroad Operations and MBTA Commuter Rail Safety. All information needed by MBTA Railroad Operations and MBTA Commuter Rail Safety as described in the following sections must be provided within the Contractor's process.

The Contractor's reporting process shall categorize safety incidents based on the MBTA Railroad Operations and MBTA Commuter Rail Safety definition of event severity. Safety-related incidents can be classified on a scale of severity from 4 to 1, with incidents with a rating of 1 classified as the most severe. The following table provides a framework for assigning each incident with a severity rating.

Injury and/or Property Damage Type	Collision/Non-Collision and Operating Impact		
	Collision	Non-Collision Impacting Operations	Non-Collision Not Impacting Operations
Fatality or Serious Injury	1	1	1
Non-Serious Injury	1	2	2
Property Damage	1	2	3
Other (e.g., Near Miss, Safety Violation, Equipment Failure)	1	2	4

**Notes:**

1. Ratings are from 1 to 4, with 1 representing the most severe and 4 representing the least severe.
2. Incident severity should be classified according to the most severe component (e.g., a non-collision incident impacting operations that causes both a fatality and non-serious injuries would be classified as a 1).
3. Per 49 CFR §229.5, "serious injury means an injury that results in the amputation of any appendage, the loss of sight in an eye, the fracture of a bone, or confinement in a hospital for a period of more than 24 consecutive hours.
4. A non-serious injury is defined as an injury that does not meet the criteria for a serious injury as defined above.
5. Property damage may include damage to either railroad property or non-railroad (public or private) property. Property may include equipment and other non-permanent items.

As part of the reporting process, the Contractor must also develop a project-specific list of personnel to be contacted for each level of incident severity, to be approved by MBTA Railroad Operations and MBTA Commuter Rail Safety.

*Immediate Response/Notification*

All safety-related events are to be reported immediately to MBTA field staff. Contractors shall issue standing orders to all construction supervisors directly in charge of construction operations that the scene of the incident shall not be disturbed, except for rescue or other emergency measures, until otherwise directed by MBTA Railroad Operations and MBTA Commuter Rail Safety. Contractor's forces either witnessing or party to the incident shall be detained at the site to provide detailed accounting of facts.

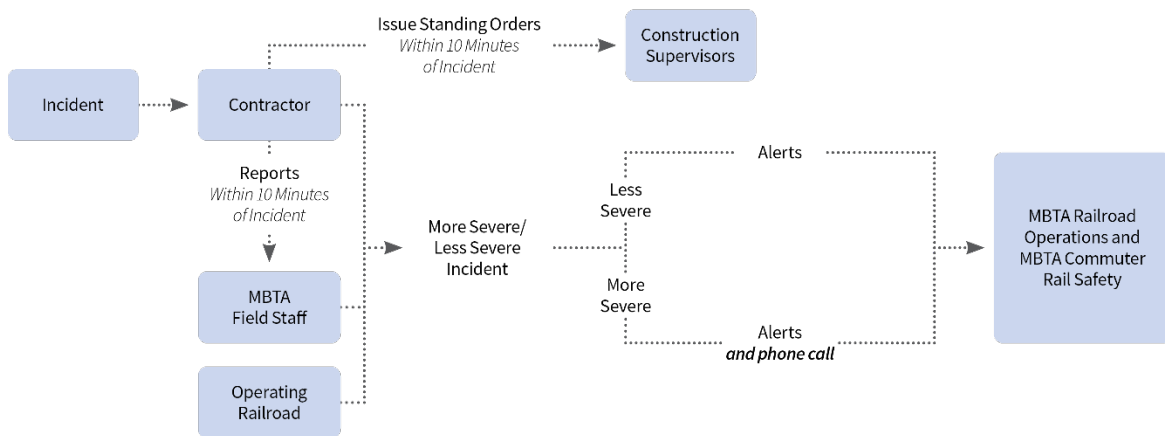
In the event of a safety-related incident, the Contractor, MBTA Field Staff, and the Operating Railroad shall then alert MBTA Railroad Operations and MBTA Commuter Rail Safety via the process approved in advance by MBTA Railroad Operations and MBTA Commuter Rail Safety.

This process will require the input of basic information about the incident:

- Issue
- Severity
- When (Date and Time)
- Location
- Impact
- Equipment
- Response

Based on the severity ranking of the incident, the process shall either require calls to all necessary personnel (most severe) or emails to all necessary personnel (less severe). Notified MBTA Railroad Operations and MBTA Commuter Rail Safety personnel shall be required to acknowledge that they have received the report. Additionally for events categorized as most severe, the Contractor and the Operating Railroad shall directly call MBTA Railroad Operations and MBTA Commuter Rail Safety.

The following graphic illustrates the immediate notification process.



#### *Subsequent Incident Reporting*

The Contractor shall begin the MBTA Railroad Operations and MBTA Commuter Rail Safety approved incident reporting process within 24 hours following all safety related incidents, and must finalize the report within 30 days. Extensions can be provided by the MBTA Railroad Operations and MBTA Commuter Rail Safety in the event of extenuating circumstances. Additionally, the Contractor will provide any additional information or revisions requested by MBTA Railroad Operations, MBTA Commuter Rail Safety, and MBTA Construction Safety. The following page provides requirements for the 24-hour report and the 30-day report.

**24-hour reports must contain the following information:**


- Project name
- Date and time of incident
- Location of incident
- Type of incident
- Weather
- Reported to outside agency (yes/no)
- Investigator completing report
- A summary of incident
- Fatalities
- Injuries
- Delay to trains
- Damage to infrastructure or equipment
- Who was involved:
  - Name
  - Position
  - Drug and alcohol test completed (yes/no)
  - Employee removed from service (yes/no)
- What was involved (equipment, infrastructure, etc.)
- Investigation contacts and contact phone number
- Statements from those involved and witnesses
- Job briefing document
- Photos
- Copy of RWP card(s)

**30-day reports must contain all information included in 24-hour reports, in addition to the following information:**


- Any documentation submitted to external agency (OSHA, FRA, etc.)
- Documentation of any violations or notices received from external agency related to incident (FRA, OSHA, etc.)
- Documentation of damage and damage costs
- Any rules violated
- Details of the investigation, including findings on:
  - Root cause
  - Contributing factors
  - Conclusions
- Recommendations and corrective actions
- Training documentation

The MBTA and its Railroad Operations Directorate is fully committed to the safety of our passengers, employees, contractors, and stakeholders. This document was drafted based on “real-world” incidents, and lessons learned while investigating incidents and events. It establishes a recognized baseline of how work should be done in an active railroad environment. Nothing in this document should be interpreted as removing ultimate responsibility for individual actions from the individual. We urge people who work upon our property to always take the safest course, and to challenge in good faith any unsafe behavior or actions.

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