



**WMSC Commissioner Brief: W-0266 – Derailment – East Falls Church Station – June 4, 2023**

*Prepared for Washington Metrorail Safety Commission meeting on April 9, 2024*

**Safety event summary:**

Flatcar F538 being pushed by Prime Mover (PM) 39 derailed at a section of cut running rail near East Fall Church Station at approximately 11:17 p.m. on Sunday, June 4, 2023. This occurred in a long-term work zone being operated with “Mobile Command” designated as the Roadway Worker In Charge. The event was not reported to personnel in the Rail Operations Control Center in a timely manner. No injuries to personnel or equipment damage were reported.

**Timeline**

The Equipment Operator AA assigned to PM 39 reported to East Falls Church Station, Track 1, where the prime mover was already on the platform. The consist included the prime mover and flatcars F601 and F538. Flatcars are used to transport equipment and materials on the roadway. The Equipment Operator conducted their pre-trip inspection as required and found no faults before proceeding to their work site within a construction area, shutdown with no passenger train service.

At 10:54 p.m., an Office of Track and Structures Supervisor made a request on Radio Ops 6 for PM 39 to return to the platform to retrieve additional sledgehammers. During this time, the crew working on the section of track at the work location removed clips and cut out a section of the left running rail. This information was not communicated to personnel aboard the Prime Mover or coordinated with the Track Supervisor. Further, there was no visual warning or marking on the rail to alert the Operator that the section of track had been cut and no watchman lookout assigned to protect the work crew on the track.

After retrieving the tools, the Operator of PM39, with the Crew Leader and Flagman aboard attached Flatcar F538, moved in the reverse direction back toward the work location. During an investigative interview, the Flagman stated that they alerted the PM Operator to stop over the radio, but that the radio did not transmit due to poor radio communication, so they entered the cab and dumped the brakes to stop the PM.

An inspection by the crew found that the front wheelset of Flatcar F538 had derailed at the section of track cut by the work crew while the PM was retrieving tools on the platform. The vehicle continued on, traveling approximately 25 feet after the point of derailment before coming to rest.

Approximately 24 minutes after the derailment Mobile Command reported the event to the Maintenance Operations Center in the Rail Operations Control Center.

Flat Car F358 was rerailed by Office of Car Track Equipment Maintenance personnel and the consist was taken to Ronald Reagan National Airport Station for inspection before being moved to West Falls Church Yard.

The Prime Mover Operator and Flagman were removed from service and taken for post-event drug and alcohol testing.

**Probable Cause:**



The probable cause of this event was failure to adhere to established rules and procedures, insufficient communication and coordination pertaining to changes in track condition and vehicle movement, and failure to maintain situational awareness.

**Corrective Actions:**

As interim mitigations, Metrorail distributed Safety Bulletin MB/SB#: 20230606-57 Critical Reminder of Safety Rules and Procedures to Prevent Roadway Safety Incidents and recommended to the Crew Leader that any movement of vehicles towards sections of cut rails have a flagger at the location to flag vehicles to stop. Metrorail also reiterated the need for shunt lights, flares, orange cones, derailleurs, watchmen, or physical barriers to negate entry into work areas where derailments can occur. The Prime Mover Operator and Flagman received re-training pertaining to roadway safety. WMATA implemented a requirement that all rail movements be communicated on a designated radio operations channel.

Examples of other related open CAPs

- C-0100 addressing that Metrorail is not maintaining a fully functioning radio communications system in all rail yards and shops. (Last deliverable due for completion in October 2026)

**WMSC Staff Observations:**

The WMSC is assessing Metrorail's Mobile Command procedures and practices in an Audit of Roadway/Wayside Worker Protection. This includes supervision, monitoring and continuous improvement opportunities. The draft report of this audit is being finalized.



Washington Metropolitan Area Transit Authority  
Department of Safety (SAFE)  
Office of Safety Investigations (OSI)

**FINAL REPORT OF INVESTIGATION A&I E23373**

<b>Date of Event:</b>	06/04/2023
<b>Type of Event:</b>	A-5 Derailment
<b>Incident Time:</b>	23:18 hours
<b>Location:</b>	East Falls Church Station CM K1 357+30
<b>Time and How received by SAFE:</b>	23:47 hours Mission Assurance Coordinator (MAC)
<b>WMSC Notification Time:</b>	00:02 hours
<b>Responding Safety Officers:</b>	WMATA: OSI, OSO, OEP WMSC: None Other: None
<b>Rail Vehicle:</b>	L Flat Car 538 x Flat Car 601 x Prime Mover 39 T
<b>Injuries:</b>	None
<b>Damage:</b>	None
<b>Emergency Responders:</b>	Metro Transit Police Department (MTPD), Office of Track & Structures (TRST), Office of Car Maintenance (CMNT)
<b>SMS I/A Incident Number:</b>	20230605#108973MX

**East Fall Church Station - Derailment**

Incident Date: 06/04/2023 Time: 23:18 hours  
Final Report – Derailment Rev. 1  
E23373

Drafted By: SAFE 706 – 07/25/2023  
Reviewed By: SAFE 71 – 08/02/2023  
Approved By: SAFE 71 – 08/03/2023

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## **Abbreviations and Acronyms**

<b>CAP</b>	Corrective Action Plan
<b>CCTV</b>	Closed-Circuit Television
<b>CM</b>	Chain Marker
<b>CTEM</b>	Office of Car Track Equipment Maintenance
<b>CWR</b>	Continuously Welded Rail
<b>MSRPH</b>	Metrorail Safety Rules and Procedures Handbook
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>POD</b>	Point of Derailment
<b>RTRA</b>	Office of Rail Transportation
<b>ROCC</b>	Rail Operations Control Center
<b>RWIC</b>	Roadway Worker in Charge
<b>SAFE</b>	Department of Safety
<b>SMS</b>	Safety Measurement System
<b>TRST</b>	Office of Track and Structures
<b>WMATA</b>	Washington Metropolitan Area Transit Authority
<b>WMSC</b>	Washington Metrorail Safety Commission

**Washington Metropolitan Area Transit Authority**  
**Department of Safety – Office of Safety Investigations**

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**Executive Summary**

*\*Note that all times listed are approximate and may contain minor variations due to differences between systems of record.\**

On June 4, 2023, an Office of Track and Structures (TRST) Equipment Operator AA was assigned to operate Prime Mover (PM) 39 with two Flat Cars within the K and N Line shutdown construction site. The scope of work included the installation of new Continuously Welded Rail (CWR) from Chain Marker (CM) K1 and K2 315+00 to 506+00. It also included welding of open joints on both running rails from CM K1 and K2 315+00 to 506+00. Other tasks included the removal of the old running rail, materials, and other debris from CM 315+00 to 506+00.

When the PM Operator reported for duty at the job site, PM 39, with Flat Cars 601 and 538, was already positioned at East Falls Church Station platform (K05), track one. The PM operator conducted their pre-trip inspection and found no faults with their assigned equipment. They spoke to the Roadway Worker in Charge (RWIC) and then proceeded to the work site with PM 39 pushing F601 and F538. A Flagman was positioned on the lead flatcar, F538.

At 22:54 hours, a TRST Supervisor requested PM 39 over radio Ops 6 to return to the East Falls Church Platform and retrieve additional equipment (sledgehammers). At 23:00 hours, PM 39 berthed at the East Falls Church platform and loaded the requested equipment. While the PM was gone, the work crew removed clips and cut out a section of the left running rail. At 23:08 hours, PM 39 left the platform and was observed on CCTV traveling in the reverse direction, pushing Flat Cars F538 and F601 toward CM K1 361+00. Aboard the PM and Flatcars, were the RWIC, the Flagman sat on the seat inside F538's booth, and the PM Operator, operating from the main PM cab.

At 23:17 hours, the Flagman aboard PM 39 transmitted over Ops 6 to the PM Operator to "stop 39, stop 39." Upon inspection by the crew, they discovered that F538's front wheelset derailed at a section of cut running rail and traveled approximately 25 feet after the Point of Derailment (POD) at CM K1 357+30. No injuries were reported.

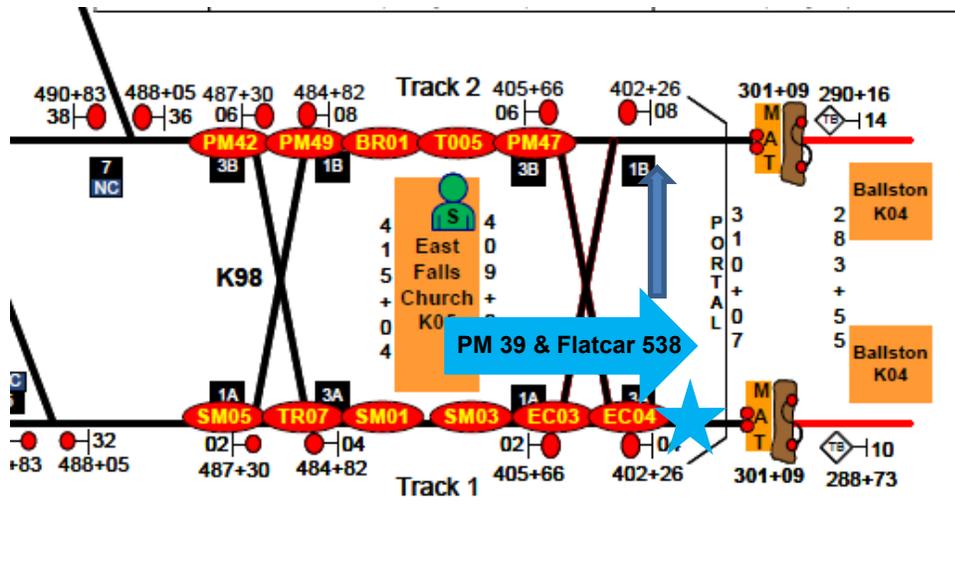
The Office of Car Track Equipment Maintenance (CTEM) rerailed the derailed Flat Car at 03:05 on 6/5/2023. The consist was taken to Reagan Airport and inspected by TRST, with no damage found. After the inspection, the consist traveled and was stored at East Falls Church Station (K05) at 03:14 hours.

The probable cause of the derailment was an operational failure to identify a cut section of running rail within the established work zone and to transmit a stop order or activate the emergency brake prior to derailing. Contributing Factors to the event included poor lighting conditions and communications between field personnel and the RWIC.

## Incident Site

East Falls Church Station (K05) Place Of Derailment CM K1 357+30

## Field Sketch/Schematics



## Purpose and Scope

The purpose of this incident investigation and candid self-evaluation is to collect and analyze available facts, determine the probable cause(s) of the incident, identify contributing factors, and make recommendations to prevent a recurrence.

## Investigation Methods

Upon receiving notification of the derailment event outside of East Falls Church Station on June 4, 2023 SAFE dispatched a cross-functional team to assess the scene and conduct the subsequent investigation. SAFE team members worked with relevant WMATA subject matter experts to review the incident's facts and data.

The investigative methodologies included the following:

- Physical Site assessment, video, and documents review.
- Formal Interviews – SAFE interviewed individuals as part of this investigation. The interviews included persons present at, during, and after the incident, those directly involved in the response process, and representatives from the Washington Metrorail Safety Commission (WMSC). SAFE interviewed the following personnel:
  - RWIC (Gang Leader)
  - Prime Mover Equipment Operator
  - Prime Mover Flagman

Informal Interviews – Collected through conversations with individuals during the investigation to provide background and supporting information. Written statements were reviewed from personnel present during the event.

- Mobile Communication Center Controller
- Documentation Review – A collection of relevant work history information and process documentation contained in Metro systems of record. These records include:
  - Metrorail Safety Rules and Procedures Handbook (MSRPH)
  - National Oceanic and Atmospheric Administration (NOAA)
  - Equipment Operator Written Statement
  - Flagman’s Written Statement
  - RWIC Written Statement
  - OEP Incident Report
  - MTPD Hotwash Report
  - MTPD Incident Report
  - Maximo Work Order
- System Data Recording Review – A collection of information contained in Metro Data Recording Systems. This data includes:
  - Audio Recording System (ARS) playback, including OPS 6 & 12 and MTPD 1X
  - Closed-Circuit Television (CCTV)
  - Advanced Information Management System (AIMS)
  - System Performance On-Time Summary (SPOTS)
  - CAL/AMP – Vehicle GPS

## **Investigation**

On June 4, 2023, a TRST Equipment Operator AA was assigned to operate PM 39 with two Flat Cars within the K and N Line shutdown construction site. The scope of work included the installation of a new CWR from CM K1 and K2 315+00 to 506+00. It also included Thermite Welding of open joints on both running rails from CM K1 and K2 315+00 to 506+00, and the removal of the old running rail, materials, and other debris from CM 315+00 to 506+00.

When the PM Operator arrived at the site, the unit was already positioned with the engine running at East Falls Church Station platform (K05), track one. The PM operator conducted their pre-trip inspection and found no faults with their assigned equipment. After receiving their pre-job briefing and speaking with the RWIC, they proceeded to the work site with PM 39 pushing F601 and F538. A Flagman was positioned on the lead flatcar, F538.

The PM operator stated that they huddled with the flagman before any rail movements and discussed a plan of operation that consisted of communicating all PM movements and a secondary means of communication.

The RWIC reported that the PM crew had vast knowledge and experience in their respective positions, but only worked together as a group once before the incident. The PM Operator and Flagman were from different divisions within TRST.

At 22:54 hours, on radio channel Ops 6, a TRST Supervisor requested PM 39 return to the East Falls Church Platform and retrieve additional sledgehammers for the in-place work crew to work at a faster pace. While the PM was gone, the work crew removed clips and cut out a section of the left running rail.

At 23:00 hours, PM 39 berthed at the East Falls Church platform and loaded the requested sledgehammers. At 23:08 hours, PM 39 was observed on CCTV traveling in the reverse direction, pushing Flat Cars F538 and F601. On their return trip with the sledgehammers, the PM stopped at CM K1 361+00 and picked up another supervisor before proceeding to the place of derailment.



Figure 1 PM-39 East Fall Church Platform loading equipment



Figure 2 PM 39 enroute to CM 361+00

At 23:17 hours, the Flagman aboard PM 39 transmitted over Ops 6 to the PM Operator to “stop 39, stop 39”. Upon inspection by the crew who was aboard the PM and stationed in the PM’s Operator cab, they discovered that flat car F538’s front wheel set was on the ground but did not appear to have sunk into the ballast or have significant damage. After the derailment, the flat car moved 25 feet before coming to a place of rest at CM K1 357+30.

The GPS data logger for the vehicle indicated that it was traveling at approximately 5 mph just prior to the derailment (See Appendix N).

TRST inspected the PM, and no damage was observed. There were no reported injuries as a result of the derailment.



Figure 3 CM 357+00 Place of rest after the derailment.

CTEM rerailed the derailed PM at 03:05 on 6/5/2023. The PM was inspected at Ronald Reagan National Airport Station with no damage observed and traveled unassisted to East Falls Church Station (K05) at 03:14 hours.

Related details from the interview session.

- The PM operator reported poor sightlines while operating the PM. They noted that the equipment cages that held the welding materials obstructed his view. \*PM operator noted their height to be 7-8 feet\*
- Poor lighting conditions throughout the worksite.
- Poor radio communications. (Radio Transmissions were distorted)
- Removed cut rail was placed throughout the track bed.



Figure 4 Equipment cages on PM 39



Figure 5 POR Derailed Flat Car 538. Cut sections of rail laid in the middle of the running rails.



Figure 6 Point of Derailment: cut section of running rail at CM K1

### Chronological ARS Timeline

A review of ARS playback, i.e., phone and radio communications, revealed the following timeline:

Time	Description
22:54:41 hours	<u>Crew Leader:</u> Requested that PM 39 return to the platform(K05) to pick up some personnel and equipment. <u>PM39:</u> Acknowledged and repeated [Radio Ops6] *****note Ops6 radio transmissions slightly distorted*****
23:00:37 hours	PM 39 is berthed at East Falls Church Platform (K05). [CCTV]
23:05:12 hour	TRST personnel prepared and loads additional equipment on Flat car 601. [CCTV]
23:08:00 hours	PM 39 exited East Falls Church platform limits. [CCTV]
23:13:25 hours	<u>PM 39 Flagman:</u> Stop right here, 39. [Radio Ops6]
23:14:38 hours	<u>PM 39 Flagman:</u> Stop right here, 39. [Radio Ops6]
23:16:58 hours	<u>PM 39 Flagman:</u> Can you get me closer? We have about 200-300 feet, 300 feet, keep coming. <u>PM 39 Operator:</u> Acknowledged and repeated. [Radio Ops6]
23:17:55 hours	<u>PM 39 Flagman:</u> Transmitted 39,39-613 we have a problem. [Radio Ops6]
23:23:58 hours	<u>Mobile Command:</u> Requested 613 to landline the mobile command. <u>Unit 613:</u> Acknowledged and repeated. [Radio Ops12]
22:31:58 hours	<u>Mobile Command:</u> Requested 613 to landline the mobile command. <u>Unit 613:</u> Acknowledged and repeated. [Radio Ops12]
23:41:23 hours	<u>Mobile Command:</u> Updated MOC about the incident. Stated that PM 39 derailed on a portion of the cutout rails. PM 39 was pushing two flats (539). The flagman did not notify the operator in time. The occurrence time is 23:18 hours-CM K1-357+20. [Phone MOC Ass Supt]
23:49:25 hours	<u>Mobile Command:</u> Requested 613 to landline the mobile command. <u>Unit 613:</u> Acknowledged and repeated. [Radio Ops12]
23:50:45 hours	<u>MCC:</u> Reported to MOC Lead that a derailment occurred in a shutdown area. Advised PM 39 derailed while pushing two flats cars. <u>MOC TRST:</u> Acknowledged and repeated. [Phone MOC Lead]

Time	Description
23:57:15 hours	<u>MOC Assistance Supt:</u> notified MTPD of the derailment at East Falls Church at K1 357+20. <u>MTPD Dispatcher:</u> Units will respond. [Phone MOC Asst Supt]
23:58:49 hours	<u>MOC TRST:</u> Provided incident number- MOC-8674574. [Phone MOC TRST]
23:59:41 hours	<u>Mobile Command:</u> Transmitted a work stoppage-directs all units to the platform for a re-briefing [Radio Ops12]
00:01:33 hours	<u>MTPD Dispatcher:</u> Requested units to respond to East Falls Church for a derailment. [MTPD 1x]
00:26:39 hours	<u>MOC ASST SUPT:</u> called mobile command for an update. Mobile Comd noted that members were taken out of service. [Phone MOC Asst Supt]
01:01:27 hours	MTPD arrived on the scene. Reported no injuries.
01:15:51 hours	<u>Mobile Command:</u> MOC requested that the CMNT work crew respond to re-rail the PM. [Phone MOC Lead]
02:44:17 hours	<u>PM Operator #2:</u> Ready to proceed. How do you copy? <u>PM Flagman #2:</u> Acknowledged and repeated. [Radio Ops6]
02:49:51 hours	PM Flagman advised the PM operator that they are ready to move. [Radio Ops6]
02:59:00 hours	PM Flagman advised the PM operator that they are ready to move. [Radio Ops6]
03:05:34- 03:13:44 hours	PM 39 indicated re-railed, and movement was calculated on the vehicle's GPS. At 03:13:44 hours PM 39, movement ceased, and the ignition was turned off. [CAL/AMP GPS]
03:38:00 hours	PM 39 is designated back in service.

*\*\*Note: Times above may vary from other systems' timelines based on clock settings and reporting sources.*

## Interview Findings - Pending Involved Employees Return to Work

*As part of the investigation launched into the event, SAFE interviewed three people. The interviews identified the following key findings associated with this event. Findings detailed below include reported information from involved personnel and may conflict with other data sources contained in the report.*

### Crew Leader Formal Interview

- The RWIC stated that they were assigned three work crews. One on track one and two on track two.
- The RWIC stated that Prime Mover 39 was used as a floater vehicle to move personnel and equipment.
- The RWIC stated that they received a call for more equipment from another supervisor and advised PM 39 to return to K05 to retrieve additional equipment for the field.
- The RWIC stated that they boarded PM 39 en route to CM 355 +00 and observed that SM03 had begun to string out approximately 4000 feet of old rail.
- The RWIC stated that PM 39, after a drop-off and pickup of personnel and equipment at CM 361+00, the Flagman gave the all-clear for movement to continue the movement towards CM 357+00.
- The RWIC stated that they traveled 200-300 feet when they heard the Flagman transmit "stop, stop," and the PM abruptly stopped.

### Prime Mover Operator – (Formal Interview)

- The Operator stated that they received multiple safety briefings before work commenced.

- The Operator stated they were assigned Prime Mover 39, which entailed pushing two flat cars for personnel movement and equipment delivery.
- The Operator stated that they inspected the PM for deficiency before any track movement and did not discover any issues.
- The Operator said they conducted a point-to-point radio check with the Flagman (returned clear and concise) and relayed to the Flagman that they must rely on them because of limited sight lines.
- The Operator stated they had limited sight lines because of two large cages holding welding (7-8 feet tall) materials and a large amount of WMATA Personnel on the flats for transport.
- The Operator stated that a supervisor requested PM 39 to retrieve additional equipment from the platform (K05). When returning to CM 361+00, the Operator indicated that they were asked to inch closer to the personnel to deliver equipment when they heard the Flagman in a panic shout, "Stop, Stop."
- The Operator stated they dumped the brakes at CM 357+00, where they observed the flatcar had derailed.

#### Track Repairer (Flagman) – (Formal Interview)

- The flagman stated that PM 39 was assigned to return to the platform and retrieve additional equipment from the platform. On the return, the Flagman stated that personnel were in the roadway at CM 361+00, where they distributed equipment.
- The Flagman stated that as they proceeded past CM K1 361+00, approximately 200-300 feet, they noticed slung rail in the track bed and alerted the PM operator to stop over the radio.
- The Flagman stated that the radio did not transmit due to poor radio communication, so they entered the cab and dumped the brakes to stop the PM.
- The Flagman stated that they notified the RWIC of a problem.
- The Flagman stated that they could not differentiate which was the actual running rail due to poor lighting conditions and slung (cut) track in the bed.

#### WWPL MCC (Informal Interview)

- The Mobile Command Supervisor stated that their tour begins at 18:00 hours. In most cases, they review information from the previous shift's activities, check the scribe reports from the previous shift until they are relieved from duty.
- The MCC Supervisor stated that once evening shift's Mobile Command is signed in and logged on, they structure into smaller work crew areas that are managed by the RWIC.
- The MCC Supervisor stated that they give the comprehensive briefing, get the CMs, the number of crew members, handle red tags, and grant permission for crews to enter the roadway.
- The MCC Supervisor stated that once the work areas are built in the work areas, The RWICs coordinate all the equipment movement within their work zones. The MCC does not retain or prepare movement logs.
- The MCC supervisor stated that on the night of the incident, they were notified of the derailment by the RWIC via a landline phone call.
- The MCC Supervisor stated they obtained all pertinent information about the derailment from the RWIC and notified the Rail Operations Command Center (ROCC) and all other appropriate units involved.

#### Weather

On June 4, 2023, at the time of the incident, NOAA recorded the temperature as 61° F, with clear skies. The weather did not contribute to this incident (Weather source: NOAA) – Location: Arlington, VA.

### **Office of System Maintenance, Office of Radio Communications (COMR)**

On June 14, 2023, COMR completed communication testing and determined that the radio checks performed at East Falls Church Station (Station, tracks 1 and 2) were loud and clear.

### **Human Factors**

#### **Fatigue**

Evidence of Fatigue: PM Operator

SAFE evaluated incident data for evidence of fatigue that may have been present at the time of the incident. No signs or symptoms of fatigue were detected from the available data. The PM Operator reported feeling fully alert at the time of the incident. The Operator reported experiencing no symptoms of fatigue in the time leading up to the incident.

Fatigue Risk:

SAFE evaluated incident data for fatigue risk factors. Risk factors for fatigue were not identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The PM Operator reported keeping a regular sleep schedule in the days leading up to the incident. The PM Operator performed overnight shift work in the days leading up to the incident. The PM Operator was awake for 5:30 hours at the time of the incident. The PM Operator reported 8 hours of sleep in the 24 hours preceding the incident. The off-duty period was 8 hours, providing an opportunity for 7-8 hours of sleep. This was more than a comparable amount of sleep to the PM Operator's regular workday sleep durations. The PM Operator reported no issues with sleep.

Evidence of Fatigue: Flagman

SAFE evaluated incident data for evidence of fatigue that may have been present at the time of the incident. No signs or symptoms of fatigue were detected from the available data. The Flagman reported feeling fully alert at the time of the incident. The Flagman reported experiencing no symptoms of fatigue in the time leading up to the incident.

Fatigue Risk:

SAFE evaluated incident data for fatigue risk factors. Risk factors for fatigued were not identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The Flagman reported keeping a regular sleep schedule in the days leading up to the incident. The Flagman performed overnight shift work in the days leading up to the incident. The Flagman was awake for 5:30 hours at the time of the incident. The Flagman reported 8 hours of sleep in the 24 hours preceding the incident. The off-duty period was 8 hours, providing an opportunity for adequate sleep-in addition to a nap of three hours. This was more than a comparable amount of sleep to the Flagman's regular workday sleep durations. The Flagman reported no issues with sleep.

Evidence of Fatigue: RWIC

SAFE evaluated incident data for evidence of fatigue that may have been present at the time of the incident. No signs or symptoms of fatigue were detected from the available data. The RWIC reported feeling fully alert at the time of the incident. The RWIC reported experiencing no symptoms of fatigue in the time leading up to the incident.

#### Fatigue Risk:

SAFE evaluated incident data for fatigue risk factors. Risk factors for fatigued were not identified. The incident time of day did not suggest an increased risk of fatigue-related impairment. The RWIC reported keeping a regular sleep schedule in the days leading up to the incident. The RWIC performed overnight shift work in the days leading up to the incident. The RWIC was awake for 8:00 hours at the time of the incident. The RWIC reported 7 hours of sleep in the 24 hours preceding the incident. The off-duty period was 8 hours, providing an opportunity for an adequate amount of sleep. This was more than a comparable amount of sleep to the RWIC's regular workday sleep durations. The Flagman reported no issues with sleep.

#### Post-Incident Toxicology Testing

WMATA's Drug and Alcohol Program determined that the PM Operator and Flagman were not in violation of the Drug and Alcohol Policy and Testing Program 7.7.3/6.

#### Related Rules and Procedures

Standard Operating Procedure (SOP) 23 – Work Train Consist and Operation  
SOP 9- Train Derailment  
SOP 41 – Crew Support Procedures for non-roadway

#### Findings

- The Equipment Operator and Flagman previously traversed the incident area at the start of their shift to drop off personnel and materials.
- After PM39 left the area to retrieve tools from the station platform, a section of running rail was removed from the incident area.
- The consist was moving at approximately 5 mph at the time of the derailment.
- The track bed contained multiple pieces of cut running rail near where the actual running rail was removed.
- Lighting conditions were poor and cut ends of running rail were not identified for easy visual observation.
- Radio communications were distorted.

#### Immediate Mitigation to Prevent Recurrence

- TRST distributed Safety Bulletin MB/SB#: 20230606-57 Critical Reminder of Safety Rules and Procedures to Prevent Roadway Safety Incidents.
- PM Operator and Flagman were removed from service and taken for post-incident testing.
- After the event, personnel cleared the work area and were re-briefed before returning to work.
- Reminded the RWIC that any movement of vehicles towards sections of cut rails have a flagger at the location to flag vehicles to stop.

#### Probable Cause Statement

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Incident Date: 06/04/2023 Time: 23:18 hours  
Final Report – Derailment Rev. 1  
E23373

Drafted By: SAFE 706 – 07/25/2023
Reviewed By: SAFE 71 – 08/02/2023
Approved By: SAFE 71 – 08/03/2023

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The probable cause of the derailment was an operational failure to identify a cut section of running rail within the established work zone and to transmit a stop order or activate the emergency brake prior to derailing. Contributing Factors to the event included poor lighting conditions and communications between field personnel and the RWIC.

**Recommended Corrective Actions**

Corrective Action Code	Description	Responsible Party	Estimated Completion Date
108973_SAFECAPS_TRST_001	Development and review of the Office of Track and Structure Maintenance and Safety Bulletin MB/SB#20230606-57 at all safety briefings from the date of the incident through June 6, 2023.	TRST-SRC	Completed
108973_SAFE_CAPS_TRST_002	Reiterate the use of Shunt Lights, Flares, orange cones (with red flags), derailleurs, watchmen, or physical barriers to negate entry into work areas where derailments can occur.	TRST-SRC	Completed
108973_SAFE_CAPS_TRST_003	Re-Training of the Prime Mover Operator and Flagman pertaining to Rule 5.12 Roadway Safety, Signaling, Test equipment, and warning devices.	TRST-SRC	Completed

## **Appendices**

### **Appendix A – Interview Summary**

*The below narratives summarize the incident and represent the statements made by the involved individual. As such, times and details may present a conflict with the data contained in systems of record.*

#### **Crew Leader – (Formal Interview)**

The RWIC has been employed by WMATA for six years and has held their current position for five months. They hold RWP Level 4 certification, valid until 11/2023.

According to the RWIC, they were assigned three work crews, with one crew assigned to track one and two crews assigned to track two from K05 to CM K1 & K2 300+00 at East Falls Church Station. Prime Mover 39 was utilized as a floater vehicle for personnel and equipment transportation. The RWIC received a request for additional equipment from another supervisor and instructed PM 39 to return to K05 and retrieve the necessary equipment for the field.

While onboard PM 39 en route to CM 355+00, the RWIC observed that approximately 4000 feet of old rail were being strung out by SM03. After dropping off and picking up personnel and equipment at CM 361+00, PM 39 continued its movement toward CM 357+00. Approximately 200-300 feet into the move, the RWIC heard the Flagman transmit "stop, stop," prompting the PM to come to an abrupt halt. Upon inspection and notification from other personnel, it was discovered that F538 had derailed.

The RWIC noted that they received no emergency transmission notification from the Flagman. Additionally, other crew members should have notified PM 39 or the RWIC that work had commenced, and a significant portion of the rail was missing. The RWIC observed the absence of E-Flares, Shunt Light, or Watchman to indicate the need to stop. Limited sightlines due to darkness were reported, with the RWIC relying on the light sources from PM 39 and the flat cars for visibility. The crew was composed of personnel from different yards, and it was the first night that the Flagman and Operator worked together.

The RWIC stated they and the crew members received two safety briefings before commencing work. Upon entering the station, the first briefing was received, followed by a secondary toolbox/safety brief covering the specific workday tasks. The RWIC mentioned that PM 39 used a talk-around channel, Ops 6, for communication among themselves, and they switched between Ops 12 and 6 to communicate with PM 39 as needed.

#### **Track Repairer (Flagman) – (Formal Interview)**

The Flagman has been employed by WMATA for fourteen years and has held their current position since being hired. The RWIC holds RWP Level 4 certification, valid until 09/2023.

According to the Flagman, they receive a safety briefing upon entering the station, including a detailed briefing on the platform by their supervisor, which covers the crews' assignments and the work being carried out. The Flagman states that they were assigned to PM 39 on track 1. They were instructed to return to the platform and retrieve additional equipment. During the return trip, at CM 361+00, personnel were present in the roadway, and the Flagman distributed equipment to them. As they proceeded towards CM 357+00, approximately 200-300 feet away, the Flagman noticed slung rail in the track bed and communicated the need to stop to the PM Operator via radio.

However, due to poor radio communication, the message did not transmit. Consequently, the Flagman entered the cab and applied the brakes to bring the PM to a halt. They felt a rumble and recognized that the unit had derailed. The Flagman promptly notified the RWIC of the issue over Ops 6. Due to inadequate lighting conditions and the slung track in the bed, the Flagman could not determine which rail was the running rail. Additionally, no flares, lanterns, or watchmen indicated that the track had been removed. The Flagman stated that the gang leader for the section needed to communicate that work had commenced or that the old rail had been slung and placed in the track bed.

The Flagman also highlighted additional concerns, including the need for light plants to address poor lighting conditions, accessible Port-a-Johns on the work location (track bed) to reduce the reliance on the PM for personnel transport back to the platform, cooling stations on the track bed, and a request to cease all work competition with the day shift to ensure the production of high-quality work.

#### Prime Mover Operator – (Formal Interview)

The PM Operator has been with WMATA for 17 years and has held their current position since being hired. The PM Operator holds RWP Level 4 certification, valid until 05/2024.

According to the Operator, they received multiple safety briefings before commencing work. They were assigned Prime Mover 39, tasked with pushing two flat cars for personnel movement and equipment delivery. Before initiating any track movement, the Operator inspected the PM's gauges, fuel, and operational functions for any deficiencies but found none. They conducted a point-to-point radio check with the Flagman, which returned clear and concise communication. Due to limited sight lines caused by two large welding cages (7-8 feet tall) and a significant number of WMATA personnel on the flats for transport, the Operator relied on the Flagman for guidance.

A supervisor requested PM 39 to retrieve additional equipment from the platform (K05). While returning to CM 361+00, the Operator was instructed to inch closer to the personnel for equipment delivery. At that moment, they heard the Flagman urgently communicate a need to stop, leading to a panicked brake application at CM 357+00, where the Operator observed that the PM had derailed. While traveling to CM 357+00, limited sightlines were attributed to SM 05 blocking the visual path. The Operator reported that radio transmissions were distorted during the move and suggested that a flashlight would have been a better means of communication. They reiterated their heavy reliance on the Flagman for guidance, as visual observation was impossible.

Upon visual inspection, the Operator noticed numerous pieces of slung rail in the track bed. They stated that it was impossible to determine which rail was the running rail, as there were no indications from the work crews regarding any track removal or the presence of flashing lanterns, e-flares, or shunt lights to signal rail removal.

WWPL MCC (informal Interview)

The Mobile Command Supervisor stated that their tour begins at 18:00 hours. In most cases, they review information from the previous shift's activities, check the scribe reports from the previous shift until they are relieved from duty. The MCC Supervisor stated that once evening shift's Mobile Command is signed in and log on, they structure into smaller work crew areas that are managed by the Crew Leader. The MCC Supervisor stated that they give the comprehensive briefing, get the Chain Markers, the number of crewmembers, handle red tags, and grant permission for crews to work crews to enter the roadway. The MCC Supervisor stated that once the work areas are built in the work areas, The RWIC's coordinate all the equipment movement within their work zones. The MCC does not retain or prepare movement logs. The MCC supervisor stated that on the night of the incident, they were notified of the derailment by the RWIC via a landline phone call. The MCC Supervisor stated they obtained all pertinent information about the derailment from the RWIC and notified the Rail Operations Control Center (ROCC) and all other appropriate units involved.

## Appendix B – Photographs



Figure 7 Prime Mover 39



Figure 8 Flat Car F601



Figure 9 Flat Car 538



Figure 10 Flat Car 538's front wheelset (Derailment). Note the missing running rail where the rail fasteners are located.

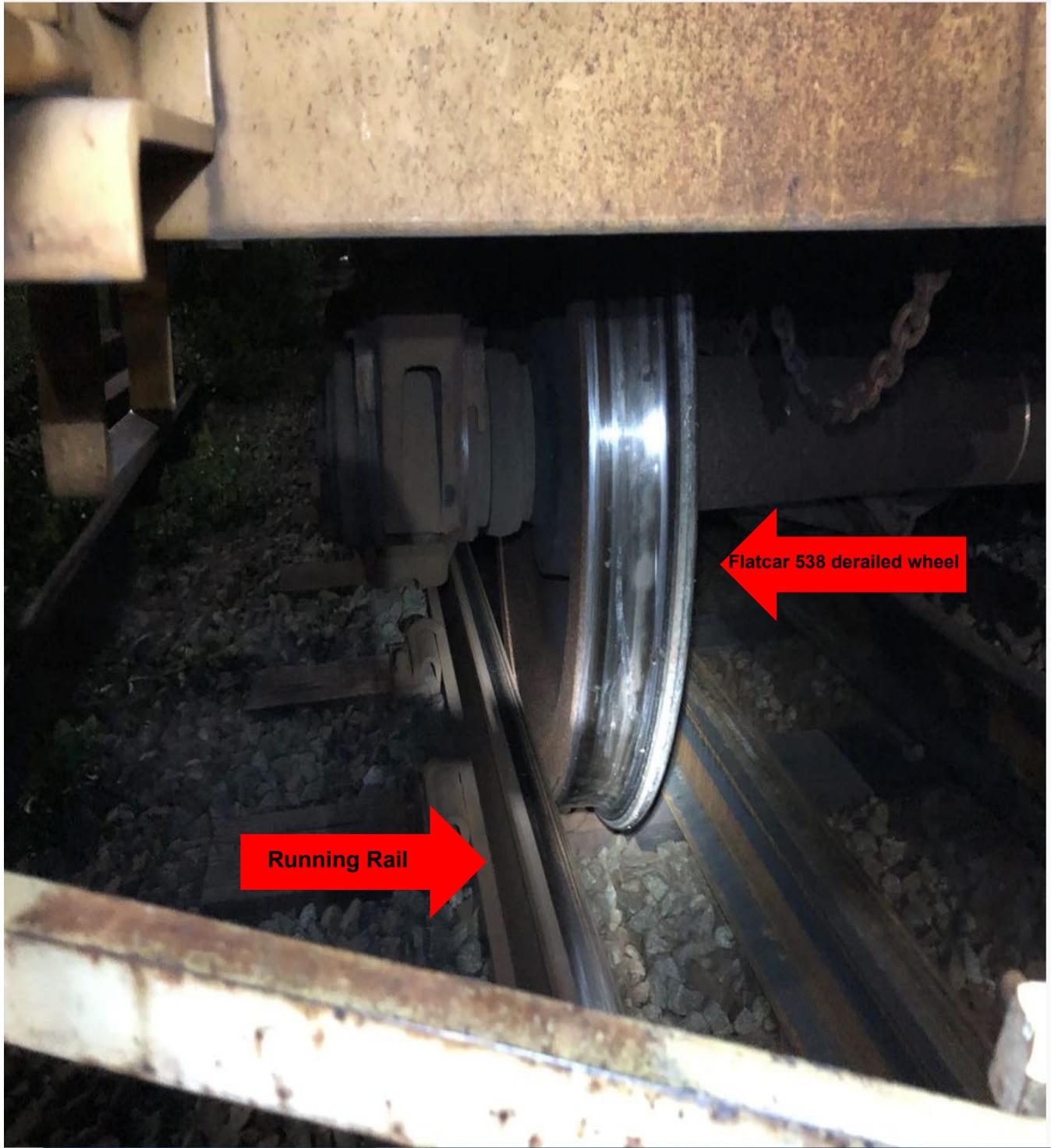
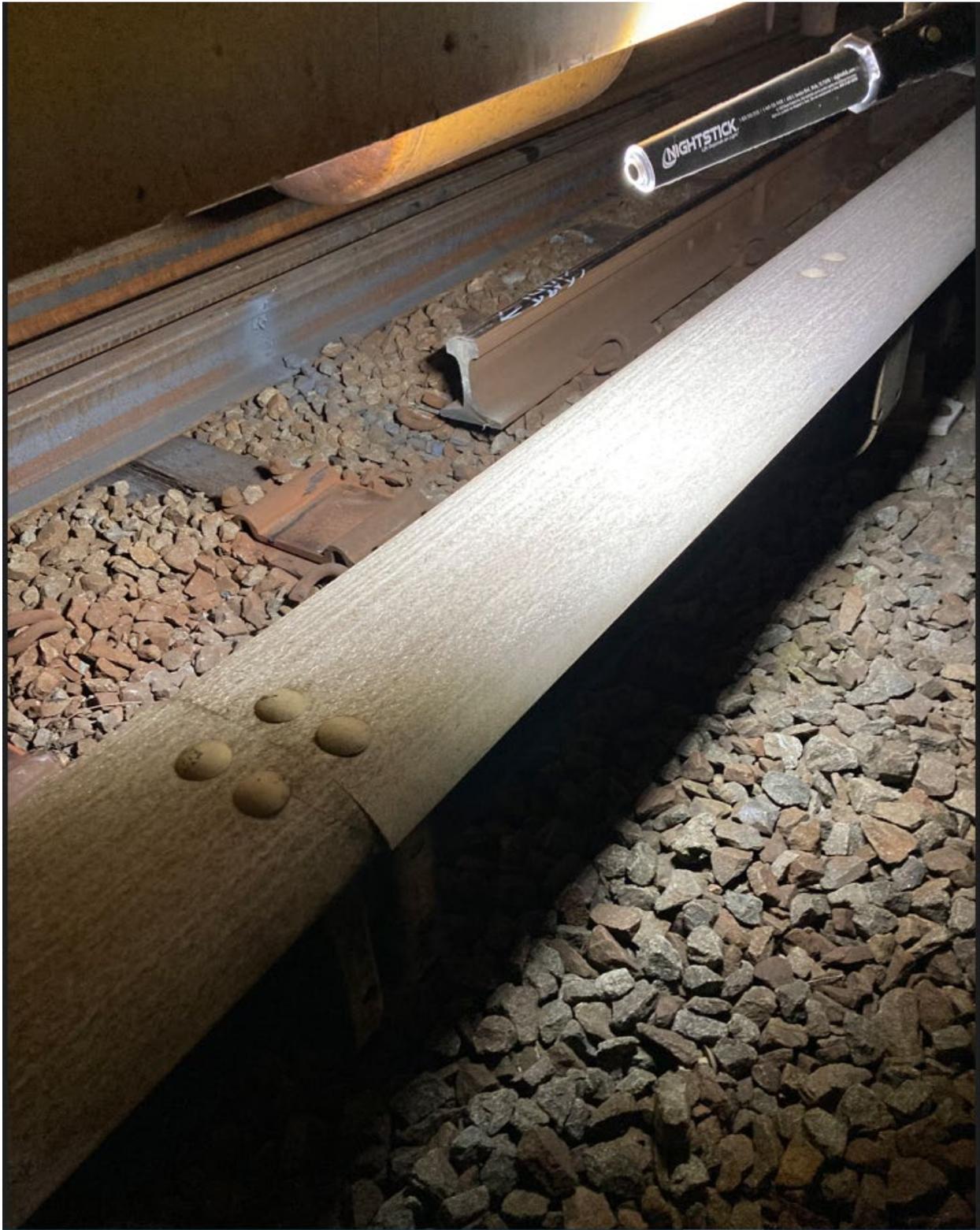


Figure 11 Flat Car 538 front right wheel, derailed to the gauge side (Derailment)



Figure 12 Cut running rail at the point of derailment.



*Figure 13 Cut running rail at the derailment point and adjacent cut rail sections.*



Figure 14 Slight line from Flat Car 538 - CM K1 357+00



Figure 15 PM 39 radio indicates Ops 6.



Figure 16 Operator's Cab Prime Mover 39

## Appendix C – MTPD Report

Incident Date: 06/04/2023 Time: 23:18 hours  
Final Report – Derailment Rev. 1  
E23373

Drafted By: SAFE 706 – 07/25/2023  
Reviewed By: SAFE 71 – 08/02/2023  
Approved By: SAFE 71 – 08/03/2023

Page 28



# Event Report

Metro Transit Police Department

ORI-DCMTP0000

<b>Closed</b>	Type of Report	MTPD CCN 2023-05856	Local Jurisdiction Arlington, VA
---------------	----------------	------------------------	-------------------------------------

<b>Event Location</b>	
Street 2001 N Sycamore St	City, State FAIRFAX, VA 22205
Date and Time of Event From To 6/5/2023 12:10:39 AM	Date and Time Reported 6/5/2023 12:00:10 AM

Reporting Officer (Print) Badge #	Second Officer (Print) Badge #
[REDACTED]	[REDACTED]
Supervisor's Name (Electronically Approved)	
[REDACTED]	

<b>Incidents</b>	
Incident: Train Derailment	Location Type: Rail Station
Incident Detail:	
[REDACTED]	

<b>Involved Party</b>	
Last Name, First MI:	DOB:
Address Type: W - Work	Address (Street) City, State Zip: 300 7th St WASHINGTON, DC

Type Phone: M - Mobile	[REDACTED]				
Email:					
Age:	Sex:	Race:	Ethnicity:	Resident Status:	
Description	Height:	Weight:	Eyes Color:	Complex:	Clothing:
Driver's License #:	D/L State:		SSN:		
Occupation:	Place of Employment:		Place of Birth:		
Work/School Address - Adm. Contact Info:					
Notes: WMATA SAFETY OFFICER [REDACTED]					

Property Information							
Type	Code	Class	WMATA Owned	Age	Fair Market Value	Recovered Value	Recovered Date
Other	77						
Value Totals							

MTPD CCN:  
ORI-DCMTP0000

Event Report Page 1 of 3

Figure 17 MTPD Report Pg-1

Incident Date: 06/04/2023 Time: 23:18 hours  
Final Report – Derailment Rev. 1  
E23373

Drafted By: SAFE 706 – 07/25/2023  
Reviewed By: SAFE 71 – 08/02/2023  
Approved By: SAFE 71 – 08/03/2023

Veh. Year	Make	Model	Color	Style	Tag #	State	Year	VIN
Property Recovered Date		# Stolen Vehicles	# Recovered Vehicles		Is any property in custody of a police agency? (If Yes, explain below)			
Property Status								
<b>Destroyed/Damaged/Vandalized</b>								
Suspected Drug Type (If this event is a drug case, check up to three applicable boxes and write the estimated amount on the line.)								
<small>Note: If more than 3 drug types, select the 2 most important listing amounts. Then select "Over 3 Drug Types", as the third, to represent the remaining drug.</small>								
Property Notes: <b>WMATA PRIME MOVER</b>								
Narrative Information <b>WMATA prime mover derailed at East Falls Church. No injuries reported.</b>								
If second CCN is available, insert here:					Additional Narrative on Supplemental Report			

MTPD CCN:  
ORI-DCMTP0000

Event Report Page 2 of 3

Figure 18 MTPD Incident Report Pg-2

Additional Narrative

On June 4, 2023 approximately 0000 hours I, [REDACTED] responded to East Falls Church located at 2001 N Sycamore St Arlington VA for Prime Mover Derailment (two wheels fell off). On arrival I spoke with Multiple WMATA employees who advised that there were no injuries to the operator. Operator and supervisor had already left the scene prior to my arrival (they were headed to headquarters for post-incident). Safety briefer/Officer was also on scene.

Chain Marker K1 357+20

MTPD CCN:  
ORI-DCMTP0000

Event Report Page 3 of 3

Figure 19 MTPD Incident Report Pg-3

Appendix D – ROCC Incident Report

### View Approved Incident Report

**INCIDENT ID: 2023155SILVER1**

<b>DATE</b> 2023-06-04	<b>TIME</b> 2318	<b>LINE</b> Silver	<b>ITEM</b> 1
<b>LOCATION (STATION/YARD)</b> East Falls Church (K05)		<b>LOCATION/CHAIN MARKER (If Applicable)</b> K1-357+20	<b>REPORTED BY</b> [REDACTED]
<b>TRAIN ID</b> N/A	<b>DIRECTION</b> N/A	<b>TRACK NUMBER</b> 1	<b>DEPTS NOTIFIED</b> Everbridge Alert/Messaging
<b>CAR NUMBERS (XXXX-XXXX)</b> Lead Car			
-	-	-	-
Caused Issue <input type="checkbox"/>	Caused Issue <input type="checkbox"/>	Caused Issue <input type="checkbox"/>	Caused Issue <input type="checkbox"/>
<b>TRBL CODE</b> DRAL- DERAILMENT	<b>RESP CODE</b> TRK		

**TYPE INCIDENT**  
PM 39 Flat Car Derailment at CM K1 357+20

**ACTION PLAN**  
Dispatch CMNT Oden

DELAYS IN MINUTES			
LINE	INCIDENT	TRAIN	TOTAL DURATION
0	0	0	0

TRIPS MODIFIED					
PARTIAL	GAP TRAIN	LATE DISPATCHES	REROUTED	NOT DISPATCHED	OFFLOADS
0	0	0	0	0	0

FIVE PRIMARY CONSOLE INDICATIONS			
BCP	BRAKES ON ILLUMINATED	ALL DOORS CLOSED ILLUMINATED	AUTO\MANUAL BPP ILLUMINATED
			AUTO

INCIDENT CHRONOLOGY	
TIME	DESCRIPTION
2318	MCC Supervisor [REDACTED] reported via landline PM39 flat car #538 derailed at chain marker K1-357+20. Supervisor [REDACTED] continued there were no reported injuries and no physical damage to property. Assistant Operations Manager, ROIC, CMNT, MTPD, MAC and all concerned personnel were notified.
0007	SAFE released the scene to RTRA.

Figure 20 ROCC Incident Report Pg-1

## View Approved Incident Report

0255 Flat car #538 was re-railed and secured at East Falls Church platform track one for further CTEM inspection.

0000 Note: Track Unit [REDACTED] reported PM-39 was pushing flat car #538 when the unit came into a section of running rail that had been removed. [REDACTED] also reported the rear axel on flat car #538 was pushed approximately 20 feet into the section of running rail that had been removed. The operator aboard PM-39 [REDACTED] and the flagman [REDACTED] were removed from service and transported for post incident urine analysis.

**MAXIMO TICKET#**  
8674574

REPORT PREPARED BY	NAME	CLICK TO SIGN
RADIO CONTROLLER 1	[REDACTED]	✓
BUTTON CONTROLLER 1	[REDACTED]	✓
RADIO CONTROLLER 2		
BUTTON CONTROLLER 2		

### SUPERINTENDENTS OR ASSISTANTS SECTION

**ADDITIONAL FOLLOW-UP CORRECTIVE ACTIONS OR REMARKS**

**FOLLOW-UP INFORMATION OBTAINED FROM SUPPORT DEPARTMENTS**

**NOTIFICATIONS/PAGE GROUPS** #1/CEO  #2/DGM & BELOW

**ADDITIONAL NOTIFICATIONS MADE BY PHONE** [REDACTED]

APPROVED BY	NAME	CLICK TO SIGN
REPORT APPROVED BY SUPT. OR ASST SUPT.	[REDACTED]	✓

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Figure 21 ROCC Incident Report Pg-2





# Witness or Employee Statement Form

TO BE COMPLETED AND

Washington Metropolitan Area Transit Authority

DISTRIBUTED WITHIN 24 HOURS

Complete all Fields (Write N/A if field does not apply)

Involved Personnel (Use this Block for WMATA Employees and Contractors)					
Name (Last Name, First Name, MI)	Witness?	D.O.B.	Employee ID	Union	
[Redacted]	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	[Redacted]	[Redacted]		
Phone Number	Job Title	Department/Division (Company)		Time asleep, before the incident?	
[Redacted]	Truck Maintenance Super	TAST / F99		Full Asleep 7am Wake up 1pm	
Last Day Worked (Prior to)	Hours Worked (In last 24 hours)	Date/Time Shift Began		Was this the sleep schedule for the last seven days, including days off?	
June 3	2	Sun - Sun		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
On Overtime?	Personal Protective Equipment used (list)			How alert were you immediately prior to the incident? Fully Alert <input checked="" type="checkbox"/> Moderately Alert <input type="checkbox"/> Drowsy <input type="checkbox"/> Fighting Sleep <input type="checkbox"/>	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hard hat Safety Vest Safety glasses				
Secondary Employment (Write None if employee does not have secondary employment)					
Name of Secondary Employer			<input type="checkbox"/> Full Time	Work Hours	
None			<input checked="" type="checkbox"/> Part Time		
Secondary Employer Full Address					
Date of Hire					
Supervisor					
Phone Number					
Injury Information (Complete for all involved people. If there is no injury, write None in Date of injury)					
Date of Injury	Time of Injury	Date/Time Injury Reported	Body Part(s) Injured		
None		None			
Location (Address) where injury occurred (check one: <input type="checkbox"/> MD <input type="checkbox"/> VA <input type="checkbox"/> DC)					
Witness Information (Name, Phone Number, Email, address)					
Did Another Person Cause this Injury? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Name of Responsible Party					
Responsible Party Insurance Carrier/Agent					
Phone Number					
Are you able to Continue Work? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Name/Address of facility where you will seek treatment					
Doctor's Phone Number					
Date you will see your doctor					

Employee, please read before signing:

- (1) This form is only to be used for Employees who are injured on the job.
- (2) All persons having a workers' compensation claim that was caused by the act of another is required to have the written approval of the Authority before agreeing to or signing any settlement for the injuries or lost wages that were paid as part of the whole by the Authority or its insurer to the employee as workers' compensation benefits.
- (3) Any Employee who willfully makes any materially false or misleading statements or representations for the purpose of obtaining any benefits under workers' compensation or leave provisions of the Authority may be subject to prosecution, disciplinary action up to and including dismissal and may adversely affect the employee's rights to workers' compensation benefits.

THIS IS TO CERTIFY THAT I HAVE READ THE ABOVE GUIDELINES AND UNDERSTAND THEM FULLY AND THE INFORMATION I HAVE PROVIDED IS TRUE AND

Employee Signature: [Redacted] Date: June 6, 2023

Original: RSK Copy: (1) SM/Incidents/Accidents (SM/E) (2) Employee File (3) Employee

Figure 23 RWIC/Gang Leaders Written Statement Pg-1



**Witness or Employee Statement Form** TO BE COMPLETED AND  
 Distributed Within 24 Hours  
 Washington Metropolitan Area Transit Authority

**Involved Person or Witness (Use this Block for Non-WAATA Involved Person or Witness)**

Name: [REDACTED]  
 Address: [REDACTED]

**Incident Information**

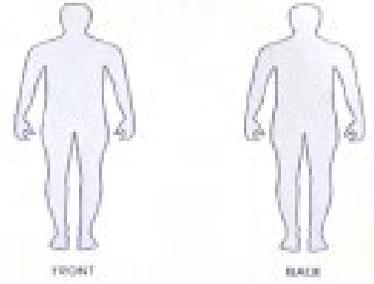
Date	Incident Time	Date/Time Reported	Location
July 4, 2023	11:18 pm	11:25 pm	705 R-1 357 + 20
Incident ID# (from OGI) - Assigned by Supervisor			SMS Incidents/Accidents Report Completed by Supervisor

What happened prior to the incident/accident? 7:54 PM came to 603 track 1 platform to pick up supervisors. From there we went out on unit and [REDACTED] told operator he could go back to work area.

Describe the incident/accident:  
 The unit proceeded back to work area. [REDACTED] As operator proceeded back [REDACTED] told operator to stop at own marker 434 to pick up another supervisor. Once supervisor was picked up, operator ask his flagman was he ready to proceed back. Flagman verified operator to proceed. Unit wait for about 300 ft then unit abruptly stopped.

What happened after the incident/accident?  
 [REDACTED] got out of unit and personnel said the flat derailed. [REDACTED] then went to verify. Then informed mobile command of the incident that occurred.

Please indicate the area of the injury by placing an X on the corresponding body parts below. To specify which side of the body is involved, please use "L" for left and "R" for right.



Turn Over to Complete Employee and Injury Information

Figure 24 RWIC/Gang Leader Written Report Pg-2

# Appendix G- Prime Mover Flagman's Written Statement



## Witness or Employee Statement Form

Washington Metropolitan Area Transit Authority

TO BE COMPLETED AND  
DISTRIBUTED WITHIN 24 HOURS

**Complete all Fields (Write N/A if field does not apply)**

**Involved Personnel (Use this Block for WMATA Employees and Contractors)**

<b>Job Title</b> <i>Track Repairer</i>	<b>Department/Division (Company)</b> <i>TRST</i>	<b>Time asleep, before the incident?</b> Fell Asleep _____ Woke up _____
<b>Last Day Worked (Prior to)</b> <i>6/2/23</i>	<b>Hours Worked (if last 24 hours)</b> <i>0</i>	<b>Date/Time Shift Began</b> <i>6pm 6/4/23</i>
<b>On Overtime?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Personal Protective Equipment used (list)</b>	<b>Was this the sleep schedule for the last seven days, including days off?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>
		<b>How alert were you immediately prior to the incident?</b> Fully Alert <input type="checkbox"/> Moderately Alert <input type="checkbox"/> Drowsy <input type="checkbox"/> Fighting Sleep <input type="checkbox"/>

**Secondary Employment (Write None if employee does not have secondary employment)**

<b>Name of Secondary Employer</b> <i>None</i>	<input type="checkbox"/> Full Time	<b>Work Hours</b>
<b>Secondary Employer Full Address</b>	<input type="checkbox"/> Part Time	
<b>Date of Hire</b>	<b>Supervisor</b>	<b>Phone Number</b>

**Injury Information (Complete for all involved People. If there is no injury, write None in Date of Injury)**

<b>Date of Injury</b>	<b>Time of Injury</b>	<b>Date/Time Injury Reported</b>	<b>Body Part(s) Injured:</b>
<b>Location (Address) where injury occurred (check one: <input type="checkbox"/> MD <input type="checkbox"/> VA <input type="checkbox"/> DC)</b>			
<b>Witness Information (Name, Phone Number, Email, address)</b>			
<b>Did Another Person Cause this Injury?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Name of Responsible Party</b>	
<b>Responsible Party Insurance Carrier/Agent</b>		<b>Phone Number</b>	
<b>Are you able to Continue Work?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>Name/Address of facility where you will seek treatment</b>	
<b>Doctor's Phone Number</b>		<b>Date you will see your doctor</b>	

Employee, please read before signing:

- (1) This form is only to be used for Employees who are injured on the job.
- (2) All persons having a workers' compensation claim that was caused by the act of another is required to have the written approval of the Authority before agreeing to or signing any settlement for the injuries or lost wages that were paid as part of the whole by the Authority or its insurer to the employee as workers' compensation benefits.
- (3) Any Employee who willfully makes any materially false or misleading statements or representations for the purpose of obtaining any benefits under workers' compensation or leave provisions of the Authority may be subject to prosecution, disciplinary action up to and including dismissal and may adversely affect the employee's rights to workers' compensation benefits.

THIS IS TO CERTIFY THAT I HAVE READ THE ABOVE GUIDELINES AND UNDERSTAND THEM FULLY AND THE INFORMATION I HAVE PROVIDED IS TRUE AND CORRECT.

Employee Signature: [REDACTED] Date: 6/5/23

Original: RISK    Copy: (1) SMS Incidents/Accidents (SAFE)    (2) Employee File    (3) Employee

Figure 25 PM Flagman's Written Statement Pg-1



# Witness or Employee Statement Form

TO BE COMPLETED AND

Washington Metropolitan Area Transit Authority

DISTRIBUTED WITHIN 24 HOURS

Involved Person or Witness (Use this Block for Non-WMATA Involved Person or Witness)

Name: [Redacted]  
 Address: [Redacted]

Incident Information:

Date 6/4/23	Incident Time 11:30pm	Date/Time Reported 11:30	Location K-line East Falls Church
Incident ID# (From OCC) - Completed by Supervisor			SMS Incidents/Accidents Report# Completed by Supervisor

What happened prior to the incident/accident?  
 We were work area and was ask to go to platform to retrieve materials/tools. work not begun so we had proceeded to East Falls platform to retrieve tools/personel.

Describe the incident/accident  
 We are proceeding back pickup more tools and personel we get closer to where Equipment was (rest on back)

What happened after the incident/accident?  
 I was ask to get tools while still on that by supervisor. then another supervisor informed me I was being taken down for urine test

Please indicate the area of the injury by placing an X on the corresponding body parts below. To specify which side of the body is involved, please use "L" for left and "R" for right.



FRONT



BACK

Turn Over to Complete Employee and Injury Information



Figure 26 PM Flagman's Written Statement Pg-2

I was <sup>given</sup> the stop signal by ~~person~~ personal and they put more tools on flat and ~~and~~ told us to proceed when they finished. while proceeding down track K 361 <sup>personal</sup> did we have room to move; as we are proceeding there was no ~~id~~ notification to us that they had started work and rail. No watchmen lookout in active nor red flashing lanterns to tell us not proceed pass a certain point there was multiple pieces of rail in track. there no <sup>watchman/lookout</sup> personal/supervisor to indicate they had started work and remove rail. I Dumped flat there was no notification that work had begun nor any watchman lookout. when we came down the first time we were instructed to stop at chain marker 355 ~~with the~~ ~~by supervisor~~ by supervisor

# Appendix H- PM Operator's Written Statement



## Witness or Employee Statement Form Washington Metropolitan Area Transit Authority

TO BE COMPLETED AND  
DISTRIBUTED WITHIN 24 HOURS

Complete all Fields (Write N/A if field does not apply)

Involved Personnel (Use this Block for WMATA Employees and Contractors)			
[Redacted Name]			
Phone Number	Job Title <i>Operator</i>	Department/Division (Company) <i>Track</i>	Time asleep, before the incident? Fell Asleep <i>7:10 AM</i> Wake up <i>4:30 PM</i>
Last Day Worked (Prior to) <i>6/21/23</i>	Hours Worked (in last 24 hours) <i>12 hr.</i>	Date/Time Shift Began <i>06:00 AM to 06:00 PM</i>	Was this the sleep schedule for the last seven days, including days off? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
On Overtime? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Personal Protective Equipment used (list) <i>Vest, Boots, Flashlight, Whistle</i>		How alert were you immediately prior to the incident? Fully Alert <input checked="" type="checkbox"/> Moderately Alert <input type="checkbox"/> Drowsy <input type="checkbox"/> Fighting Sleep <input type="checkbox"/>
Secondary Employment (Write None if employee does not have secondary employment)			
Name of Secondary Employer		<input type="checkbox"/> Full Time	Work Hours
Secondary Employer Full Address		<i>None</i>	
Date of Hire	Supervisor	Phone Number	
Injury Information (Complete for all involved People. If there is no injury, write None in Date of Injury)			
Date of Injury <i>No Injury</i>	Time of Injury <i>11:30</i>	Date/Time Injury Reported <i>11:30</i>	Body Part(s) Injured: <i>None</i>
Location (Address) where injury occurred (check one: <input type="checkbox"/> MD <input checked="" type="checkbox"/> VA <input type="checkbox"/> DC) <i>K05- K1 558+00</i>			
Witness Information (Name, Phone Number, Email, address) <i>None</i>			
Did Another Person Cause this Injury? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Name of Responsible Party	
Responsible Party Insurance Carrier/Agent		Phone Number	
Are you able to Continue Work? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Name/Address of facility where you will seek treatment	
Doctor's Phone Number		Date you will see your doctor	

Employee, please read before signing:

- (1) This form is only to be used for Employees who are injured on the job.
- (2) All persons having a workers' compensation claim that was caused by the act of another is required to have the written approval of the Authority before agreeing to or signing any settlement for the injuries or lost wages that were paid as part of the whole by the Authority or its insurer to the employee as workers' compensation benefits.
- (3) Any Employee who willfully makes any materially false or misleading statements or representations for the purpose of obtaining any benefits under workers' compensation or leave provisions of the Authority may be subject to prosecution, disciplinary action up to and including dismissal and may adversely affect the employee's rights to workers' compensation benefits.

THIS IS TO CERTIFY THAT I HAVE READ THE ABOVE CAUTIONS AND UNDERSTAND THEM FULLY AND THE INFORMATION I HAVE PROVIDED IS TRUE AND CORRECT.

Employee Signature: \_\_\_\_\_

*6-5-23*

Original: RISK

Copy: (1) SMS Incidents/Accidents (SAFE)

(2) Employee File

(3) Employee

Figure 27 PM Operator's Written Statement Pg-1



# Appendix I – Safety Briefing Script K/N Line – Extended Shutdown - Tool Box Brief

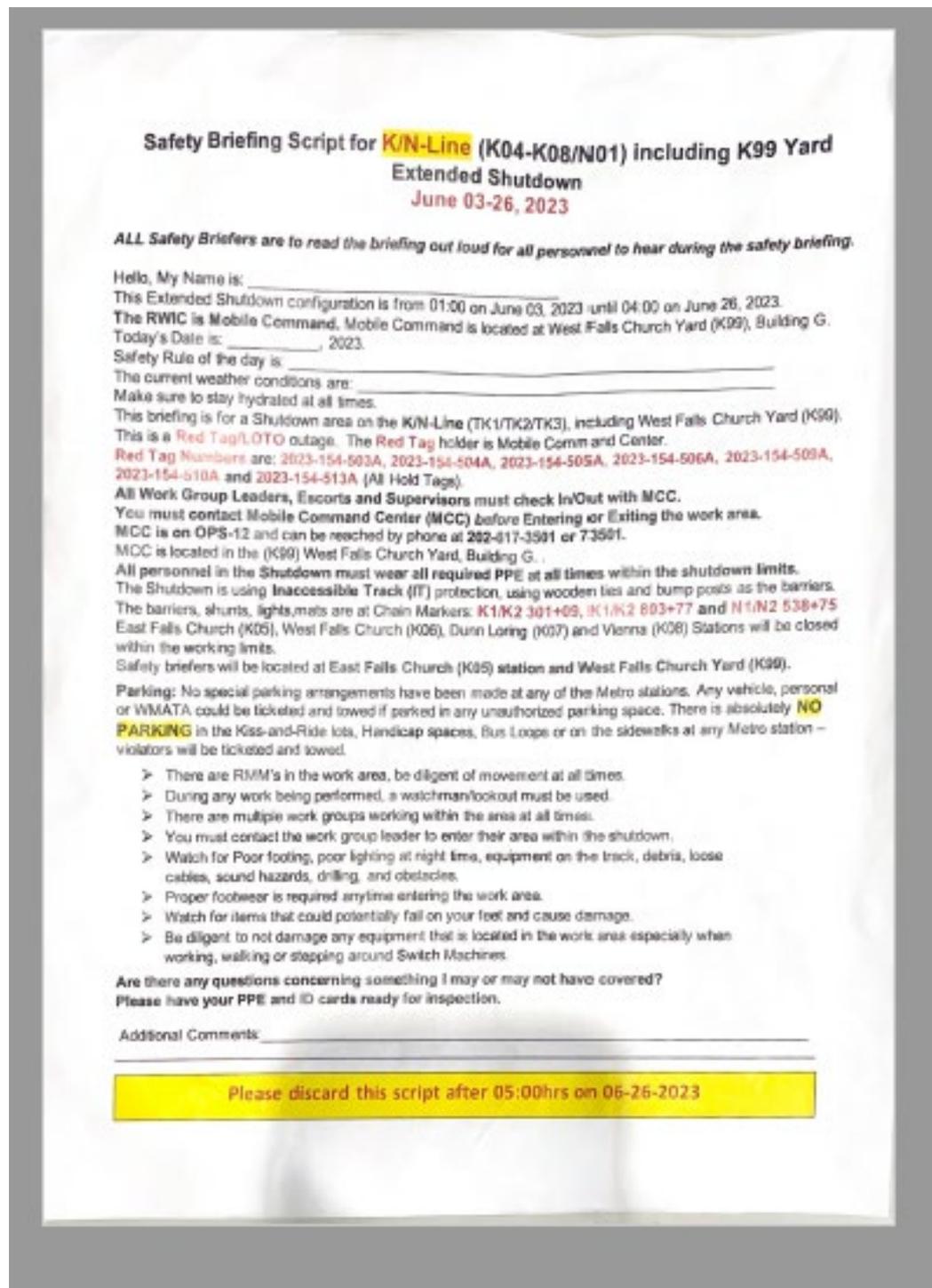


Figure 29 Safety Briefing Script K/N Line Pg-1



### WMATA Roadway Job Safety Briefing Form

This form must be completed legibly and accurately and be retained and made available for inspection for a period of 90 days.

**Part 2: RWP Briefing, continued:**

Power Outage: Red Tag  Supervisory

Red/Supervisory Tag #: 2023-6-17-1200-02

Red/Supervisory Tag Holder: Melvin Casanova

12 Insulated Mat(s) Color  
 Blue  Red  Green  Orange  Yellow

WSAD Certification Due	WSAD Serial #/Asset ID	WSAD Certification Due	WSAD Serial #/Asset ID
/ /		/ /	
/ /		/ /	

Hot Sticking Chain Markers:

Will a Piggyback Crew(s) be Working Within Your Working Limits? Yes  No

13 Crew Leader/FIC Call #(s):

Piggyback Work Assignment(s):

**Part 3: Good Faith Challenge:** The following must be read aloud by the RWIC to the Roadway Workers.  
 "WMATA guarantees each Roadway Worker the right to challenge, in good faith, the effectiveness of the Roadway Worker Protection being provided. The Roadway Worker making the challenge, and those that are sympathetic to the challenge, shall remain clear of the roadway until the challenge has been resolved."

RWP Issues:

Worker Name(s):

Was the GFC Issue Resolved? Yes  No

**Part 4: Roadway Worker Acknowledgement**  
 "I understand and agree with all aspects of the Roadway Job Safety Briefing I just received. I am adequately protected from any train movement or roadway hazards. I understand I have a responsibility to conduct myself in a safe manner at all times."  
**ROADWAY WORKERS HAVE THE RIGHT AND RESPONSIBILITY TO INITIATE A GOOD FAITH CHALLENGE WHEN NECESSARY**

Employee ID #	Crew Leader/FIC Signature	Crew Leader/FIC Employee ID #
[Redacted]	[Redacted]	[Redacted]

Additional RWIC Comments:

RWIC Signature:	RWIC Employee ID #:	Date: / /
Relieving RWIC Name:	Relieving RWIC Employee ID #:	Date/Time: / / . :
Relieving RWIC Signature:	Relieving RWIC Call Phone #:	
Relieving RWIC Call #:		

Figure 31 Tool Box Briefing Pg-2

**WMATA Roadway Job Safety Briefing Form**

This form must be completed legibly and accurately and be retained and made available for inspection for a period of 90 days.

**Part 2: RWP Briefing, continued:**

<b>12</b>	Power Outage: Red Tag <input type="checkbox"/> Supervisory <input type="checkbox"/>		Hot Sticking Chain Markers:	
	Red/Supervisory Tag #:			
	Red/Supervisory Tag Holder:			
	Insulated Mat(s) Color Blue <input type="checkbox"/> Red <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Yellow <input type="checkbox"/>			
	WSAD Certification Due	WSAD Serial #/Asset ID	WSAD Certification Due	WSAD Serial #/Asset ID
	/ /		/ /	
	/ /		/ /	

Will a Piggyback Crew(s) be Working Within Your Working Limits? Yes  No

**13** Crew Leader/EIC Call #(s): Piggyback Work Area Chain Markers:

Piggyback Work Assignment(s):

**Part 3: Good Faith Challenge:** The following must be read aloud by the RWIC to the Roadway Workers.  
 "WMATA guarantees each Roadway Worker the right to challenge, in good faith, the effectiveness of the Roadway Worker Protection being provided. The Roadway Worker making the challenge, and those that are sympathetic to the challenge, shall remain clear of the roadway until the challenge has been resolved."

RWP Issues:	Worker Name(s):
	Was the GFC Issue Resolved? Yes <input type="checkbox"/> No <input type="checkbox"/>

**Part 4: Roadway Worker Acknowledgement**  
 "I understand and agree with all aspects of the Roadway Job Safety Briefing I just received. I am adequately protected from any train movement or roadway hazards. I understand I have a responsibility to conduct myself in a safe manner at all times."  
**ROADWAY WORKERS HAVE THE RIGHT AND RESPONSIBILITY TO INITIATE A GOOD FAITH CHALLENGE WHEN NECESSARY**

[Redacted Signature]	Employee ID #	Crew Leader/EIC Signature	Crew Leader/EIC Employee ID #
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**Part 5: RWIC Signature(s)**

Additional RWIC Comments:

RWIC Signature:	RWIC Employee ID #:	Date: / /
Relieving RWIC Name:	Relieving RWIC Employee ID #:	
Relieving RWIC Signature:	Date/Time: / / . : .	
Relieving RWIC Call #:	Relieving RWIC Cell Phone #:	

Figure 32 Tool Box Briefing Pg-3

**WMATA Roadway Job Safety Briefing Form**

This form must be completed legibly and accurately and be retained and made available for inspection for a period of 90 days.

**Part 2: RWP Briefing, continued:**

<b>12</b>	Power Outage: Red Tag <input type="checkbox"/> Supervisory <input type="checkbox"/>		Hot Sticking Chain Markers:	
	Red/Supervisory Tag #:			
	Red/Supervisory Tag Holder:			
	Insulated Mat(s) Color Blue <input type="checkbox"/> Red <input type="checkbox"/> GREEN <input type="checkbox"/> Orange <input type="checkbox"/> Yellow <input type="checkbox"/>			
	WSAD Certification Due	WSAD Serial #/Asset ID	WSAD Certification Due	WSAD Serial #/Asset ID
	/ /		/ /	
	/ /		/ /	

**13** Will a Piggyback L/RWS be working within your working limits? Yes  No

Crew Leader/EIC Call R(s):	Piggyback Work Area Chain Markers:
Piggyback Work Assignment(s):	

**Part 3: Good Faith Challenge:** This following must be read aloud by the RWIC to the Roadway Workers.  
 "WMATA guarantees each Roadway Worker the right to challenge, in good faith, the effectiveness of the Roadway Worker Protection being provided. The Roadway Worker making the challenge, and those that are sympathetic to the challenge, shall remain clear of the roadway until the challenge has been resolved."

RWP Issues:	Worker Name(s):
	Was the GFC Issue Resolved? Yes <input type="checkbox"/> No <input type="checkbox"/>

**Part 4: Roadway Worker Acknowledgment**  
 "I understand and agree with all aspects of the Roadway Job Safety Briefing I just received. I am adequately protected from any train movement or roadway hazards. I understand I have a responsibility to conduct myself in a safe manner at all times."

**Part 5: RWIC Signature(s)**

Additional RWIC Comments:		
RWIC Signature:	RWIC Employee ID #:	Date: / /
Relieving RWIC Name:	Relieving RWIC Employee ID #:	
Relieving RWIC Signature:	Date/Time: / / . :	
Relieving RWIC Cell #:	Relieving RWIC Cell Phone #:	

Figure 33 Tool Box Briefing Pg-4

## Appendix J- Extended Shutdown Map

Incident Date: 06/04/2023 Time: 23:18 hours  
 Final Report – Derailment Rev. 1  
 E23373

Drafted By: SAFE 706 – 07/25/2023  
 Reviewed By: SAFE 71 – 08/02/2023  
 Approved By: SAFE 71 – 08/03/2023

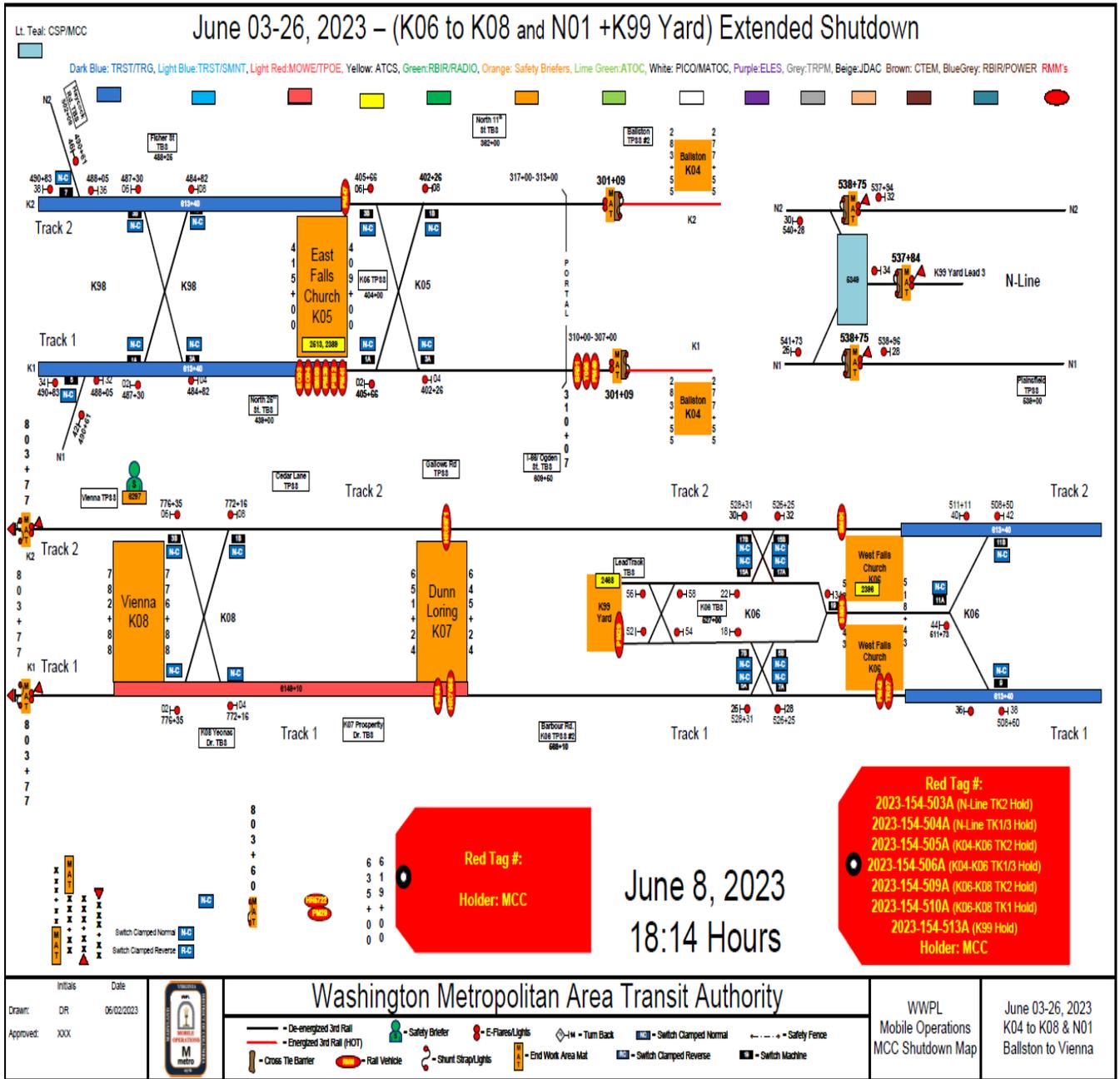


Figure 34 K/N Lines Extended Shut Down Pg-1

# Appendix K – OEP Incident Report

6/5/23, 5:27 AM SAFE OEP Incident Response Report (2)

View results

Respondent  
139    Anonymous

08:23  
Time to complete

1. Incident Date \*

2. Incident Location \*

3. Incident Time \*

4. Responder 1 (Name) \*

5. Additional Responder Names: \*

6. MAC 1 Name \*

7. MAC 2 Name \*

8. Response Type \*

9. OPS Channel \*

<https://forms.office.com/pages/designpagev2.aspx?lang=en-US&origln=OfficeDotCom&route=Start&sessionId=cde9c524-3919-49c4-90c1-0dEd74977...> 1/4

Figure 35 OEP Incident Response Report Pg-1

10. MTPD Channels Used \*

- MTPD 1x
- MTPD 2x
- MTPD 3x

11. Bus/Rail Yard Radio Channels Used: \*

OPS 12

12. Initial Incident Time: \*

23:18

13. Dispatch Time \*

0001

14. Response Time \*

0012

15. On-Scene Time \*

0114

16. Disregard Time \*

N/A

17. Time Command was Established \*

N/A

18. Time Incident Moved to Recovery \*

N/A

19. Transfer of Command Time \*

N/A

Figure 36 OEP Incident Response Report Pg-2

20. In-Service Time \*

0338

21. Metro Incident Commander (Name/Call Sign) \*

[REDACTED]

22. Jurisdictional Incident Commander \*

N/A

23. Fire Liaison/Dept (ROCC) \*

[REDACTED]

24. Sup. IC Liaison Name (RTRA Supervisor at ICP) \*

[REDACTED]

25. Sup. Forward Liaison Name (RTRA Supervisor at Platform) \*

N/A

26. MTPD Forward Liaison Name \*

N/A

27. Maintenance Lead Name (ERT Supervisor) \*

[REDACTED]

28. Investigations Lead (MTPD) Name \*

N/A

29. Investigations Lead (Safety) Name \*

[REDACTED]

30. Transportation Lead Name (Bus TFS) \*

N/A

Figure 37 OEP Incident Response Report Pg-3

31. Was Power Taken Down? \*

Yes - Red Tag



32. Red Tag # (if applicable) \*

DNO

33. Incident Narrative \*

EP11 dispatched to a reported PM derailment in the Orange Line reconstruction work zone. Upon arrival, MTPD Officer [redacted] was leaving. She did not establish command. Jurisdictional FD not called. Met with SAFE [redacted] at the work area check in just behind the track. Scanned in and obtained my Safety Briefing. Met with Asst. Gen. Superintendent of TRST [redacted] and we went to the platform. Met with the RWIC [redacted] then and caught a PM to the derailment area with and proceeded to inspect the involved PM and SAFE to perform their investigation. ESR obtain from WMO [redacted] at 0007 hours. Learned from AGS [redacted] that the operator and flag person had been taken for testing after the incident and that the PM has not been moved. No need for CEP at this incident. CTEM called by the AGS for rerailment. CTEM arrived just prior to SAFE investigation completed. Permission given to CTEM by SAFE [redacted] to go ahead and rerail the PM. SAFE and OEP boarded another PM and exited the scene. EP11 in service by 0338 hours.

34. Incident Successes (What went well) \*

Incident contained to Rail

35. Opportunities for Improvement \*

1. No command established.

36. What is your name? (Who is completing this report) \*

[redacted]



37. What is your email? (Copy of this report will be sent to you) \*

[redacted]

Figure 38 OEP Incident Response Report Pg-4



**OFFICE OF TRACK AND STRUCTURES MAINTENANCE  
MAINTENANCE BULLETIN/SAFETY BULLETIN**

**MB/SB#: 20230606-57**  
**TITLE:** Critical Reminder of Safety Rules and Procedures to Prevent Roadway Safety Incidents  
**PURPOSE:** To notify personnel of mitigation actions developed following the recent collisions and derailments on the roadway.  
**APPLIES TO:** All Office of Track and Structures Maintenance

This Safety Bulletin addresses the recent major safety incidents that have occurred on the roadway, to include recent collisions and derailments of roadway repair and maintenance vehicles. This Safety Bulletin provides required mitigation actions developed following these safety incidents.

As a reminder: All personnel when working on the roadway are required to adhere to the rules, standard operation procedures and safety precautions documented in the WMATA Metrorail Safety Rules and Procedures Handbook (MSRPH). Due to the recent safety incidents, this Safety Bulletin serves as a critical reminder to adhere to the following specific mitigation actions, safety procedures and precautions.

1. Maintain positive communication between the Advanced Mobile Flagger Action (Flag Man) and the equipment operator by using hand signaling. If the operator does not receive positive communication, they are to **STOP AND HOLD** until communication is received.
2. Bring back all equipment to the platform or primary briefing area at the end of each shift.
3. If vehicles cannot be returned to the platform, they are to be secured by wheel chocks and lighted using a strobe or other means of visual indication.
4. Chain Marker Location of any parked vehicles must be shared during Roadway Worker In Charge (RWIC) handoff, and then shared at the daily work briefing.
5. No vehicles shall be parked in a **HOT SPOT**, unless personnel are actively working.
6. Chairs and other distractions shall be removed from the Flag Man cab. Each cab is equipped with a bench positioned by the brake dump valve.
7. Cut rail should be visually marked, with paint and strobe lights 150 feet in advance of the cut.

The impending shutdown requires that roadway workers maintain a maximum level of safety awareness and extra care and alertness due to the increased number of roadway projects.

Adherence to all safety procedures, especially the above mitigation actions, will prevent injuries, save lives and prevent damage to roadway equipment. Failure to adhere to safety rules and procedures may result in disciplinary action, to include termination.

TRST-MB/SB-20230606-57

Figure 39 TRST Maintenance/Safety Bulletin Pg-1



Wayside Work Planning

## Ballston to Vienna/McLean (K04-K08/N01) Extended Shutdown

- **Commencement:** 01:00 hours Saturday, June 3, 2023
- **End Time:** 04:00 hours Monday, June 26, 2023
- **Crews:** TRST/TRG(Sponsor), RBIR/RADIO, SSRP/ATCM, TRST/C99, SSRP/ATCM, RBIR/PWR, CAPD/JDAC, PICO/ATOC, PICO/MATOC, TRPM, TRST/STMN-S, MOWE/TPOE, and ELES will be working at this location.
- **RWIC:** MCC will RWIC the work zone and communicate via radio on **OPS-12. The telephone number for MCC is [REDACTED]**  
Please contact MCC before entering the work area.
- **MCC / Safety Briefer Locations:** West Falls Yard (K99) Building B (Mezzanine Breakroom) / East Falls Church (K05)
- **Work zone set-up:** CSP will perform work zone set up.
- **Outage Type:** Red Tag/LOTO
- **RID#**202313801200

### Department Requirements

- Departments will provide updates using the *Timeline Reporting Instructions* provided with this packet
  - o **All information should be sent every 12 hours as described on template**
- Status calls will be conducted Monday through Saturday at **08:30** and on Sunday at **09:00**
- **Department representation is required**
  - > **Mon-Sat Link:** [Join Microsoft Teams Meeting \(hyperlink provided\)](#)
  - > **Sunday Link:** [Join Microsoft Teams Meeting \(hyperlink provided\)](#)

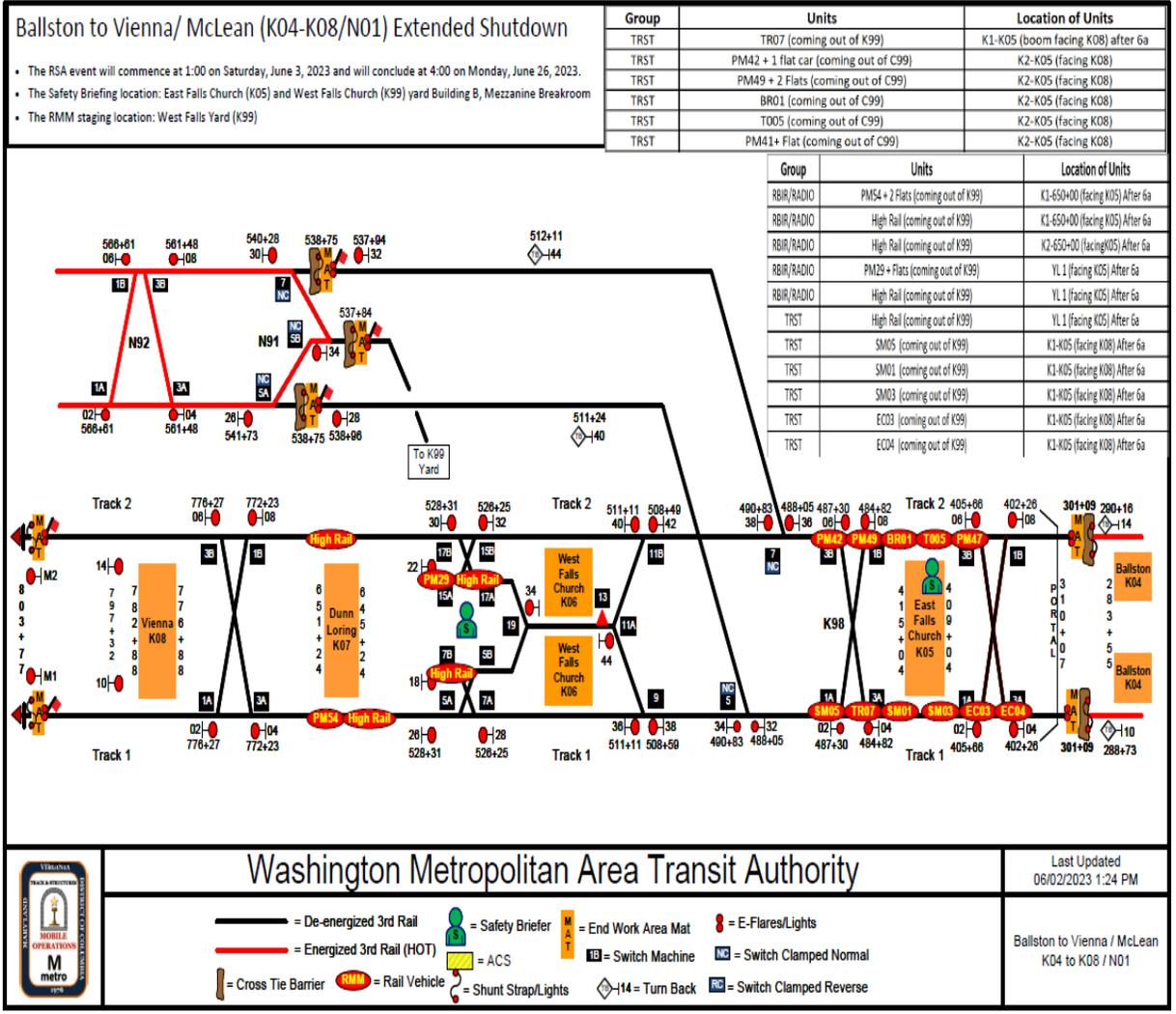


### Work Packet Information

- Map with short scope descriptions and RMM line ups
- Point of Contact List
- Start-Up Timeline
- March Charts
- Timeline Reporting Instructions
- Scopes of Work

**Please note that any changes to the information provided should be emailed to [WWPL\\_workplanning@wmata.com](mailto:WWPL_workplanning@wmata.com) no later than 12:00pm Friday. All changes will be emailed no later than 4:00pm.**

Figure 40 Wayside Work Planning June 2023 Pg-1



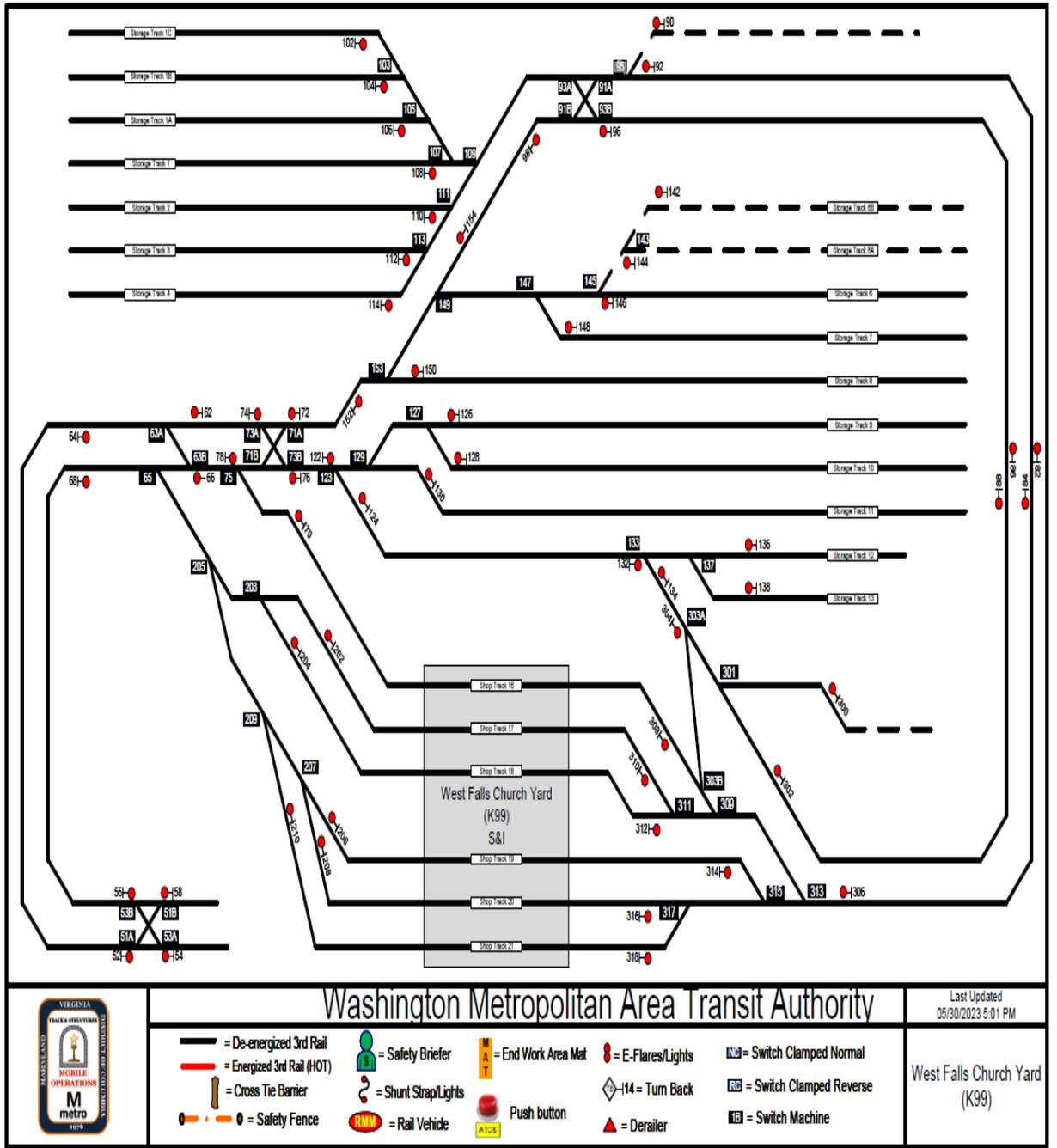


Figure 42 Wayside Work Planning June 2023 Pg-3

## WORK GROUPS

RBIR/RADIO	K1/2-(511+00 to 530+00/K99 yard); K1/2-(301+09 to 803+77)	Snake tray installation; radiating cable installation; radio fiber installation; and ancillary fiber installation
TRPM	K1/2-(771+00 to 803+30); K1/2-(318+00 to 490+00); K2-(522+00 to 526+00); YCR 1 to YCR 113	Repair and replace 3rd rail heat tape; Replacing 1000 MCM pigtails to 500 MCM pigtails at K04 TBS, K04 TPSS2, and K05 TB1; Replacing crossover cables at CM K2-526+23; Cable replacement at K99/K06 TBS; replacing underground cables and pigtails to each YCR; and verify connections
MOWE TPOE	K2-(362+20 to 439+20); K1-(564+46 to 572+46); and K2-(771+00 to 777+00)	Installation of temporary DC cells; Completion of punch list items at K06 TPSS2 and K08 TPSS
ELES	K1-(651+24 to 652+24)	Erect scaffold on trackbed adjact to escalator K07X02; new controller cabinet installation
RBIR/PWR	K99 Yard (K100 TPSS)	Duct Sealing High Voltage Feeder Cable Conduits
ATOC	K05 (K1/2 408+00 to 416+00)	AWIS Installation
TRST/TRG	K99-(09+24 to 19+34); Yard Lead Loop Tracks 1 and 2	Tie renewal and restraining rail replacement
JDAC	K1/2-(605+00 to 780+00)	Installation of Utility Markers (Qty. 11)
	K1/2-(785+00 to 792+00)	Patching Vaden Dri ramps, barriers, and deck
	K1/2-(763+00 to 766+00)	Painting Nutley bridge
	K1-(640+00 to 763+00); K2-(640+00 to 706+00)	Ground rods installation. Termination of Track Power cables at Prosperity TBS. Label of Wayside enclosures.
	K1/2-(705+00 to 707+00)	Patching and painting central pier at Cedar Lane bridge
	K1/2-(676+00 to 669+00)	Patching Bridge 678 ramps, barriers, and deck
	K1/2-(649+00 to 652+00)	Gallows Bridge deck work and roof station protection
	K1/2-(622+00 to 625+00)	Painting of fascia girders at Bridge 683
	K1/2-(785+00 to 789+00)	Repair of Anchor bolts and installation of light poles at Vaden Drive Bridge
TRST/STMN-S	K1/2-(301+09 to 803+77); K99 Yard	Concrete repairs; vegetation removal; cable trough plate installation; and graphic repair; Bump posts 1C-3 and 7-11 (front and back of the yard)
PICO/MATOC	K1/2-(526+00 to 528+00)	Roof replacement of Tie Breaker 3
ATCM	K1/2-(479+00 to 496+00);	Switch machine replacement (5 and 7) at K98 interlocking;
	K1/2-(394+00 to 409+00);	Switch machine replacement (1A, 1B, 3A, and 3B) at K05 interlocking;
	K1/2-(505+00 to 531+00)	Switch machine replacement (5A, 7A, 11A, 11B, and 9) at K06 interlocking

Figure 43 Wayside Work Planning June 2023 Pg-5

RSA23-905.3, 4, 5, 6: K04-K08/N01 Extended Shutdown Start Up Timeline - 06/03/23

Day	Date	Start	End	Time Needed	Dept	Action Item	Action Description	Notes/Actions
Friday	3-Jun	23:30			MCC	Call for Red Tags and units: K04 30231450400 - N-Line 302313601000 - K04-K08 302313601000 - K04-K08 302314000000 - K09	(K04-K08 Hold Tag Trk #1) 2023154006 (K04-K08 Hold Tag Trk #2) 2023154005 (K04-K08 Hold Tag Trk #1) 2023154510 (K04-K08 Hold Tag Trk #2) 2023154509 (N-Line Hold Tag Trk1 and Trk3) 2023154504 (N-Line Hold Tag Trk2) 2023154503 (K09 Hold Tag) - 2023154513 (SO Tag K09) 2023154514 (SO Tag K04-K08) 2023154507 - includes N-Line breakers for ISO (SO Tag K06-K08) 2023154511 (TRST/TRG) (From: C09-PA036, PA047, PA048, T005, PA045, B061, PA042, TR07) (TRST/C99) (Included in TRG lineup), R08R/Radio - 1PM and 2 H-Rail being staged at K09	TRST/TRG K09 Units - K09 SMD5, SMD1, SMD3, ECC01, ECC04, SMD6, NSD00, NSP02 Can come out after revenue
Saturday	3-Jun	0:00				End Revenue Service		
Saturday	3-Jun	1:00	2:30	1:30		Last Revenue train and lay up	11:20 - 01:40 last train leaving K04 - will be laying up at K09 or another yard - 12 minutes to pass USA	
Saturday	3-Jun	1:00	2:30	1:30	MCC	Unit movement	TRST/TRG; (From: C09-PA036, PA047, PA048, T005, PA045, B061, PA042)	
Saturday	3-Jun	2:00	3:15	1:15	TRPM	Switching (2 rooms; 1 crew per room.)	(K04-K08 Hold Tag Trk #1) 2023154006 (K04-K08 Hold Tag Trk #2) 2023154005 (K04-K08 Hold Tag Trk #1) 2023154510 (K04-K08 Hold Tag Trk #2) 2023154509 (N-Line Hold Tag Trk1 and Trk3) 2023154504 (N-Line Hold Tag Trk2) 2023154503 (K09 Hold Tag) - 2023154513 (SO Tag K09) 2023154514 (SO Tag K04-K08) 2023154507 - includes N-Line breakers for ISO (SO Tag K06-K08) 2023154511	
Saturday	3-Jun	2:30	4:00	1:30	MCC	Setup Work area	Setup Work area including barricading and Confirming Shunts, Lights, Mats, Rail Tie - K1/N2 301+09 (TRG to assist), K1/N2 303+77 (Radio to assist) N1/2/3 - 538-75 safety equipment and shunts, Ties, lights and mat (TRST/TRG to assist with Tie drop off)	
Saturday	3-Jun	4:00	5:00	1:00	TRST/C99	Isolation	CUT A GAP ON BOTH RIGHT AND LEFT RUNNING RAIL AT K1 & K2 302+00. THIS GAP SHOULD BE ENOUGH TO INSERT AN INSULATOR	
Saturday	3-Jun	4:00	4:45	0:45	ATC	ATC Isolation Crew	Work Area & Running Rails Isolation (to be verified by ATC Engineers): K09 AREA 1. ATC to disconnect side leads and Crossbond of W2 20 at K2 400+71 (TO BE CONNECTED BACK AT END OF PHASE 1) 2. ATC to disconnect side leads and Crossbond of W2 25 at K1 400+71 (TO BE CONNECTED BACK AT END OF PHASE 1)	
Saturday	3-Jun	4:00	5:00	1:00	TRPM	Cable Crew	R08 TRS (SADY HALLS CHURCH SQ) Disconnect cable inside the room. Prior to return of ISO tag	
Saturday	3-Jun	5:00			MCC	Return Red Tag	(SO Tag K09) 2023154514 (SO Tag K04-K08) 2023154507 - includes N-Line breakers for ISO (SO Tag K06-K08) 2023154511	
Saturday	3-Jun	4:45			MCC	Start work		
Saturday	3-Jun	5:00	5:45	0:45	TRPM	Switching (16 rooms; 1 crew per room.)	(SO Tag K09) 2023154514 (SO Tag K04-K08) 2023154507 - includes N-Line breakers for ISO (SO Tag K06-K08) 2023154511	
Saturday	3-Jun	5:45			BOCC	Return to revenue		
Saturday	3-Jun	6:00	6:45	0:45	ATC	ATC Isolation Crew	Work Area & Running Rails Isolation (to be verified by ATC Engineers): K08 AREA 1. ATC to disconnect side leads of W2 19 at K2 520+30 (TO REMAIN OPEN TILL END OF PHASE 2) 2. ATC to disconnect side leads of W2 42 at K1 520+30 (TO REMAIN OPEN TILL END OF PHASE 2)	Can be completed during Saturday dayoff
Saturday	3-Jun	6:00	7:00	1:00	TRPM	Cable Crew	R08 TRS (SADY HALLS CHURCH SQ) TRPM TO DISCONNECT ALL 3RD RAIL FROM WAYSIDE TO COMPLETELY ISOLATE THE ROOM FOR MOWE EQUIPMENT UPGRADE IN THE ROOM.	Can be completed during Saturday dayoff

Figure 44 Wayside Work Planning June 2023 Pg-7

## **RWIC TIMELINE REPORTING INSTRUCTIONS**

All updates should be provided via email to [REDACTED] and [REDACTED] at 8:00 am and 8:00 pm every day of the event. Please state time of RWIC transfer and new RWIC ID number in the update.

### **Opening shift updates should include the following information:**

- State time RMMs entered work location
- State time RWIC was given permission to enter work location and begin work
- Provide information on any delays experience during work zone set-up

### **All work updates should include the following information:**

- Is work being performed to schedule
- If work is behind schedule please state why
- Is all equipment functioning correctly
- If equipment is/has malfunctioned please state what actions was taken to mitigate issue

### **Closing shift updates should include the following information:**

- State time scheduled work was completed
- State time RMMs were clear of work location
- (If applicable) State time ATC restoration work began
- State time the work area was turned over the ROCC

Figure 45 Wayside Work Planning June 2023 Pg-8

Transit Infrastructure and Engineering Services  
Washington Metropolitan Area Transit Authority  
**SCOPE OF WORK FORM** (email to [Mowe\\_workplanning@wmata.com](mailto:Mowe_workplanning@wmata.com))



Type	New: <input checked="" type="checkbox"/> Updated: <input type="checkbox"/>		RSA Location: K04 – K06		Track 1 & 2	
Department:	TRST/TRG		Sponsor: <input checked="" type="checkbox"/> Piggyback: <input type="checkbox"/> TBD: <input type="checkbox"/>		Justify: Other	
Work date from:	6/3/2023		Work Date to: 6/26/2023		Power Outage Red Tag	
RSA #s (list all)	RSA23-280		Work Order # TBD		Job code: TBD	
Overview:	Rail Renewal		Open Rail Joint Elimination		Other:	
Description of Work:						
<u>CWR Rail Renewal / Open Joint Elimination / Roadway Cleanup / Tamping / Rail Grinding</u>						
K04 – K06 CWR "HAY Rail " Removal						
<ul style="list-style-type: none"> <li>• Installation of new CWR rail on both running rails from chain markers K1 and K2 315+00 to 508+00</li> <li>• Thermite Weld Open rail Joints on both running rail from chain markers K1 and K2 315+00 to 508+00</li> <li>• Removal of old running rail, materials and other debris from the roadway from chain markers K1 and K2 315+00 to 508+00</li> <li>• Tamping and rail grinding will be performed throughout work location on both tracks 315+00 to 508+00</li> </ul>						
Work Zone						
Track	Protected work area		Actual work area (exact CMs!!)			
	From	To	From	To		
1	301+09	803+77	315+00	530+00		
2	301+09	803+77	315+00	530+00		
3						
Reporting Location:			Type of work protection:		Inaccessible Track (IT)	
Post Work Testing before Revenue:						
Quantity of Materials:						
Fasteners	<input checked="" type="checkbox"/>	Clips	<input checked="" type="checkbox"/>	Welding Kits	<input checked="" type="checkbox"/>	Cable Tray w/HW <input type="checkbox"/>
						Fiber Cable w/HW <input type="checkbox"/>

Figure 46 Wayside Work Planning June 2023 Pg-9

Snake Tray <input type="checkbox"/>	Bolts <input checked="" type="checkbox"/>	Thermite Kits <input checked="" type="checkbox"/>	Insulators <input type="checkbox"/>	Tie <input type="checkbox"/>
Studs <input type="checkbox"/>	Rail <input checked="" type="checkbox"/>	Shims <input type="checkbox"/>	Crossties <input checked="" type="checkbox"/>	Concrete <input type="checkbox"/>
Washers <input type="checkbox"/>	Stringers <input checked="" type="checkbox"/>	Grout <input type="checkbox"/>	Cover Brds w/Bkts <input type="checkbox"/>	Epoxy <input type="checkbox"/>
Other:				
<b>Tools and equipment:</b>				
Welding Machine/Truck <input checked="" type="checkbox"/> ; PPE <input checked="" type="checkbox"/> ; RMM w/tool flat <input checked="" type="checkbox"/> ; Geismar <input type="checkbox"/> ; Pump <input type="checkbox"/> ; Work Flat <input checked="" type="checkbox"/> ; Hand: Tools <input checked="" type="checkbox"/> ; Jetter <input checked="" type="checkbox"/> ; Rail Profiler <input checked="" type="checkbox"/> ; Petti Bone <input type="checkbox"/> ; Ladder <input type="checkbox"/> ; Hi-Rail <input checked="" type="checkbox"/> ; O <sub>2</sub> + Propane Tanks <input checked="" type="checkbox"/> O <sub>2</sub> + Propane tanks				
Other:				
Shift change	Superintendent:	Asst. Superintendent:	Maintenance Manager:	
Updates to:	[REDACTED]	[REDACTED]	[REDACTED]	
Submitted by:	[REDACTED]	Date:	2/21/2023	

**Safety conditions:**

- Prior to work, **ALL** Employees shall be required to have an RWP training class.
- Each Employee will have their **WMATA** and **RWP ID** in his/her possession at **ALL** times while on **WMATA** property and ensure that safety rules, track standards and managerial oversight of the contractors and the project being performed are followed.
- All RWP, SOP and Track Standards will be followed at all times.
- Each shift will have a QC performance check.
- All employees must be mindful of moving equipment, sound hazards, tripping hazards and debris.
- All personnel must wear all required PPE as per RWPM and as required by the task(s) being performed.

Figure 47 Wayside Work Planning June 2023 Pg-10

## Appendix N – CAL/AMP vehicle GPS Report

42	PM39	Prime Mover	06/04/2023 10:43:40 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	45.65
43	PM39	Prime Mover	06/04/2023 10:45:40 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	45.65
44	PM39	Prime Mover	06/04/2023 10:47:40 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	45.65
45	PM39	Prime Mover	06/04/2023 10:49:40 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	45.65
46	PM39	Prime Mover	06/04/2023 10:51:40 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	45.65
47	PM39	Prime Mover	06/04/2023 10:53:40 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	45.65
48	PM39	Prime Mover	06/04/2023 10:55:40 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	45.65
49	PM39	Prime Mover	06/04/2023 10:55:56 PM	Moving	5	NW	Custis Memorial Parkway (I-66) . Arlington, VA	45.66
50	PM39	Prime Mover	06/04/2023 10:57:55 PM	GPS Update	12	NW	Custis Memorial Parkway (I-66) . Arlington, VA	46.05
51	PM39	Prime Mover	06/04/2023 10:59:55 PM	GPS Update	11	NW	Custis Memorial Parkway (I-66) . Arlington, VA	46.46
52	PM39	Prime Mover	06/04/2023 11:00:52 PM	Not Moving	2	NW	Custis Memorial Parkway (I-66) . Arlington, VA	46.6
53	PM39	Prime Mover	06/04/2023 11:01:48 PM	Not Moving	2	SW	1888 North Sycamore Street . Arlington, VA	46.61
54	PM39	Prime Mover	06/04/2023 11:02:17 PM	Not Moving	2	SW	6629 19th Road North . Arlington, VA	46.63
55	PM39	Prime Mover	06/04/2023 11:03:13 PM	Not Moving	2	SW	1999 North Tuckahoe Street . Arlington, VA	46.63
56	PM39	Prime Mover	06/04/2023 11:04:59 PM	Not Moving	1	E	Custis Memorial Parkway (I-66) . Arlington, VA	46.65
57	PM39	Prime Mover	06/04/2023 11:06:59 PM	GPS Update	1	E	Custis Memorial Parkway (I-66) . Arlington, VA	46.66
58	PM39	Prime Mover	06/04/2023 11:08:01 PM	Not Moving	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	46.68
59	PM39	Prime Mover	06/04/2023 11:08:58 PM	Moving	5	SE	Custis Memorial Parkway (I-66) . Arlington, VA	46.72
60	PM39	Prime Mover	06/04/2023 11:10:58 PM	GPS Update	10	SE	Custis Memorial Parkway (I-66) . Arlington, VA	46.99
61	PM39	Prime Mover	06/04/2023 11:12:58 PM	GPS Update	13	SE	Custis Memorial Parkway (I-66) . Arlington, VA	47.36
62	PM39	Prime Mover	06/04/2023 11:13:41 PM	Not Moving	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	47.49
63	PM39	Prime Mover	06/04/2023 11:14:25 PM	Moving	5	SE	Custis Memorial Parkway (I-66) . Arlington, VA	47.5
64	PM39	Prime Mover	06/04/2023 11:14:56 PM	Not Moving	1	E	Custis Memorial Parkway (I-66) . Arlington, VA	47.55
65	PM39	Prime Mover	06/04/2023 11:15:38 PM	Not Moving	0	-	Custis Memorial Parkway (I-66) . Arlington, VA	47.57

Figure 48 CAL/AMP GPS Report (PM-39) Pg-1

66	PM39	Prime Mover	06/04/2023 11:16:34 PM	Moving	5	E	Custis Memorial Parkway (I-66) , Arlington, VA	47.59
67	PM39	Prime Mover	06/04/2023 11:16:36 PM	Moving	5	SE	Custis Memorial Parkway (I-66) , Arlington, VA	47.59
68	PM39	Prime Mover	06/04/2023 11:16:52 PM	Not Moving	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.6
69	PM39	Prime Mover	06/04/2023 11:18:02 PM	Not Moving	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
70	PM39	Prime Mover	06/04/2023 11:20:02 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
71	PM39	Prime Mover	06/04/2023 11:22:02 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
72	PM39	Prime Mover	06/04/2023 11:24:02 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
73	PM39	Prime Mover	06/04/2023 11:26:02 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
74	PM39	Prime Mover	06/04/2023 11:28:02 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
75	PM39	Prime Mover	06/04/2023 11:30:02 PM	GPS Update	1	E	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
76	PM39	Prime Mover	06/04/2023 11:32:02 PM	GPS Update	1	NE	1003 Patrick Henry Drive , Arlington, VA	47.62
77	PM39	Prime Mover	06/04/2023 11:34:03 PM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	47.62
78	PM39	Prime Mover	06/04/2023 11:36:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
79	PM39	Prime Mover	06/04/2023 11:38:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
80	PM39	Prime Mover	06/04/2023 11:40:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
81	PM39	Prime Mover	06/04/2023 11:42:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
82	PM39	Prime Mover	06/04/2023 11:44:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
83	PM39	Prime Mover	06/04/2023 11:46:03 PM	GPS Update	0	-	1000 North Lexington Street , Arlington, VA	47.62
84	PM39	Prime Mover	06/04/2023 11:48:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
85	PM39	Prime Mover	06/04/2023 11:50:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
86	PM39	Prime Mover	06/04/2023 11:52:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
87	PM39	Prime Mover	06/04/2023 11:54:03 PM	GPS Update	0	-	1000 North Lexington Street , Arlington, VA	47.62
88	PM39	Prime Mover	06/04/2023 11:56:03 PM	GPS Update	0	-	1000 North Lexington Street , Arlington, VA	47.62
89	PM39	Prime Mover	06/04/2023 11:58:03 PM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	47.62
90	PM39	Prime Mover	06/05/2023 12:00:03 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
91	PM39	Prime Mover	06/05/2023 12:02:04 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0

Figure 49 CAL/AMP GPS Report (PM39) Pg-2

168	PM39	Prime Mover	06/05/2023 02:36:09 AM	GPS Update	1	W	Custis Memorial Parkway (I-66) , Arlington, VA	0
169	PM39	Prime Mover	06/05/2023 02:38:09 AM	GPS Update	0	-	1000 North Lexington Street , Arlington, VA	0
170	PM39	Prime Mover	06/05/2023 02:40:09 AM	GPS Update	0	-	1000 North Lexington Street , Arlington, VA	0
171	PM39	Prime Mover	06/05/2023 02:42:09 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
172	PM39	Prime Mover	06/05/2023 02:44:09 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
173	PM39	Prime Mover	06/05/2023 02:46:09 AM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	0
174	PM39	Prime Mover	06/05/2023 02:48:09 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
175	PM39	Prime Mover	06/05/2023 02:50:09 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
176	PM39	Prime Mover	06/05/2023 02:52:09 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
177	PM39	Prime Mover	06/05/2023 02:54:09 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
178	PM39	Prime Mover	06/05/2023 02:56:09 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
179	PM39	Prime Mover	06/05/2023 02:58:10 AM	GPS Update	0	-	1003 Patrick Henry Drive , Arlington, VA	0
180	PM39	Prime Mover	06/05/2023 03:00:10 AM	GPS Update	1	NW	Custis Memorial Parkway (I-66) , Arlington, VA	0
181	PM39	Prime Mover	06/05/2023 03:02:10 AM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	0
182	PM39	Prime Mover	06/05/2023 03:04:10 AM	GPS Update	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	0
183	PM39	Prime Mover	06/05/2023 03:05:34 AM	Moving	5	W	Custis Memorial Parkway (I-66) , Arlington, VA	0.01
184	PM39	Prime Mover	06/05/2023 03:05:54 AM	Moving	5	W	Custis Memorial Parkway (I-66) , Arlington, VA	0.04
185	PM39	Prime Mover	06/05/2023 03:06:04 AM	Moving	5	NW	Custis Memorial Parkway (I-66) , Arlington, VA	0.05
186	PM39	Prime Mover	06/05/2023 03:08:04 AM	GPS Update	8	NW	Custis Memorial Parkway (I-66) , Arlington, VA	0.31
187	PM39	Prime Mover	06/05/2023 03:09:43 AM	Not Moving	0	-	Custis Memorial Parkway (I-66) , Arlington, VA	0.51
188	PM39	Prime Mover	06/05/2023 03:10:03 AM	Moving	6	NW	Custis Memorial Parkway (I-66) , Arlington, VA	0.51
189	PM39	Prime Mover	06/05/2023 03:12:02 AM	GPS Update	9	NW	Custis Memorial Parkway (I-66) , Arlington, VA	0.82
190	PM39	Prime Mover	06/05/2023 03:13:14 AM	Moving	6	W	Custis Memorial Parkway (I-66) , Arlington, VA	0.98
191	PM39	Prime Mover	06/05/2023 03:13:38 AM	Not Moving	1	SW	1884 North Sycamore Street , Arlington, VA	1
192	PM39	Prime Mover	06/05/2023 03:13:44 AM	Ignition Off	2	SW	1876 North Sycamore Street , Arlington, VA	1

Figure 50 CAL/AMP GPS Report (PM-39) Pg-4

# Appendix O – CTEM Post-derailment Inspection Form



## CTEM Post-derailment & Accident Damage Inspection Form

(1 Form per Unit)

DATE: 6/5/23 INSPECTOR: [REDACTED] UNIT #: F538  
 INCIDENT #: [REDACTED] INCIDENT LOCATION: K1 537+20

**GUIDELINES:**

- This form is to be used for all rail vehicles involved in derailments, accidents.
- This form is to function as a guide to assist in ensuring that all vehicles are inspected to ensure that they still meet standards for operation.
- Some reference to codes and standards may be required to complete this inspection form.
- All inspection items on this form are to be marked as:

✓ = Passed    X = Failed    NA = Not Applicable    UC = Unable to Check

**NOTE: Any items that have failed are to be documented in the "Inspection Fault Report" field included on this form.**

Incident Information:	<i>(NOTE: Use blank field under each question for additional information if answered Yes.)</i>	
Did the unit contact the 3rd rail? (If Yes, where was the contact on the unit?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Did the unit contact infrastructure such as a wall or platform? (If Yes, what was contacted?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Did the unit contact another unit? (If Yes, what unit and where was the contact on the unit?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Truck Inspection:	
Roller bearings - no visual damage and in accordance with Rule 36	✓
Roller bearings - no unusual noises; hand spun or run-by test	✓
Bearing Adapters - within wear limits and in accordance with Rule 37	✓
Drive systems - no visual damage or leaks	✓
Side frames and bolsters - no visual damage and in accordance with Rule 47 & 48	✓
Ride control - friction shoes & bearing adapters within limits and in accordance with Rule 46	✓
Springs - no damage, correctly seated and in accordance with Rule 50	✓
General - no visual damage, all components secured and in accordance with Rule 74	✓
NOTES:	

Chassis Inspection:	
Chassis and sub-frames - no cracks, twists, other visual damage	✓
Center plates and side bearing - no visual damage and in accordance with Rule 60, 61, and 62	✓
Body & decking - no structural, cladding, or decking damage	✓
Loading - load is balanced and secure	✓
Coupler and draft arrangement - no visual damage and in accordance with Rule 16	✓
General - no visual damage, all components secured and in accordance with Rule 74	✓
NOTES:	

Figure 51 - Post-derailment inspection form. Page 1 of 2



### CTEM Post-derailment & Accident Damage Inspection Form

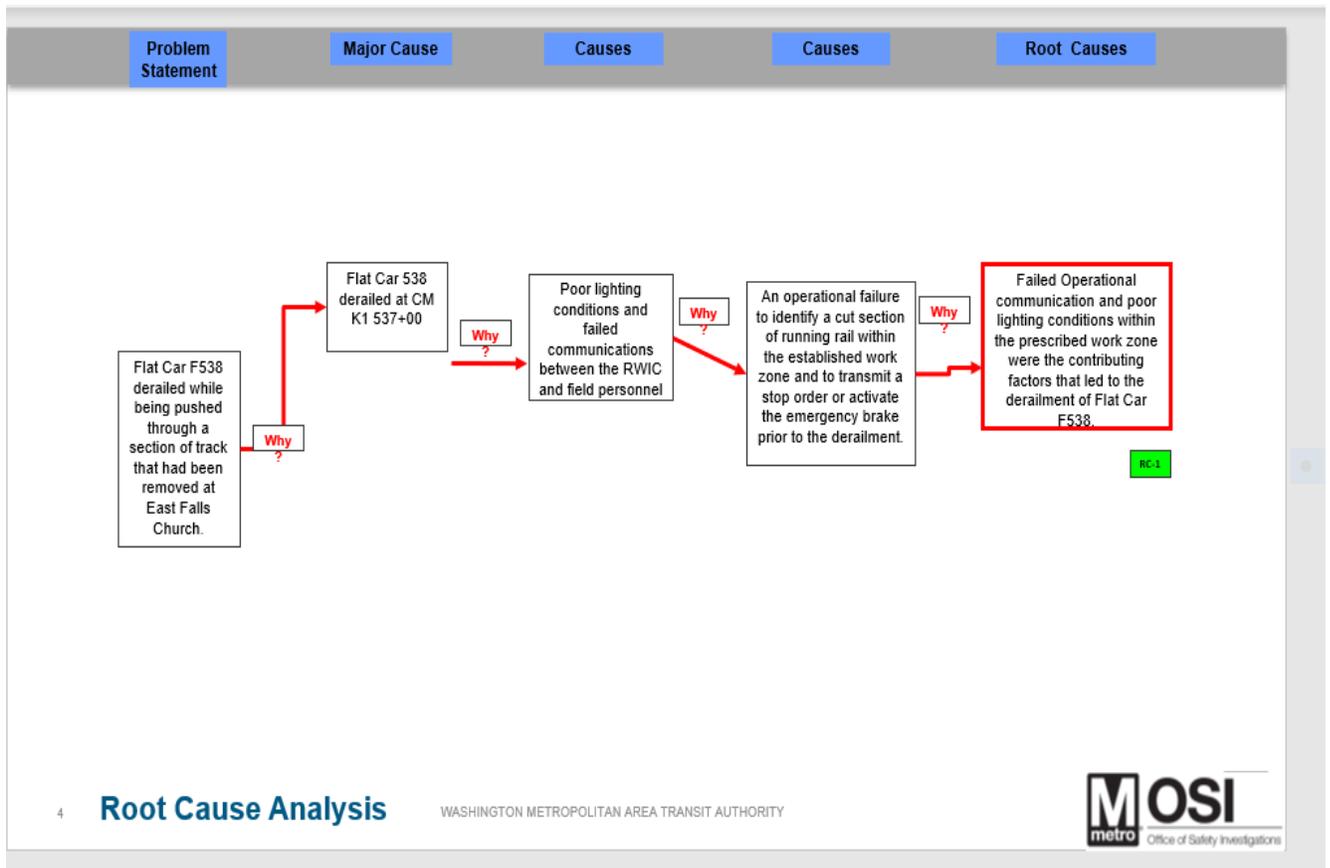
Wheel Inspection:	
Wheels - Discoloration, cracks, spalling, and signs of movement	<input checked="" type="checkbox"/>
Gauging - Back to back measurement and in accordance with Rule 43	<input checked="" type="checkbox"/>
Gauging - Flanges & tread, and in accordance with Rule 41	<input checked="" type="checkbox"/>
General - no visual damage	<input checked="" type="checkbox"/>
NOTES:	
Brake Inspection:	
Brake rigging & cylinders - no visual damage or apparent leaks	<input checked="" type="checkbox"/>
Brake hoses & trunk lines - no visual damage or apparent leaks	<input checked="" type="checkbox"/>
Brake piping, valving and cocks - no visual damage or apparent leaks	<input checked="" type="checkbox"/>
Brake operation - passes functional test	<input checked="" type="checkbox"/>
Friction shoes - greater than 3/8" and accordance with Rule 12	<input checked="" type="checkbox"/>
Rolling brake test - unit stop as designed without locking up wheels	N/A
Hand brake - no visual damage and applies as designed	<input checked="" type="checkbox"/>
General - no visual damage, all components secured and in accordance with Rule 74	<input checked="" type="checkbox"/>
NOTES:	
Miscellaneous Equipment Inspection:	
Horn - operational	<input checked="" type="checkbox"/>
Lighting - operates as designed	<input checked="" type="checkbox"/>
Radio - perform radio check, operates as designed	N/A
Propulsion and braking controls - all controls operate as designed	N/A
Cameras - clear picture, operates as designed	N/A
Emergency equipment - Interlocks emergency valves, E-stops, etc., operate as designed	N/A
Locks & restraints - mechanical locks and restraints are in place and operate as designed	<input checked="" type="checkbox"/>
NOTES:	
Inspection Fault Report:	
Can unit be returned to service? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Inspector's Signature: _____	

Figure 52 - post-derailment inspection form Page 2 of 2

## Appendix P - Why-Tree Analysis

Incident Date: 06/04/2023 Time: 23:18 hours  
 Final Report – Derailment Rev. 1  
 E23373

Drafted By: SAFE 706 – 07/25/2023  
 Reviewed By: SAFE 71 – 08/02/2023  
 Approved By: SAFE 71 – 08/03/2023



4 **Root Cause Analysis**

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

