

**REPLACEMENT OF CHILLER  
AND COOLING TOWERS AT  
THREE (3) METRO-RAIL  
STATIONS, MD AND DC**

**IFB No.: FQ17162/KKB**

**CONTRACT No.: FQ17162**

**Volume 5 – WMATA Safety and  
Security Plans and Documents**

# Issuance Form

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**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

**METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK**

**Temporary / Permanent Order Issuance Form**

Signing this form verifies that you have read and understood all of the permanent and temporary orders. Your signature also verifies that you have removed and replaced pages with old rules and procedures in your MSRPH with new language provided through the Permanent Orders. All active Temporary Orders shall be placed at the back of the book under the Temporary Order tab.

Date of Order	Permanent or Temporary Order Number	Employee Signature and Date	Supervisor Signature and Date	Comments/ Notes



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# Preface

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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

## METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK

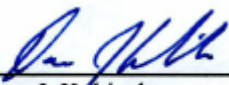
### Preface

We are pleased to endorse this updated version of the Metrorail Safety Rules and Procedures Handbook (MSRPH). This update represents the combined efforts of various Departments within WMATA and is the result of extensive research into the most effective methods of operating safely and efficiently. This version of the MSRPH supersedes and replaces the January 2004 issue of the MSRPH. Changes included in this revision are:

- Incorporation of all previous orders, and addition, modification or elimination of rules and procedures based on best practices and current operating conditions
- Use of a rule book binder to incorporate immediately into the rule book all Permanent and Temporary Orders with a Revision Form in front of the book to document changes
- Standardization of all Standard Operating Procedures (SOPs)
- Organization of SOPs by type of activity and use of tabs to easily find rule book content
- Replacement of illustrations with pictures and color throughout the book
- Addition of Yard and Mainline maps and an updated glossary
- Use of new Roadway protection terms and activities


Adherence to the rules set forth in this update is required of all personnel working in and around the rail system and will enable us to continue to provide the safest and most reliable system possible.

### APPROVALS



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Dave J. Kubicek  
Assistant General Manager  
Department of Transit Infrastructure and  
Engineering Services



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James M. Dougherty  
Chief Safety Officer  
Department of System Safety and  
Environmental Management



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
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# **Rule Change/Revision Procedures**

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**INTRODUCTION, ISSUANCE, REVISION AND UPDATE OF THE METRORAIL  
SAFETY RULES AND PROCEDURES HANDBOOK**

**1.0 PURPOSE**

This procedure governs all matters pertaining to the issuance, revision and update of the Metrorail Safety Rules and Procedures Handbook (MSRPH)

**2.0 SCOPE**

This procedure applies to all WMATA employees and contractors whose jobs require them to work in or around the Metrorail system, in an operations or maintenance capacity, as safety inspectors, as design and construction managers, planners, marketing managers, etc. Finally, it applies to any employee using the system for transportation, whether on or off duty.

**3.0 DEFINITIONS**

- 3.1 Permanent Order – Revision to, addition to or deletion of a rule and/or procedure requiring physical page replacement of old with new rule and/or procedure in employee's Rule Book.
- 3.2 Rule Book Committee – Metro representatives brought together to write and revise modal Rule Books.
- 3.3 Rule Book Custodian – Representative who maintains the controlled copy of the Rule Book, the distribution list for hard copies, and supporting documentation for revisions.
- 3.4 Temporary Order – A rule or procedure change existing for a specified time period not to exceed one year from issuance. Temporary orders are added to the back of the Rule Book.

**4.0 RESPONSIBILITIES**

- 4.1 The General Manager and Deputy General Manager shall be responsible for ensuring roles and responsibilities for developing, implementing and enforcing safety rules and procedures are clearly defined.
- 4.2 The Chief Safety Officer shall be responsible for:
  - (a) ensuring that the System Safety Policies and Procedures manual is written, communicated, maintained and followed;



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- (b) approving Rule Books, Permanent and Temporary orders;
- (c) assigning representatives to specific modal Rule Book Committees;
- (d) ensuring valid recommendations made by internal investigations and outside agencies (e.g. TOC, NTSB) are considered in the development of rules and procedures.

#### 4.3 Assistant General Manager for RAIL shall be responsible for:

- (a) ensuring Rule Books are written, communicated, maintained and followed;
- (b) ensuring Rule Book Committees are established by assigning Rule Book Committee leaders and Rule Book custodians for each mode and ensuring the Committees meet in frequencies as outlined;
- (c) approving Rule Books, and Permanent and Temporary orders;
- (d) ensuring development of quality assurance function and departmental quality control programs to ensure compliance.

#### 4.4 Executive Managers/Directors/General Superintendents are responsible for:

- (a) ensuring risk assessment is conducted and used to prioritize the development, training and compliance of rules and procedures and identify Cardinal Rules;
- (b) establishing pass/fail scoring standards for Rule Book competency.

#### 4.5 Superintendents are responsible for:

- (a) ensuring rules and procedures are disseminated to all employees;
- (b) identifying risks and communicating, to General Superintendents/Directors, the need for rules and procedures to mitigate these risks;
- (c) ensuring employees have access to all rules and procedures;
- (d) ensuring employees are trained on the appropriate Rule Book;
- (e) implementing departmental quality control program to ensure compliance with rules and procedures;



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- (f) investigating non-compliance to rules and procedures and take appropriate action to ensure compliance.
- 4.6 Rule Book Custodians are responsible for:
- (a) maintaining all Rule Book source documents, committee discussions, and justifications for rule changes;
  - (b) maintaining all requests for rule changes;
  - (c) maintaining a list of active and inactive Temporary rule changes;
  - (d) providing electronic/intranet access to current Rule Books and active temporary changes;
  - (e) numbering, issuing and notifying appropriate General Superintendents and Directors of approved Permanent and Temporary orders;
  - (f) responding to subpoenas and Public Access to Records Policy requests.
- 4.7 General Counsel (COUN) and Workforce Services - Office of Employee and Labor Relations (LABR) are responsible for developing and revising common rules of conduct which shall appear in modal Rule Books.
- 4.8 Rail Rule Book Committees shall be responsible for:
- (a) reviewing and updating rules and procedures;
  - (b) ensuring Rule Books meet the criteria defined in this P/I;
  - (c) assessing the need for new, changed rules and/or procedures based on the input from Local Safety Committees, outside agencies (e.g. TOC, APTA, NTSB) and employees.
- 4.9 Safety Committees (Advisory, Local, Departmental, Executive) are responsible for providing rule or procedure revisions and justifications based on analysis of accident/incident trends and employee suggestions to the Rule Book Custodian for consideration of the Rule Book Committee.



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**5.0 POLICIES AND PROCEDURES**

5.1 Initiating Rules and Procedures - Changes to a Rule Book can be initiated through the following means:

- (a) Local Safety Committees will make recommendations for changes based on:
  - (1) Employee Suggestions;
  - (2) Local Investigations;
  - (3) Incident Trends;
  - (4) Safety Conversations;
  - (5) Hazard Analysis.
- (b) SAFE will make recommendations for changes based on:
  - (1) SAFE Investigation Corrective Action Plans;
  - (2) Outside agency recommendations (NTSB, TOC, APTA).
- (c) Executive Managers and Office Directors will make recommendations for changes based on:
  - (1) Changes in Industry Standards;
  - (2) APTA Standards and Recommended Practice Changes;
  - (3) Changes in Regulatory Requirements;
  - (4) Immediate Needs.

5.2 Rule Book Change Evaluation

- (a) Local Safety Committees (LSCs)
  - (1) LSCs shall review and screen recommendations for rule and procedure changes;



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- (2) LSCs shall make a determination if change will improve safety or operations and whether or not the change is urgent by referencing the Rule Book Management PI 1.15 on the intranet;
  - (3) LSC requests for rules and procedures revisions shall indicate whether or not the committee considers the request urgent and so indicate;
  - (4) All non-urgent rule and procedure additions, revisions or deletions recommended by the LSC shall be forwarded to the Rule Book Custodian after referencing the Rule Book Management PI 1.15 on the intranet;
  - (5) Urgent requests shall also be forwarded to the appropriate General Superintendent, Director or Executive Manager in addition to the Rule Book Custodian. The General Superintendent, Director or Executive Manager shall determine if the rule change is appropriate. If they concur, either Subject Matter Experts or a special session of the Rule Book Committee will be convened to author a Temporary order.
- (b) SAFE or Executive Management (including Office Directors, General Superintendents or Superintendents) may determine a rule revision is required. If so, they shall:
- (1) direct Subject Matter Experts (from offices affected by the rule or procedure change) or a special session of the Rule Book Committee to convene to author urgent requests.
  - (2) Subject Matter Experts shall become champion of the rule change.
  - (3) direct Non-urgent requests to the Rule Book Custodian for normal processing at the next Rule Book Committee session.

#### 5.3 Writing Rules

- (a) Writing or Updating Rule Books
- (1) The Rule Book Committee shall review bi-annually and revise, as necessary, the modal Rule Book. The committee shall justify revisions and document committee discussion around changes.
  - (2) The Rule Book custodian will forward Committee recommended rule changes and documented discussion to impacted departments for comment.



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- (i) All departments providing comments shall submit them to the Rule Book Custodian within a specified time period using the Comment Resolution form (Appendix B).
  - (ii) The Rule Book Committee will address departmental comments and alter a rule or procedure as they deem necessary and provide responses to comments within 30 days.
- (b) Writing and Initiating Temporary or Permanent Orders
  - (1) The Rule Book Committee or relevant Subject Matter Experts shall author Permanent or Temporary Orders.
  - (2) Subject Matter Experts shall get consensus from impacted offices and the Rule Book Committee Chair prior to issuing Orders to ensure Orders address valid concerns and are in the proper format.
  - (3) Temporary and Permanent Orders shall be written using the appropriate format.
    - (i) All Temporary and Permanent Orders shall have signature lines for the Managing Director, Office Director, or General Superintendent of the recommending and impacted offices.
    - (ii) All Temporary and Permanent Orders shall have approval signature lines for the AGM of the Mode and concurrence signature line for the Chief Safety Officer. All signature lines shall be on a separate page with the Order Number displayed on top.
    - (iii) The Rules and Procedures Justification form (Appendix A) shall be completed when rule recommendations are issued by Local Safety Committees or individuals.
- (c) The champion of the Order shall determine the routing of approvals, starting with the initiating office, followed by impacted offices, followed by Chief Safety Officer, followed by AGM of the Mode and finally to the Rule Book Custodian (for publication).
- (d) The champion is responsible for the movement of the Orders through the organization to ensure approval in a timely fashion.



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#### 5.4 Approving Rules

- (a) Rule Book Committees shall recommend Rule Book revisions to the AGM of the mode and Chief Safety Officer for approval.
- (b) The AGM of the Mode and the Chief Safety Officer shall both approve Permanent and Temporary Orders and the MSRPH. The Subject Matter Expert or author of the Temporary Order must submit the Temporary Order and a memo justifying the Order (see Appendix C) to the Rule Book Custodian for issuance.

#### 5.5 Issuing Rule Book Revisions

- (a) Rule Book Custodians shall notify all General Superintendents and Directors of approved Permanent and Temporary Orders, confirm receipt and immediately issue the rule or procedure change on Permanent or Temporary Orders memo head with old language stricken and new language bolded .
  - (1) Custodians are responsible for numbering the Order and posting on intranet sites.
  - (2) Within one month of Order approval (to allow time for reproduction) copies of the following shall be provided to all employees:
    - (i) written memo justifying and explaining the rule and/or procedure change and instructions on how to incorporate the changes in the physical Rule Book);
    - (ii) Rule Book Revision form which shows a list of Permanent or Temporary Orders that have been issued since the last printing of the Rule Book);
    - (iii) actual pages to be replaced in the Rule Book.
  - (3) Subsequent changes to an active Temporary Orders shall be issued under a new Order number with an attached revision number. For example, if Temporary Order T-08-03 was revised to extend the expiration date, the new Order number would be T-08-03-1.
- (b) Rule Book Custodian shall notify General Superintendents and Directors of discontinued Temporary Orders, confirm receipt and provide:



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- (1) a written memo explaining the discontinued Order and how to incorporate the changes in the physical Rule Book;
  - (2) a Rule Book Revision form citing the date the Temporary Order was rescinded.
- (c) General Superintendents and Directors shall notify Superintendents of permanent and temporary orders for distribution.
- (d) Superintendents shall ensure all Rule Book changes are distributed to all employees and Rule Books are properly updated by maintaining master control sheets tracking employee acknowledgment for temporary and permanent rule changes (electronic or signature).
- (e) Employees shall be required to:
- (1) update personal Rule Book with Permanent or Temporary Order as instructed;
  - (2) sign Rule Book Revision Form indicating all Rule Book revisions, since last Rule Book issuance, are in employees Rule Book.

#### 5.6 Maintaining Rule Books

- (a) The Rule Book Committees shall meet as needed to ensure the Rule Book is reviewed and revised a minimum of every two years.
- (1) The Rule Book Custodian maintains the Rule Book Committee agenda.
  - (2) The committee shall review all active Temporary Orders to determine if the Temporary Orders should be made permanent or if they should be discontinued.
  - (3) The Committee shall review all Permanent Orders issued since their last session to determine if any revisions are required.
  - (4) The Rule Book Custodian shall document all rules changes (additions, deletions, revisions) and maintain justification and committee discussion associated with revisions.





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- (b) Rule Book Custodians will maintain a list of Temporary and Permanent Orders since the last Rule Book issuance and associated change documents and instructions on intranet.
- (c) Rule Book Custodians will notify the SSEC Rules and Procedures Subcommittee and other modal Rule Book Custodians of all Permanent Orders.

#### 5.7 Compliance

All offices shall develop a quality control program to ensure compliance to rules and procedures. The quality control program shall include the following elements:

- (a) Rule Prioritization – evaluate which activities pose greatest risk of injury, service disruption or customer dissatisfaction (review Appendix D to help prioritize).
- (b) Roles and Responsibilities – identify who shall be responsible for administering the elements of the Quality Control Program.
- (c) Compliance Checks – identify the activities and associated rules to be monitored for compliance based on 5.8 (a) and
  - (1) determine the frequency of compliance monitoring with increased frequency for Cardinal Rules and dangerous activities;
  - (2) establish the process/guidelines on how to conduct the compliance checks;
  - (3) document the results;
  - (4) monitor observations of employees performing their duties;
  - (5) monitor activities during the same time work is conducted, to include nights, weekends and holidays (locations and times should be varied);
  - (6) conduct monitoring safely, without putting at risk evaluators, employees, contractors, customers, or equipment.
- (d) Corrective Action to address non-compliance – should be commensurate with the seriousness of the rule infraction.



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- (1) Establish the process to complete the corrective action. The process must include time frames to review and respond to non-compliance.
- (2) The corrective action process must ensure that the following minimum requirements are met:
  - (i) non-compliance is clearly noted;
  - (ii) root cause is identified;
  - (iii) the corrective action addresses the root cause of the problem and not only the noted non-compliance; and
  - (iv) document results.



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**METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK**



Appendix C.1

**Washington Metropolitan Area Transit Authority**

**SAFETY RULES AND PROCEDURES MANUAL**  
**METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK**  
**METRO RAIL STATION STANDARD OPERATIONS PROCEDURES MANUAL**  
**BUS SERVICE RULES AND PROCEDURES HANDBOOK**  
**METROACCESS OPERATOR HANDBOOK**

**PERMANENT ORDER**

NO. Rule Book - CY - Order Number (sequential for year)

DATE: Month Day, Year

TO: All Personnel

**Instructions**

**Numbering:**

Permanent and Temporary Order numbers will be issued by the Rule Book Custodian. The order number is a three part alpha numeric separated by hyphens consisting of: 1) the rule book being revised; 2) the calendar year of the order, and; 3) the number of revisions issued that year. The three part order shall use the following conventions:

1) Rule Book being revised:

- SR - Safety Rules and Procedures Manual
- T - Metrorail Safety Rules and Procedures Handbook
- S - Metrorail Station Standard Operations Procedures Manual
- B - Bus Service Rules and Procedures Handbook
- M - MetroAccess Operator Handbook

2) Calendar Year - use last two digits of the calendar year

3) Order Number - two digit number which represents the number of orders issued (sequential number counting both permanent and temporary revisions) that calendar year.

For example, the third revision (permanent or temporary) to the Metrorail Safety Rules and Procedures Handbook in CY 2010 would have the following Order Number: T-10-03. The second revision (permanent or temporary) to the Bus Service Rules and Procedures Handbook in CY 2009 would have the following Order Number: B-09-02.

**Conventions:**

New Language shall be bolded  
 Old language shall be stricken

**Format:**

Actual Rule or Procedure Change



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

### METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

Reason for change - Provide the rationale for the request by indicating the impact on safety, occupational health, the environment, customer satisfaction, and/or maintenance and operations effectiveness

Existing controls affected - Indicate the safety controls, engineering controls, administrative controls, personal protective equipment that will be removed or affected if the recommendation is implemented.

New Controls added - Indicate what safety controls, engineering controls, administrative controls, personal protective equipment will be added to address the loss of previously existing controls.

Bullet Summary



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

**METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK**

**Approvals:**

Permanent Orders are Recommended by Rule Book Committee Chair, Subject Matter Expert, Concurrence from Impacted Offices and Approved by AGM of Mode and Chief Safety Officer

**Approval of Permanent Order T-08-04**

---

Recommended:  
Name  
Rule Book Committee Chair

---

Concur:  
Name  
Office

---

Approved:  
Name  
Assistant General Manager  
MODE

---

Concur:  
Name  
Chief Safety Officer



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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK



Appendix C.2

Washington Metropolitan Area Transit Authority

SAFETY RULES AND PROCEDURES MANUAL  
METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK  
METRO RAIL STATION STANDARD OPERATIONS PROCEDURES MANUAL  
BUS SERVICE RULES AND PROCEDURES HANDBOOK  
METROACCESS OPERATOR HANDBOOK

**TEMPORARY ORDER**

NO. Rule Book - CY - Order Number (sequential for year)

DATE: Month Day, Year

TO: All Personnel

**Instructions**

**Numbering:**

Permanent and Temporary Order numbers will be issued by the Rule Book Custodian. The order number is a three part alpha numeric separated by hyphens consisting of: 1) the rule book being revised; 2) the calendar year of the order, and; 3) the number of revisions issued that year. The three part order shall use the following conventions:

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New Language shall be bolded  
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Actual Rule or Procedure Change



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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New Controls added - Indicate what safety controls, engineering controls, administrative controls, personal protective equipment will be added to address the loss of previously existing controls.

Bullet Summary





# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

## METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

### Approvals:

Temporary Orders are Recommended by Rule Book Committee Chair, Subject Matter Expert;  
Concurrence from Impacted Offices and Approved by AGM of Mode and Chief Safety Officer

### Approval of Temporary Order B-08-03

---

Recommended:  
Name  
Rule Book Committee Chair

---

Concur:  
Name  
Office

---

Approved:  
Name  
Assistant General Manager  
MODE

---

Concur:  
Name  
Chief Safety Officer



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**SOP #10** – FLOODS ..... **Emergency SOPs**

**SOP #11** – TRAIN COLLISION - MAINLINE ..... **Emergency SOPs**

**SOP #13** – UNDESIRED UNCOUPLING OR PULL APART OF CARS IN A TRAIN .... **Train Malfunction SOPs**

**SOP #14** – BOMB THREAT/SUSPICIOUS PACKAGE/UNATTENDED PACKAGE ..... **Emergency SOPs**

**SOP #15** – ABSOLUTE BLOCK / PERMISSIVE BLOCK ..... **Train Movement / Track Operation SOPs**

**SOP #16** – COUPLING AND UNCOUPLING REVENUE CARS .... **Train Movement / Track Operation SOPs**

**SOP #18** – LOST AND FOUND ..... **Customer Assistance / Emergency Procedure SOPs**

**SOP #19** – MAINTENANCE AND TESTING ON REVENUE FACILITIES ..... **Roadway Worker Protection (RWP) SOPs**

**SOP #23** – WORK TRAIN CONSISTS AND OPERATION ..... **Roadway Worker Protection (RWP) SOPs**



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**SOP #24 – SICK PASSENGER ON A TRAIN . Customer Assistance / Emergency Procedure SOPs**

**SOP #25 – PERSON FALLING TO TRACK ... Customer Assistance / Emergency Procedure SOPs**

**SOP #26 – PERSON HIT BY TRAIN .... Customer Assistance / Emergency Procedure SOPs**

**SOP #27 – FLAMMABLE VAPOR ALARM ..... Emergency SOPs**

**SOP #28 – PROTECTION FOR ROADWAY WORKERS AND ESTABLISHMENT OF THIRD RAIL POWER OUTAGES AND WORK AREAS ON THE ROADWAY ..... Roadway Worker Protection (RWP) SOPs**

**SOP #29 – BLUE FLAG PROTECTION-STORAGE AND MAINTENANCE YARDS ..... Roadway Worker Protection (RWP) SOPs**

**SOP #30 – SPEED RESTRICTION FOR THE MAINLINE ..... Roadway Worker Protection (RWP) SOPs**

**SOP #31 – COORDINATION OF AN EMERGENCY IN A COMMON CORRIDOR ..... Emergency SOPs**

**SOP #32 – RECOVERY TRAIN OPERATIONS ..... Train Malfunction SOPs**

**SOP #34 – DEFECTIVE TRAINS ..... Train Malfunction SOPs**

**SOP #35 – HAND CRANKING AND BLOCKING AND CLAMPING OF SWITCHES . Train Movement / Track Operation SOPs**

**SOP #37 – HAZARDOUS MATERIAL INCIDENT ..... Emergency SOPs**

**SOP #38 – UNKNOWN SUBSTANCE RESPONSE PROCEDURE ..... Emergency SOPs**

**SOP #39 – LOCKOUT/TAGOUT PROCEDURE FOR TRACTION POWER SUBSTATIONS .**

**SOP #40 – DOOR OPERATIONS ..... Train Movement / Track Operation SOPs**

**SOP #41 – WMATA ESCORT PROCEDURES ... Roadway Worker Protection (RWP) SOPs**

**SOP #42 – HAZARDOUS CHEMICAL DETECTION ALARM PROCEDURES .. Emergency SOPs**

**SOP #43 – INTERCAR BARRIERS ..... Train Movement / Track Operation SOPs**

**SOP #45 – REMOVING REVENUE VEHICLES FROM SERVICE ON MAINLINE AND AT TERMINAL LOCATIONS ..... Train Movement / Track Operation SOPs**





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# New with Revision

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**New with Revision:**

Below is a list of rules, by section, that have been changed with this revision:

**Section 1:**

1.1 All employees of WMATA, regardless of rank or title, shall be knowledgeable of the rules set forth in this manual that apply to the actions that they take, as well as rules and procedures contained in documents pertaining to their specific work assignments. The Roadway Worker in Charge (RWIC) and/or Escort shall be responsible for ensuring WMATA contractors and visitors abide by the rules set forth in this manual as it pertains to specific work assignments

1.7 Additional instructions are issued when required, either verbally by members of the supervisory force, or written in the form of a notice which is posted on the bulletin board. Employees shall review the bulletin board when reporting for duty, and shall be held accountable for all verbal and written instructions.

When required, all employees shall acknowledge, by signature, that they have received, read and that they understand written notices and/or changes to the rules and procedures.

1.26 Employees, contractors and other authorized parties involved in any accident or serious incident are required to submit to a substance abuse examination immediately following the event. While waiting for the results of such an examination, employees will not be allowed to perform any safety sensitive duties.

Employees, contractors and other authorized parties are required to submit to a substance abuse examination, if in the opinion of a supervisor, a police officer, or Authority medical personnel, there is justifiable reason to believe that the employee is under the influence of any substance referred to in Rule [1.24](#).

1.32 Employees involved in, witnessing, or informed of an accident or incident, to include near misses, on the Metrorail system shall inform their supervisor, Transit Police, ROCC and/or other appropriate authority as soon as possible, and shall file a written report.

1.36 At the time of the accident/incident, names and addresses of witnesses and all other pertinent information shall be obtained and included in all accident/incidents reports.

1.42 Employees using their WMATA ID cards to obtain free transportation on the Metrobus system shall process their IDs through the farebox. Employees using their WMATA ID cards to obtain free transportation on the Metrorail system shall process their IDs through the faregate.



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- 1.47 While on WMATA property employees shall refrain from holding conversations with other employees who are on duty, and shall not interfere with the proper handling of passengers or equipment in any way.
- 1.70 Employees shall use only WMATA issued communications devices, unless otherwise authorized or during an emergency.
- 1.76 Employees shall use plain language when describing emergency situations.
- 1.78 Employee shall, when communicating with ROCC, provide train/unit number or name/title and location (including track number, when appropriate). ROCC shall acknowledge employee by repeating train number, location and track.
- 1.79 Employees shall not take any action until they are positive that all radio transmissions or receptions are heard, fully understood and acknowledged. Individual radio transmissions shall be repeated by the receiver so the transmitter can confirm the message was received completely and by the intended receiver.

When communicating with Class I and Class II vehicles, employees are to identify the train ID or unit ID by the complete number series. This method of positive train/unit identification shall be consistently used when transmitting and acknowledging information. Examples: Train ID 404 shall be identified as “four zero four”. Train ID 414 shall be identified as “four fourteen”, instead of “four one four”. Train 932 shall be identified as “nine thirty two”. PM-32 shall be identified as “PM thirty two” instead of “PM three two”.

- 1.81 Employees shall use only the assigned radio channel/talk group unless otherwise authorized.

#### **Section 2:**

- 2.1 Employees, while on or off duty, shall not conduct themselves in any manner that gives just cause for arrest or indictment, or bring disgrace to co-workers or to WMATA.
- 2.2 Employees shall be courteous and orderly in their dealings with the public in accordance with the WMATA 100% Service-Five Point Pledge.
- 2.9 The solicitation of contributions, the sale of tickets or merchandise, or the collection of money by employees on duty, or on about WMATA premises, for any reason, are not authorized except from the proper authority.



- 2.11 Off duty employees who are arrested or charged with criminal or serious traffic offenses, such as driving while intoxicated and driving with a suspended license, arising from an incident occurring on or off duty shall report the matter, in writing, to their supervisor prior to beginning their next work assignment. Employees arrested or charged with criminal or serious traffic offenses, while on duty shall report the incident immediately to the division superintendent or designee.

Any employees incarcerated, on probation or parole supervision, or held out from active duty on administrative leave pending a court decision shall report in writing, on a weekly basis, to the division superintendent the status of that employee's incarceration, probation, parole or pending court proceeding.

### Section 3:

#### Graphics have been moved in-line with procedures.

- 3.7 The Metrorail Operations Control Center and all Yard Control Towers are designated as "Restricted Areas". Employees shall not attempt to enter these facilities except in the performance of their duties, or unless specifically authorized by the Supervisor / Interlocking Operator on duty.
- 3.13 Train Operators shall be available in the operating cab and keyed up at least two (2) minutes before their scheduled departure times.
- 3.13.1 Operators shall depress ATO start and verify lunar signal, speed commands and correct alignment one minute prior to their scheduled departure
- 3.13.2 For mode 2, level 1 operations, Operators shall verify lunar signal and speed commands prior to moving the mode selector switch to manual.
- 3.13.3 DELETED
- 3.13.4 DELETED
- 3.14 Train Operators shall arrive at and/or depart from yards, terminals, and stations at the scheduled times unless otherwise instructed by ROCC or a Rail Operations Supervisor.
- Operators are required upon entering the terminal to identify themselves by providing their name, train ID and the number of cars in their consist. Terminal Supervisors, when manned, shall acknowledge consist length.
- 3.17 Train Operators shall display and comply with Authority issued running time cards.



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3.22 Mode 2 - Level 2 is the normal operating mode in yards. On the mainline, vehicles shall not be operated in Mode 2-Level 2 unless specifically authorized by ROCC to "operate in Mode 2 with zero speed commands", except as stated in 3.79.

3.29 When in Mode 2 - Level 2, a Class I vehicle shall be operated at Restricted speed (15 mph or less, or as directed by ROCC) on the mainline being prepared to stop within half the range of vision, short of any train, obstruction, broken rail or improperly aligned switch. Speed is governed by Rule 3.84 for yard operations.

When in Mode 3, a Class I vehicle shall be operated using absolute block procedures as defined in SOP #15 and SOP # 4.6 through 4.9 (related rules [3.1](#) and [3.30](#)).

3.31 Train Operators shall not change operating modes on the mainline without authorization from ROCC or as instructed in the General Orders, except when changing from Mode 1 to Mode 2 in order to adjust a train within the platform limits. (See Rules [3.20](#), [3.21](#), [3.22](#), [3.79](#) and [3.87.b](#)). All activations of the ATO Stop shall be reported to the Rail Operations Control Center.

3.33 Seals on control switches on the Operator's Circuit Breaker Panel of Class I vehicles shall not be broken without authorization from ROCC or the Interlocking Operator (with inspection shop supervisor approval) except by qualified Car Maintenance employees performing testing while in the shop.

3.34 Train Operators shall check all control switches that are normally sealed to ensure that the seals are intact and in the correct position.

3.39 Following POWER KNOCKOUT BYPASS activation, the Train Operator shall perform a Rolling Test, prior to operating the train.

3.39.1 Interlocking Operators shall get prior approval from the CMNT Inspection Office prior to authorizing Operators to activate the Power Knockout switch to move rail cars in the yard.

3.39.2 Operators shall immediately stop, inform the tower and request CMNT assistance before attempting to complete the move if there is any doubt that all wheels of the consist are rolling free when Power Knockout is activated.



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- 3.79 Train Operators shall not move trains with zero speed commands except after notifying ROCC and being given permission to move with zero speed commands and an absolute block for the move.

Upon losing speed commands on the platform, the operator may adjust the train in the same direction of traffic to service the station without contacting ROCC for permission. After servicing the station the operator must contact ROCC for permission to leave and an absolute block for the move if speed readouts do not return (See Rules 3.20, 3.21, 3.22 and 3.31).

- 3.85 When notified of inclement weather, slippery conditions, or limited visibility, ROCC shall direct Class I vehicles to operate in Mode 2 Level 1 at a speed no greater than 49 mph at above ground locations and to enter stations at a speed no greater than 25 mph. ROCC shall establish performance levels in the affected area to limit speeds to 49 mph.

- 3.87 Rail vehicle operators shall maintain a constant lookout in the direction in which their vehicles are moving. When rail operators observe persons on the roadway, they shall:

- a. Sound mainline horn to warn those people of the vehicle's approach. If personnel do not physically clear the roadway and appropriate acknowledgement of the horn signal is not received, the vehicle shall be brought to an immediate stop and the train operator shall contact the Rail Operations Control Center (ROCC) and await their instructions before moving the train. Train Operators shall report all near misses to ROCC.



**Notice:** Opposite Track Trains: This rule shall not apply to gang(s) with designated watchman/lookouts working on the opposite track. The watchman/lookout shall acknowledge the approaching train by facing the train and giving/displaying the proper proceed/clear signal. The Train Operator shall acknowledge with two horn blasts. The gang shall not have to clear the tracks.

- b. Upon receiving the appropriate proceed/clear signal from the watchman/lookout on the roadway, and verifying that all personnel and equipment are clear of the roadway, the Train Operator shall:
  - acknowledge the proceed/clear signal with 2 mainline horn blasts (individuals on the roadway do not have to continually proceed trains after the Train Operator's acknowledgement);
  - stop and switch to Mode 2, Level 1 if not already in manual mode;
  - discontinue sounding train horn after acknowledgement, and;



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- continue at 35 mph until clear of personnel on either track.
- c. Upon clearing the personnel on the roadway, return to the prescribed operating mode.

3.87.1 Rail vehicle operators shall sound their horns when entering and exiting tunnel portals, except when the installed Automatic Train Approach Warning System (ATAWS) is functioning properly, indicated to the operator by a briefly flashing strobe light on approach to the portal. Rail vehicle operators shall notify ROCC of failed or malfunctioning ATAWS.

In the stations listed below, the horn shall not be blown between the hours 9:00 PM and 6:00 AM, *unless necessary to warn of imminent danger.*

Potomac Yard  
Silver Spring  
Grosvenor  
West Hyattsville  
Morgan Boulevard  
Largo Town Center

- 3.87.2 The routine use of standard train horns within West Falls Church and Glenmont Yards is prohibited. In lieu of sounding the standard train horn in the yard, operators shall use the yard horn in all situations that call for sounding the standard horn. Standard train horns shall be used in emergency situations only. The operational check of the train's standard horn shall be performed at the time the train enters the Main Line.
- 3.90 Rail vehicle operators shall be alert for changing rail conditions, and shall exercise extra care when operating in areas which may be affected by oil, grease, leaves, water, or any other substance which could cause running rails to become slippery and shall adjust their speed accordingly.
- 3.91 Rail vehicles shall not be operated so as to collide with another vehicle, bumping post, or obstruction.

Train Operators shall activate the emergency stop pushbutton (mushroom) any time a train must be stopped to prevent a collision with any object or, when the train fails to respond to a call for normal braking from the Master Controller. All activations of the mushroom shall be reported to the Rail Operations Control Center.





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- 3.96 Whenever a Class I or Class II rail vehicle is operated from other than the lead car/end or from either end of a flat car (whether pushing or pulling), a qualified employee shall be assigned as a flag person. Positive communications shall be established between the operator and the vehicle flag person. The Operator shall confirm that the flag person clearly understands each authorized move before proceeding. If communication is lost, the operator shall bring the vehicle to a stop.
- 3.108 When a Class II vehicle is ordered out of a work area, the operator shall release handbrakes, make certain the track ahead is clear, check with vehicle flag person to make certain track is clear, and sound the horn to alert personnel on the roadway.
- 3.110 When a flatcar is being used, it is the Operator's responsibility to ensure that:
- a. The bed of the car is properly prepared to alleviate slippery conditions;
  - b. The weight of the load is evenly distributed on the car;
  - c. Material loaded on the car does not obstruct the operator's or vehicle flag person's view of the roadway;
- 3.112 When flat cars are coupled to a diesel unit, the vehicle flag person shall:
- 3.113 When giving signals from a leading flat car that is being pushed, the vehicle flag person must use a white lamp or flag, or give verbal instructions using a radio.
- 3.114 The vehicle flag person shall assist the operator of a Class II vehicle in securing the vehicle at the work site by placing wheel chocks, stops and by setting handbrakes. Likewise, the vehicle flag person shall assist the operator in removing wheel chocks and stops in preparation for train movement. The vehicle flag person shall assist the operator in properly securing all booms and outriggers prior to moving the equipment (Ref. Rules [3.126](#) and [3.127](#)).
- 3.120 In revenue service, Train Operators shall not manually operate any OPEN DOORS control except the crew door key switch while any side doors of the train are outside the limits of a station platform, except when directed by ROCC.
- 3.124.1 When performing a change-off or relief at a station other than a staffed terminal station, Train Operators shall make face-to face contact with their relief so the relief can acknowledge that they will be operating the train in your place. Train Operators shall make announcements advising customers of the relief.



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- 3.124.2 When making a relief or change-off on the mainline, both the Operations Control center (ROCC) Supervisor and the Train Operators involved shall take every step necessary, including cancelling the relief, to ensure uninterrupted train operations with no impact to the customers.
- 3.124.3 When it is necessary for a Train Operator to leave at a station other than a staffed terminal station before a relief operator arrives, the Train Operator shall notify the Operations Control Center (ROCC) as far in advance as possible.
- 3.124.4 After the Operations Control Center (ROCC) has approved the action, the Train Operator shall make regular announcements to the customers, as far in advance of the station as possible, informing them what is about to happen and the estimated daily.
- The Operations Control Center (ROCC) shall instruct the Station Manager at the station where the train will be left to meet the train at the platform and to step into each car of the train and inform the customers that the Train Operator has had an emergency and that a relief operator will be there soon.
- 3.130 When entering maintenance shops, operators shall: stop their vehicles at the stop marker, verify that the shop door is fully open, sound the horn and await assistance from a vehicle flag person.
- 3.130.1 Prior to a rail vehicle entering a maintenance shop, a vehicle flag person shall ensure that there are no obstructions in the path of the rail vehicle.
- 3.130.2 The vehicle flag person shall establish radio communication with the operator and grant permission to enter the shop, either over the radio or by hand signals.
- 3.133 Prior to removing a rail vehicle from maintenance shops, operators and vehicle flag persons shall:
- a. Perform an exterior inspection of the cars to ensure that all obstructions have been removed and that there is no hanging equipment;
  - b. Ensure that turntables, lifts and jacks are clear and aligned properly;
  - c. Ensure that shop power is removed;
  - d. Ensure that all handbrakes are released;
  - e. Ensure that shop doors are fully open;



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- f. Sound horn and wait 5 seconds before moving (Rule 3.19); and
- g. Establish radio communication and get permission from vehicle flag person to move the vehicle and be governed by their instructions until clear of the shop.

3.150 Only the roadway flag person or watchman/lookout shall give a proceed signal to approaching vehicle operators. There is only 1 roadway flag person with red flags or lanterns at the entrance to any work zone. Multiple watchman/lookouts with signaling disk (see picture below) may be required throughout a work zone (large work zone, work zones that include obstructed views, i.e. curves and hills). The operator must acknowledge each roadway flag person or watchman/lookout throughout the work zone. Operator shall sound their horn to signal approach and acknowledgement as required (Refer OR 3.87). All approaching vehicle operators shall be alert and stop vehicles if another roadway worker signals stop in case of an emergency. Operators shall always abide by the most restrictive signal given.



**Notice:** The signaling wand is only to be used as a warning at a fixed work location.

3.153 Flagger aspects, for lamps and flags, are as follows:

- a. Red - STOP;
- b. Green - Resume speed.



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3.154 Flagging lamps and flags shall be located as follows:

- a. Lamps and flags shall be placed on the track structure (right side where possible), in a position which will be clearly visible to the Train Operator.
- b. Lamps and flags must not be placed in conflict with a fixed signal.
- c. Refer to Track Protection Illustrations (Fig. 1-9).

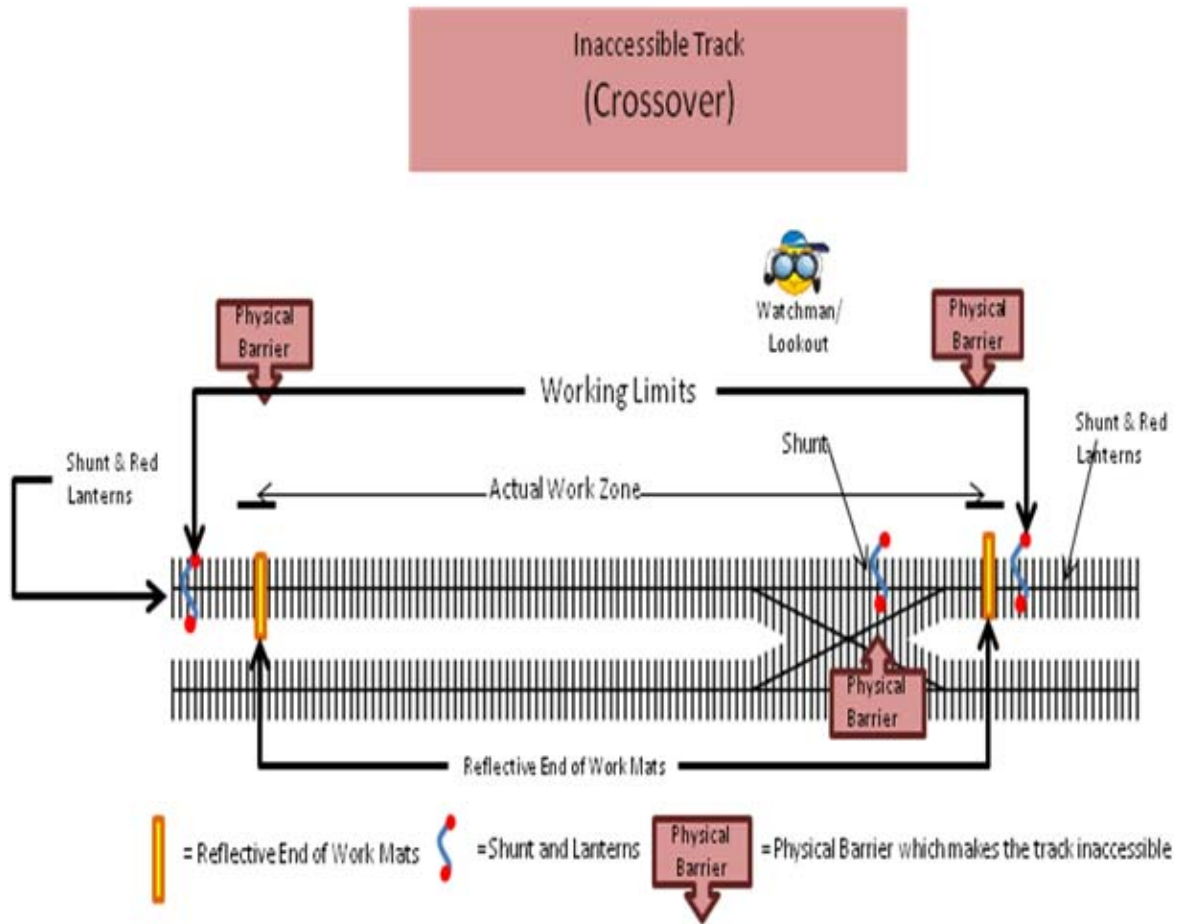


Figure 1



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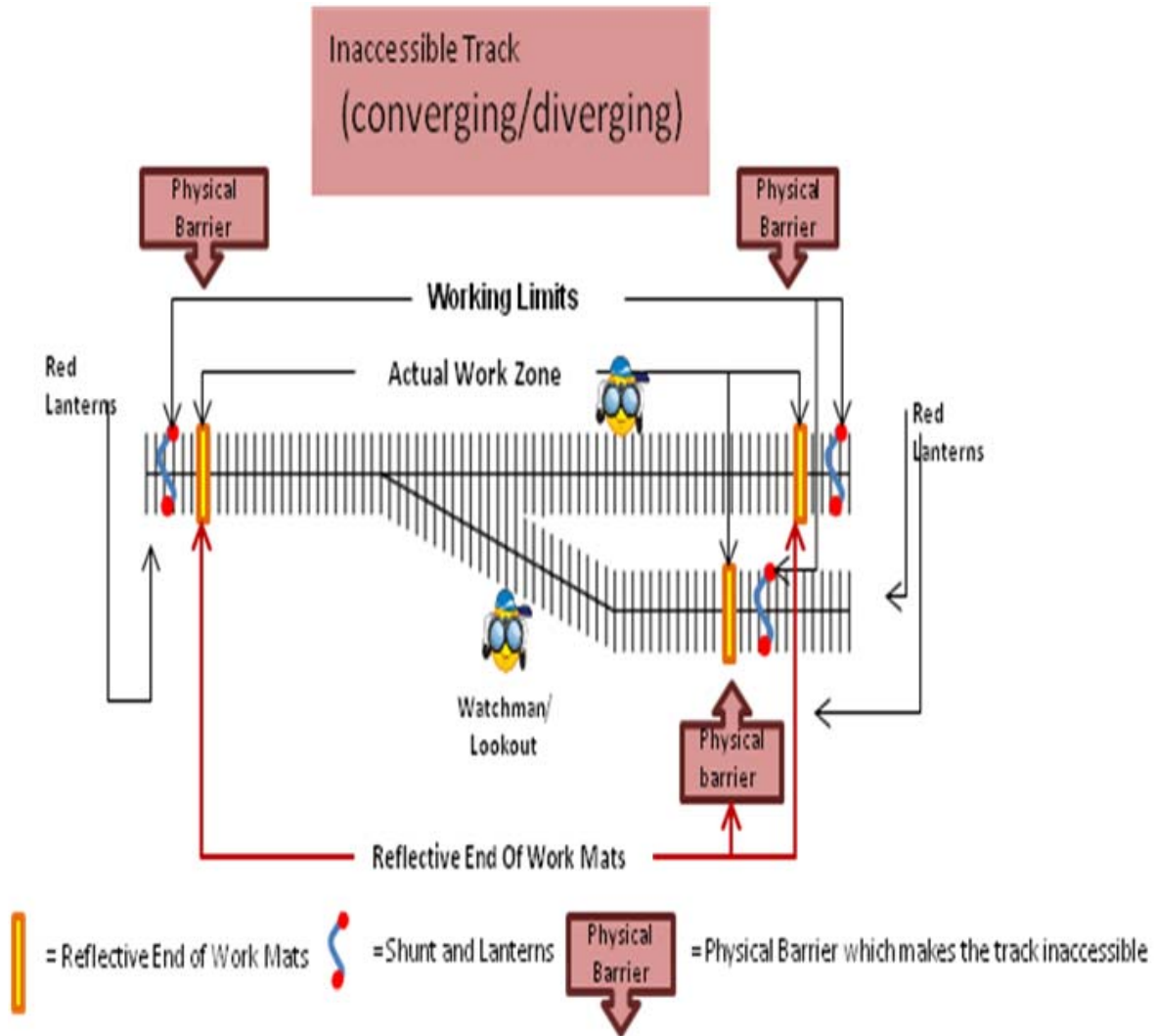


Figure 2

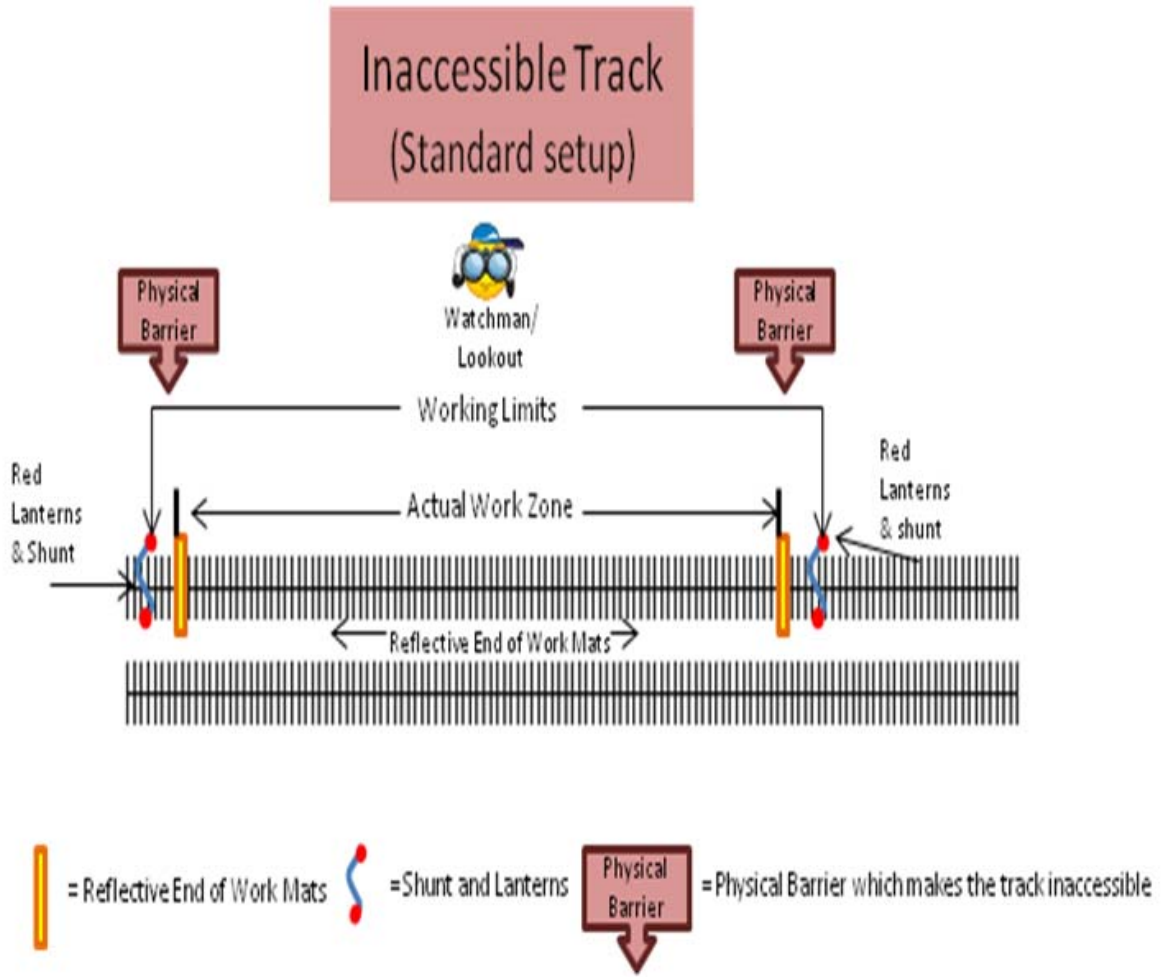


Figure 3



## Exclusive Track Occupancy Protection Standard Work Zones

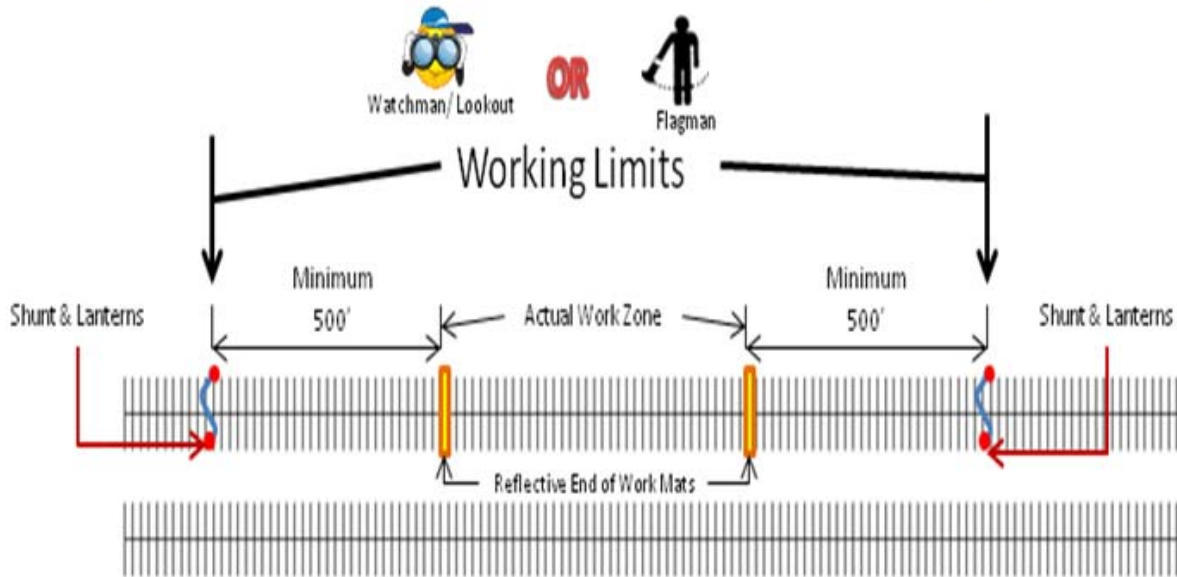


Figure 4



### Exclusive Track Occupancy Protection Crossover Work Zone

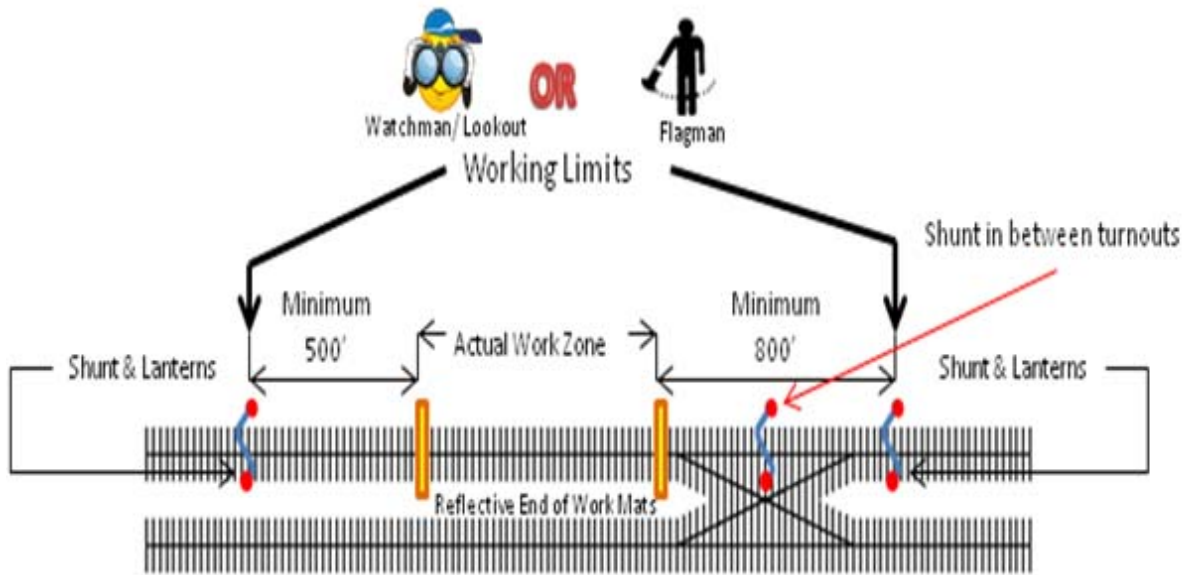


Figure 5





## Exclusive Track Occupancy (converging/diverging)

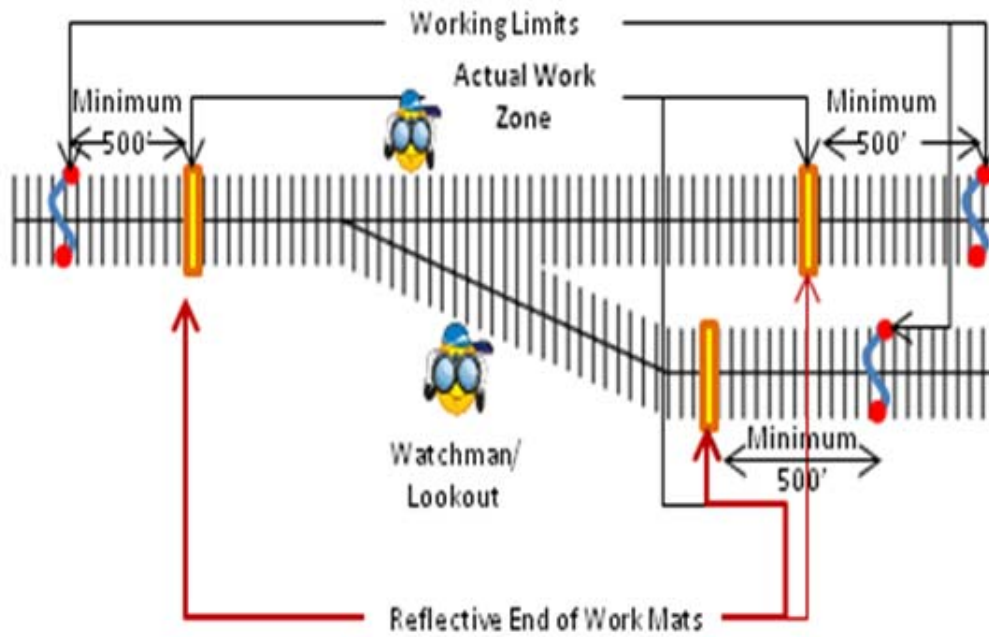


Figure 6



# Piggy Back Work Zones

(With Rail Equipment)

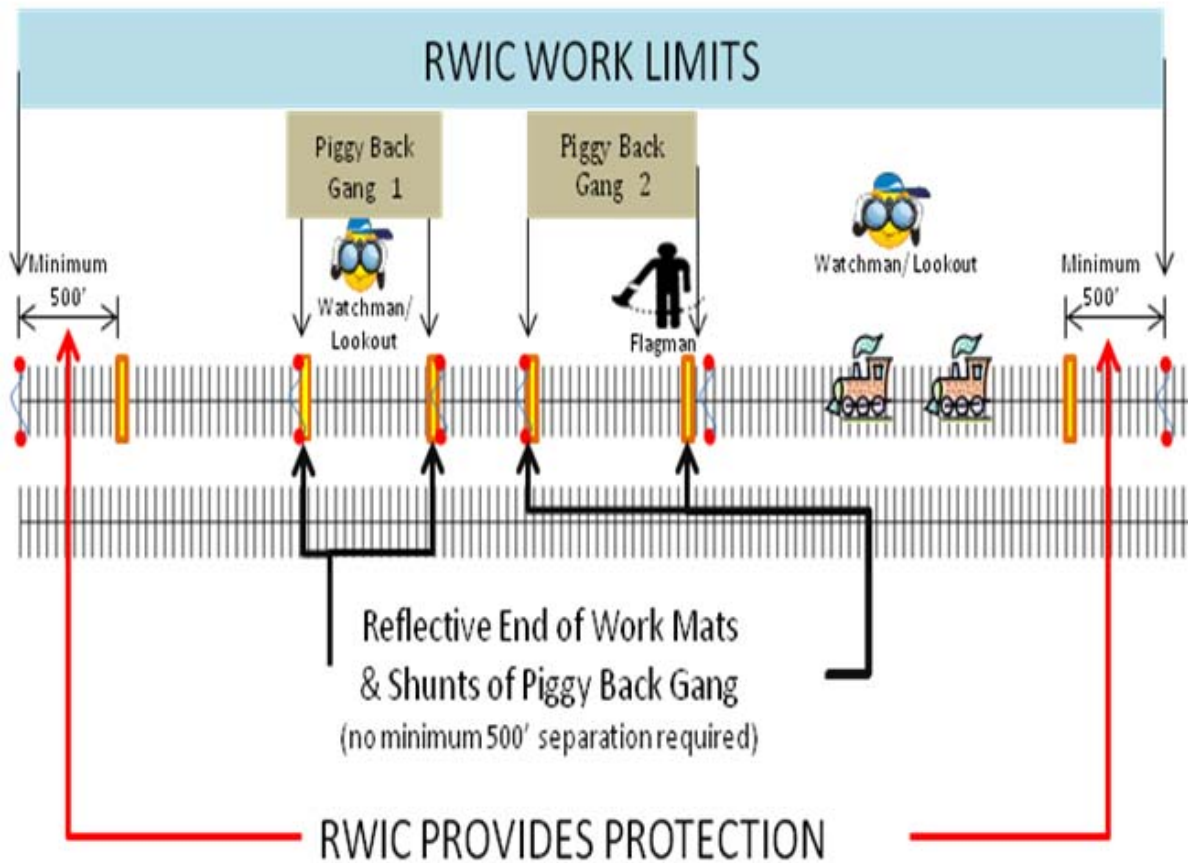


Figure 7



# Piggy Back Work Zones

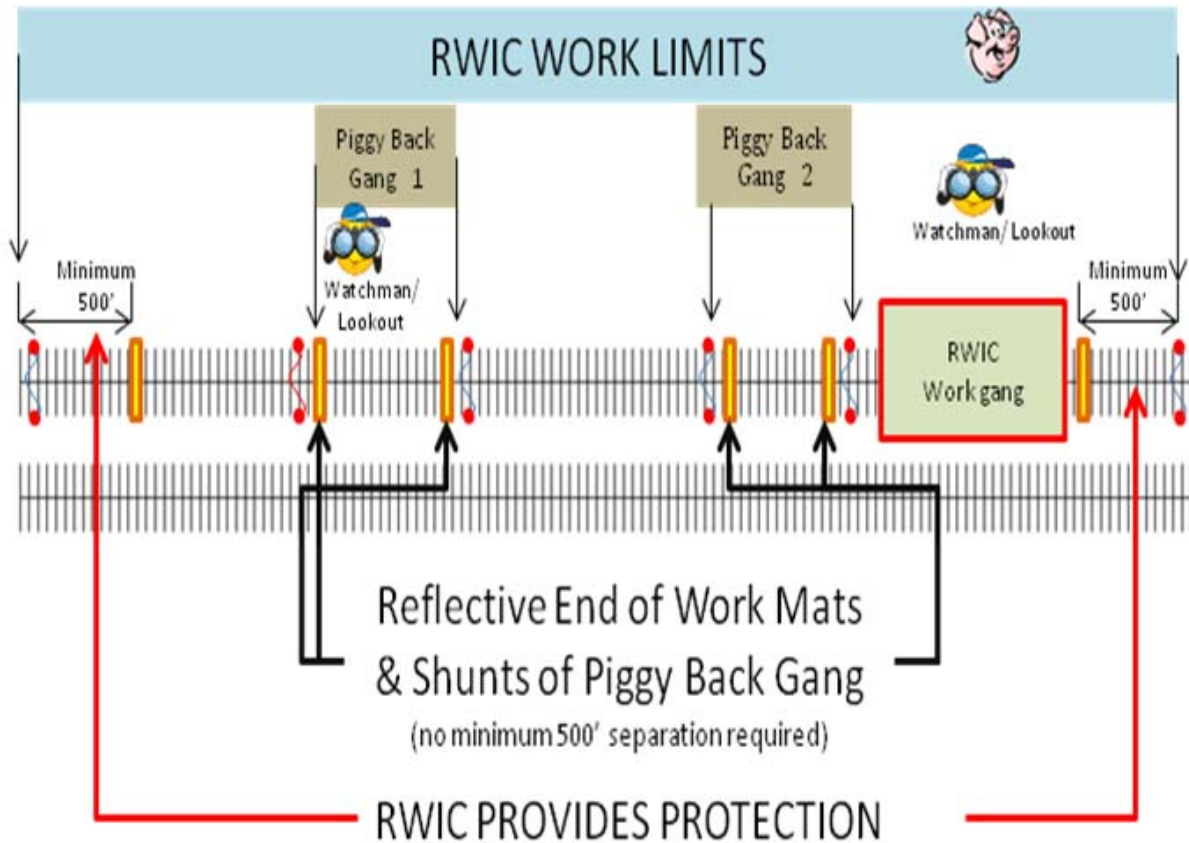


Figure 8



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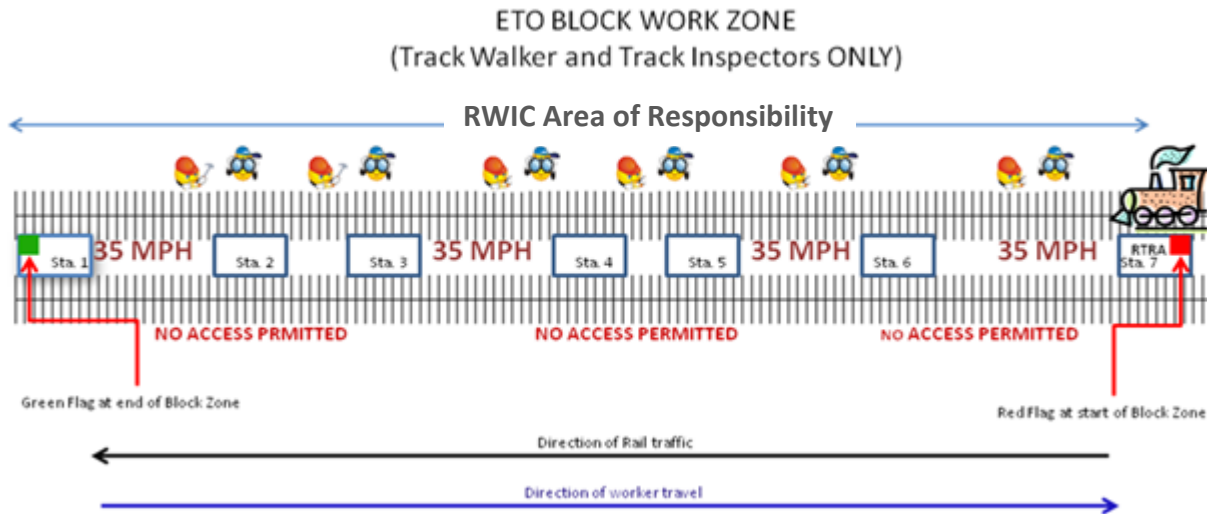


Figure 9

- 3.155 The RWIC shall establish flagging protection as established by the RWPM and coordinate this protection with ROCC (see illustrations in 3.154 above).
- 3.156 Delete
- 3.157 Delete
- 3.158 Delete
- 3.159 Delete
- 3.160 Delete
- 3.161 The roadway flag person shall immediately report a flagging run through the RWIC and ROCC.
- 3.162 Delete



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3.163 The RWIC shall notify ROCC when the track is clear for normal operation.

3.165.1 Repeater signal indications are given by the following lighted aspects (Fig. 7, 7A, 7B, 7C and 7D).

Yellow - Caution

Train in approach of an interlocking signal displaying a red aspect. Reduce speed to no more than 5 miles per hour when passing the repeater signal. Be prepared to stop no closer than 10 feet in approach of the interlocking signal.

Steady Lunar:

Indicates that the train is in approach of an interlocking signal displaying a lunar aspect.

Flashing Lunar:

Indicates that the train is in approach of an interlocking signal displaying a flashing lunar aspect (diverging route).

Mainline - Maintain operation under cab signals.

Yard - Proceed, not to exceed the posted speed limit or 15 mph, whichever is less.

3.167 Hand signal indications shall be given facing the oncoming vehicle. Personnel giving the hand signal can assume a different position once the hand signal is acknowledged by the operator.

Hand signal indications and aspects are:

3.170 Inter-Car barriers shall be deployed and stowed in accordance with WMATA authorized procedures.



**Section 4:**

- 4.1 Employees shall immediately report hazardous and/or unsafe conditions to their supervisor, including all near misses.
- 4.2 Supervisors are responsible for providing employees under their supervision with a safe and healthful work environment. To achieve this objective, supervisors shall:
  - a. Develop safety instructions for every job, and conduct safety briefings for all personnel under their supervision in the safe work practices and methods at the time assignments are made or when work conditions or locations change.
  - d. Detect, correct, prevent and report all unsafe acts and conditions that exist in their area of responsibility
  - e. Ensure that all containers of hazardous materials and chemical products are properly labeled with the name of the product and the name of the manufacturer. Unlabeled containers shall not be used but shall be processed for proper disposition. Unlabeled containers in the Metrorail system shall be reported to MOC for removal.
- 4.5 Employees shall ensure that they get proper attention for all injuries. Eye injuries shall be treated by a doctor or at the nearest hospital emergency ward. If a chemical substance enters the eyes, immediately flush with copious amounts of clean water for a minimum of 15 minutes and then immediately seek medical attention.

Employees requiring medical attention for any reason or for any person shall contact ROCC on ext. 1970, or appropriate radio channel, and provide the details of the incident. ROCC will contact and direct local emergency personnel to the scene.
- 4.7 Employees shall submit a written report of all fires to the Department of Safety.
- 4.10 All employees shall report all empty or used fire extinguishers in facilities to PLNT and all empty fire extinguishers in trains or stations to ROCC and MOC respectively, for replacement immediately after their use.
- 4.31 Whenever ladders, trestles or scaffolding are used, employees must ensure that with
  - a. Ladders:
    - 6. All extension ladders have safety feet.



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- 4.38 Employees shall wear conventional shoes or boots with sound leather or rubber soles and heels on the Rail System, except as noted in Safety Rule 4.41.
- 4.39 Tennis shoes, sandals, or similar type shoes, including safety shoes that look like tennis shoes, are prohibited.
- 4.41 Safety shoes, approved by the Safety Department, shall be worn when working in areas where there is danger of foot injuries due to falling or rolling objects, piercing the sole, and where there is exposure to electrical hazards. These areas shall include, but are not limited to, mainline, yard roadway, maintenance shops, storerooms, and rail equipment and ancillary rooms. Reference Code of Federal Regulations, Title 29, Section 1910.136(a) and American Society for Testing and Materials (ASTM) Standard F2413-05.
- 4.52 High visibility safety vest shall be worn when working near moving vehicular traffic and/or as required in this rule book.
- 4.54 Only safety vests or other outer apparel approved by Chief Safety Officer shall be worn. Safety vests shall be worn by all employees when entering the roadway. Safety vests shall be worn by Train Operators when outside the operating cab and by Station Managers when outside the kiosk and on-duty.
- 4.55 When there is the potential for occupational exposure to blood and other potentially infectious materials (human body fluids including, but not limited to, saliva and vomit), because they may contain blood borne pathogens, employees must comply with the WMATA Blood borne Pathogens Exposure Control Plan.
- 4.75 Ensure a return circuit path is connected (or equipment is grounded) before connecting energy to any electrical load.
- 4.147 An acetylene torch shall be ignited only with an approved flint lighter, and the lighted torch shall be kept within the user's vision at all times.

The number of oxygen and acetylene cylinders that can be transported on an open bed pickup truck is to be governed by applicable regulations.

- 4.168 Employees shall not enter upon the roadway or cross the tracks except when absolutely necessary in the performance of their duties and permission has been granted by ROCC.

Employees and contractors shall be trained and qualified in roadway safety prior to entering WMATA's roadway.



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- 4.178.2 After stopping to pick up personnel, the Train Operator shall unlock the bulkhead door and confirm with the crew the number of people that will be boarding and ensure that all personnel are on board prior to relocking the bulkhead door. Before moving the train, the Train Operator shall visually inspect the area in front of and down each side of the train to ensure that all personnel and equipment are clear. Upon obtaining a clear track inspection, the Train Operator shall sound the horn and proceed with caution. Personnel (excluding operator) shall exit the cab unless otherwise directed by ROCC.
- 4.179 Individuals fouling a track shall move to a place of safety in ample time, as soon as there is evidence of a moving rail vehicle in their vicinity. They shall remain as far as practicable from passing vehicles, and, if possible, shall maintain a handhold until the vehicle has passed. Refer to the RWPM for greater detail.
- 4.180 Employees shall, before crossing tracks, ensure that there is no movement of cars at either end of the track that might result in their being crushed between cars.
- Personnel shall not clear to the field (back) side of a third rail unless a safety walk is provided or a minimum six feet clearance is available from any track and third rail.
- 4.183 When it is necessary for employees to walk beyond the platform end gate where the walkway is not protected by a handrail, or to walk or work on tracks around moving trains or track equipment, they shall:
- a. Expect rail vehicle movement at any time, in either direction, on either track.
  - b. Contact ROCC, prior to entering the track area, for mainline access and/or the appropriate tower for yard access, indicating the work area to include the beginning and ending station and track number or entry point and track number and the purpose of the work. Permission to enter the roadway is required from the control point (see rule [4.168](#))
  - c. Provide the Terminal Supervisors on the affected line(s) with information regarding schedule walking Track Inspections.
  - d. If required, request ROCC or the Interlocking Operator to make periodic (20 minutes) radio announcements to Train Operators. (see rule [4.183.1](#))
  - e. When performing walking track way inspections, request/confirm that ROCC has established prohibits and track-block protection in the area of planned walk.





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- f. Contact ROCC on the radio after clearing each station and/or interlocking along the way and ensure confirmation of message.



**Notice:** ROCC shall repeat the location of the personnel on the roadway over the radio to confirm accuracy and to inform train operators in the area, until personnel clear the identified work zone (see rule [3.87](#)).

- g. Wear only the Safety Department approved, WMATA issued Safety Vest as an outer garment at all times. The safety vest must be on/worn prior to walking through the platform endgates. The vest shall be worn so as to provide 360 degree visibility and shall not be obstructed from view by shoulder bags, backpacks, etc.



**Notice:** No other outer garment is authorized as a replacement for the WMATA issued Safety Vest unless approved by the Safety Department. For purpose of identification and system security, contractors and consultants are not authorized to wear WMATA issued Safety Vests.

- h. Carry a hand-held radio and monitor the appropriate radio frequency to ensure they remain aware of train movements and other activities on the rail system (Car Maintenance employees are exempt from this paragraph while working on shop leads and storage tracks within the yard).
- i. Maintain a careful lookout in both directions to ensure that approaching trains and track equipment are seen before they become hazards.
- j. When in crews, assign one person to be the lookout/watchperson to provide warning to employees on the roadway of approaching trains or work equipment and to monitor the appropriate radio frequency. When on the roadway by yourself, the individual shall be their own lookout.
- k. Walk against the direction of traffic when possible.



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- l. When a rail vehicle approaches, **STAY CLEAR**, and maintain a careful lookout in both directions, acknowledge all vehicle horns with the appropriate hand signals as identified in the Operating Rules, until the vehicle passes. Clearing to the area between two mainline tracks is prohibited where there is no catwalk and track centers are less than 20 feet.
  - m. When work is such that the entire crew must perform it, i.e. no lookout, implement an alternative method of protecting the work area (e.g. insertion of switch crank, application of shunt strap, etc.) prior to the work being started. This method must be authorized by ROCC prior to implementation.
  - n. When work has been completed and access is no longer required, contact ROCC and/or the appropriate yard tower, indicating that access is completed and the work group is in the clear.
- 4.183.1 Elevators, gates, doors or wayside access points used to access Metrorail Facilities after hours shall not be left unsecured for any reason unless directed to do so by ROCC.
- 4.183.2 When access to a customer station or any rail support or ancillary building is required during non-revenue service hours, authorized employees shall contact the MOC by telephone or radio and provide the following information:
- a. Reason for access.
  - b. Name of the facility to be accessed.
  - c. Approximate length of time the personnel will be in the facility.
  - d. Specific location or description of the point of access.
  - e. Specific location or description of the exit point if different from the access point.



**Notice:** If WMATA personnel are in a rail facility when it closes, they shall follow the above procedures once the facility is closed.

MOC shall advise RAIL-ROCC and the Transit Police Dispatcher that personnel are entering the facility and provide the time of entry; personnel radio call numbers, specific point of entry and anticipated point of exit.



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MOC shall notify the personnel requesting access that permission to enter is granted after advising RAIL-ROCC and coordinating with the Transit Police Dispatcher.

Personnel shall enter the facility only after permission has been given by the MOC.

Personnel shall notify MOC upon departing the facility and provide MOC the following information.

- a. Radio call number of all personnel exiting the facility.
- b. Name of the facility.
- c. Specific location or description of the point of exit.
- d. Confirm that the station is locked and secure to include elevators, escalators, gates and all other access points.

4.191 Employees shall not sit, walk or stand in the area between the energized third rail and the adjacent running rail except to step through that area when crossing the third rail

4.193 Employees shall not touch the third rail, or any circuits connected to the third rail, unless they are issued a Red Tag for the specific area and their duties require contact with the third rail or circuits.

4.207 When entering or leaving a rail vehicle from track level through the end doors or crew doors, employees shall make certain that they have a secure hold on the hand grip and that their foot is properly placed on the ladder rung or coupler before attempting to board or leave the vehicle.

4.211 Whenever any vehicle's collector shoe is in contact with the third rail, STINGER, or other power source, employees shall consider all shoes on the car or train to be energized.

Employees shall have both hands free of materials or equipment when entering or leaving a car. Equipment shall be placed or removed from a car through the crew door, or car doors.

4.214 To avoid electrical shock, employees shall not make simultaneous contact with any part of a rail vehicle or the running rail and any grounded metallic object (e.g. handrails, restraining rails, tunnel liners, tools, etc.).



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- 4.222 All access doors to Traction Power Substations and Traction Power Tie Breaker Stations shall display a sign prohibiting access without permission from MOC/ROCC.
- 4.223 Upon receiving a request from an employee to enter a Traction Power Substation or Tiebreaker, MOC shall:
- a. Determines if Red Tags to protect a work area have been issued for breakers housed in that room; **(Photographs Added)**
  - b. If no Red Tags to protect a contractor have been issued, authorize entry;
  - c. If Red Tags have been issued for that purpose, determine if the work can be rescheduled to another time;
  - d. If the work can be rescheduled, inform the employee requesting access that the request is being denied and that the work will be rescheduled;
  - e. If the work cannot be rescheduled, contact ROCC and request that the crew working in the affected area be instructed to clear all personnel and equipment from the third rail, its associated components, and the immediate area surrounding the third rail;
  - f. After receiving confirmation from ROCC that the crew has cleared, authorize entry; and;
  - g. When notified that the work in the affected substation or tiebreaker has been completed and that personnel are clear of the room, notify ROCC.
- 4.223.1 MOC/ROCC shall not grant permission to enter Traction Power Substations or Traction Power Tie Breaker Stations where a third rail outage is in effect, except in accordance with SOP 39.
- 4.224.1 Do not use Interlocking or Yard “Signal Rails” for Hot Stick reference or WSAD return rails. To do so injects a high voltage personnel hazard into the Train Control Room and may damage equipment and may also provide a false negative hot stick test. If unsure, contact MOC for an ATC escort. **(Photographs Added)**
- 4.227 For the purpose of this rule, cell phones and electronic devices include music devices (such as MP3 players), personal digital assistants (PDAs) and any other electronic handheld games.



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- a. It is prohibited to use a cell phone, any electronic device or wear on earphone device while operating a revenue vehicle or directly interacting with WMATA customers. Prohibited use of cell phones includes text messaging, conversations, or using any of the phone applications (calendar, camera, etc.).
- b. While operating Class I or II vehicles, cell phones and electronic devices are to be turned off and stored off-person. In the event of a life threatening situation or an Authority provided radio malfunction, cellular phones may be used to contact Central Control after the vehicle is stopped in a safe place.
- c. Display and use of personal cell phones and the presence of electronic devices such as personal computers, game or movie devices, in shops and maintenance facilities is prohibited. This also includes but not limited to such areas as Rail Operations Control Center work consoles, Terminal Supervisor work areas, Station kiosks and Tower Interlocking Operator work areas. Exceptions are permitted for cell phone usage before and after the current work shift and during authorized break or lunch periods – make and receive calls during those times from a safe location designated by the facility.
- d. It is prohibited to use a cell phone while engaged in other maintenance activities in the field that require your full attention to maintain safety (inspecting track, using power equipment, etc). If job related cellular communication are required, stop work activities and make or receive the call from a place of safety.
- e. It is prohibited to use a cell phone, without hands free operations, while operating a non-revenue vehicle, If hand held cellular communications are required, stop the vehicle in a safe place prior to making or answering the call. MTPD is exempt from this rule by State and Federal Laws.



## Personal Protective Equipment:

### Quick Reference Guide

#### Minimum PPE Requirement for On-Track safety:

(Edited for quick reference purposes only. Read all Standards in their entirety at OSHA.GOV)

#### Hard Hats:

##### OSHA Standard §1910.135

The employer shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects or when near exposed electrical conductors which could contact the head.

##### OSHA Standard §1926.100

Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.

#### Safety Glasses:

##### OSHA Standard § 1910.133

The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

##### OSHA Standard §1926.102

Employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

#### Insulated Gloves, Electrical:

##### OSHA Standard § 1915.157

The employer shall ensure that each affected employee wears protective electrical insulating gloves and sleeves or other electrical protective equipment, if that employee is exposed to electrical shock hazards while working on electrical equipment.

##### OSHA Standard § 1910.333

The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed), or ...the energized part is insulated both from all other conductive objects at a different potential **and** from the person.

##### OSHA Standard § 1910.137:

Insulated gloves: "...Gloves shall also be capable of withstanding the a-c proof-test voltage specified in Table I-2 after a 16-hour water soak. (See the note following paragraph (a)(3)(ii)(B) of this section.)"

**DO NOT ASSUME, READ THIS STANDARD COMPLETELY!!!**



**Flashlight**

**OSHA Standard §1915.92**

Walking, working, and climbing areas. Walking, working, and climbing areas shall be illuminated. Employees shall not be permitted to enter dark holds, compartments, decks or other spaces (tunnels) without a flashlight or other portable light.

WMATA Roadway illumination Standard for flashlight brightness is a minimum of 65 Lumens.

**Shoes**

**OSHA Standard §1910.136**

The employer shall ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards.

OSHA standards §1910 apply to general industry standards

OSHA standards §1926 apply to construction standards.

OSHA standard §1915.92 is a standard accepted by WMATA absent specific standards for transit agencies with regards to illumination.

Take time to read and learn these OSHA standards on line at: [OSHA.gov](http://www.osha.gov).



**Permanent Orders added to MSRPH:**

Permanent Order and corresponding MSRPH reference(s).

**T-09-02**

1.76 Employees shall use plain language when describing emergency situations.

**T-09-06**

3.79 Train Operators shall not move trains with zero speed commands except after notifying ROCC and being given permission to move with zero speed commands and an absolute block for the move.

Upon losing speed commands on the platform, the operator may adjust the train in the same direction of traffic to service the station without contacting ROCC for permission. After servicing the station the operator must contact ROCC for permission to leave and an absolute block for the move if speed readouts do not return (See Rules 3.20, 3.21, 3.22 and 3.31).

**T-09-07**

3.91 Rail vehicles shall not be operated so as to collide with another vehicle, bumping post, or obstruction.

Train Operators shall activate the emergency stop pushbutton (mushroom) any time a train must be stopped to prevent a collision with any object or, when the train fails to respond to a call for normal braking from the Master Controller. All activations of the mushroom shall be reported to the Rail Operations Control Center.

3.31 Train Operators shall not change operating modes on the mainline without authorization from ROCC or as instructed in the General Orders, except when changing from Mode 1 to Mode 2 in order to adjust a train within the platform limits. (See Rules [3.20](#), [3.21](#), [3.22](#), [3.79](#) and [3.87.b](#)). All activations of the ATO Stop shall be reported to the Rail Operations Control Center.

**T-10-05**

4.179 Individuals fouling a track shall move to a place of safety in ample time, as soon as there is evidence of a moving rail vehicle in their vicinity. They shall remain as far as practicable from passing vehicles, and, if possible, shall maintain a handhold until the vehicle has passed. Refer to the RWPM for greater detail.





**T-10-06**

3.87 Rail vehicle operators shall maintain a constant lookout in the direction in which their vehicles are moving. When rail operators observe persons on the roadway, they shall:

- a. Sound mainline horn to warn those people of the vehicle's approach. If personnel do not physically clear the roadway and appropriate acknowledgement of the horn signal is not received, the vehicle shall be brought to an immediate stop and the train operator shall contact the Rail Operations Control Center (ROCC) and await their instructions before moving the train. Train Operators shall report all near misses to ROCC.



**Notice:** Opposite Track Trains: This rule shall not apply to gang(s) with designated watchman/lookouts working on the opposite track. The watchman/lookout shall acknowledge the approaching train by facing the train and giving/displaying the proper proceed/clear signal. The Train Operator shall acknowledge with two horn blasts. The gang shall not have to clear the tracks.

- b. Upon receiving the appropriate proceed/clear signal from the watchman/lookout on the roadway, and verifying that all personnel and equipment are clear of the roadway, the Train Operator shall:
  - acknowledge the proceed/clear signal with 2 mainline horn blasts (individuals on the roadway do not have to continually proceed trains after the Train Operator's acknowledgement);
  - stop and switch to Mode 2, Level 1 if not already in manual mode;
  - discontinue sounding train horn after acknowledgement, and;
  - continue at 35 mph until clear of personnel on either track.
- c. Upon clearing the personnel on the roadway, return to the prescribed operating mode.

3.87.1 Rail vehicle operators shall sound their horns when entering and exiting tunnel portals, except when the installed Automatic Train Approach Warning System (ATAWS) is functioning properly, indicated to the operator by a briefly flashing strobe light on approach to the portal. Rail vehicle operators shall notify ROCC of failed or malfunctioning ATAWS.



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In the stations listed below, the horn shall not be blown between the hours 9:00 PM and 6:00 AM, *unless necessary to warn of imminent danger.*

Potomac Yard  
Silver Spring  
Grosvenor  
West Hyattsville  
Morgan Boulevard  
Largo Town Center

- 3.87.2 The routine use of standard train horns within West Falls Church and Glenmont Yards is prohibited. In lieu of sounding the standard train horn in the yard, operators shall use the yard horn in all situations that call for sounding the standard horn. Standard train horns shall be used in emergency situations only. The operational check of the train's standard horn shall be performed at the time the train enters the Main Line.

# Cardinal Rules

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**Cardinal Rules**

<b>Rule # (Description)</b>
1.1 (Failure to abide by established rules and procedures)
1.3 (Acceptance of employment signification)
1.6 (Familiarization with MSRPH)
1.14 (Employee reporting)
1.46 (Unnecessary communications and activities)
1.68 (Loss or suspension of motor vehicle operator's license)
2.4 (Threats to employees)
3.1 (Train Operator's Safe Operation)
3.22 (Zero speed/absolute)
3.29 para. 2 (Operate using Absolute Block Procedures)
3.48 (Moving Trains with Trucks cut-out Chart)
3.67 para. 1 (Rail vehicles shall not be operated past or closer than a point 10 feet in approach of an interlocking signal or lamp displaying a red aspect, a red flag, or a dark interlocking signal)
3.79 (Train Movement with Zero Speed Command exceptions)
3.87 (Roadway Safety)
3.89 (Safety Stop Procedures)
3.91 (Operating Rail Vehicles with intent to prevent collisions)
3.121 (Manual Operating Doors on Opposite side Platform)
3.133 (Removing Rail Vehicle from Maintenance shop procedures)
3.170 (Intercar barrier)
4.2 (Providing safe and healthful work environment)
4.3 (Altering equipment)
4.11 (Transportation of Diesel fuel)



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<b>Rule # (Description)</b>
4.27 (Doors and hatches to vent and fan shafts shall remain closed when not in use)
4.33 (Use PPE)
4.85 (Using tools and equipment in proper manner)
4.166 (Reporting unsafe conditions)
4.168 (Don't enter Roadway unless necessary)
4.169 (Employees on Roadway responsible for own safety)
4.183 (Walking beyond platform end gate/no handrail)
4.183.a (Traffic both directions)
4.183.j (Watchman)
4.183.1 (ROCC Radio Announcements Procedures)
4.189 (Red Tag evidence of de-energized rail)
4.212 (Simultaneous contact between Rail & metallic object)
4.213 (Collector Shoes contact)
4.227 (Prohibited electronic devices)

# **Section 1 - General Rules**

(This page is in lieu of a divider Tab)



SECTION 1 - GENERAL RULES

Rules in **RED TEXT** are Cardinal Rules:

1.1 All employees of WMATA, regardless of rank or title, shall be knowledgeable of the rules set forth in this manual that apply to the actions that they take, as well as rules and procedures contained in documents pertaining to their specific work assignments. The Roadway Worker in Charge (RWIC) and/or Escort shall be responsible for ensuring WMATA contractors and visitors abide by the rules set forth in this manual as it pertains to specific work assignments

Failure of any employee to abide by established rules and procedures or failure to use sound judgment, regardless of the time, place or circumstance, so as to compromise the safety of the public or fellow employees will result in the employee's immediate removal from service, pending an investigation. Disciplinary action will include permanent disqualification from safety sensitive positions or dismissal.

1.2 All employees of WMATA shall abide by the rules set forth in this manual while working on or traveling within the Rail system whether on or off duty.

1.3 Acceptance of employment signifies the individual's willingness to comply with all WMATA rules, regulations and orders; and to perform specific job duties and requirements in a safe, orderly and efficient manner.

1.4 Employees shall not be insubordinate nor disrespectful to authorized supervision.

1.5 Failure to comply with the rules and procedures contained in this manual, in other operating manuals, in notices, and given by verbal instruction of supervisors is considered sufficient cause for discipline.

1.6 All operational employees are furnished a copy of this MSRPH, including all current special orders and manuals pertaining to their specific work assignments, and shall be thoroughly familiar with and comply with their contents.

1.7 Additional instructions are issued when required, either verbally by members of the supervisory force, or written in the form of a notice which is posted on the bulletin board. Employees shall review the bulletin board when reporting for duty, and shall be held accountable for all verbal and written instructions.

When required, all employees shall acknowledge, by signature, that they have received, read and that they understand written notices and/or changes to the rules and procedures.

1.8 If any doubt exists regarding the exact meaning of any rule, regulation, special order, procedure, written or verbal instruction or radio transmission, employees shall immediately secure additional information or clarification from their supervisor.



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- 1.9 If situations arise that are not covered by these rules, by a notice, or by Special Instructions, employees shall exercise judgment in deciding the safest and wisest course to follow. If time allows, a Supervisor shall be contacted for instructions on how to proceed.
- 1.10 Changes will be made to the rules and procedures contained in this manual from time to time. Each employee is responsible for ensuring that his/her volume of the MSRPH is complete and up-to-date, and that they have a copy of all current Special Orders. When required, all employees shall acknowledge, by signature, that they have received, read and that they understand written notices and/or changes to the rules and procedures.
- 1.11 Operational employees are required to pass examinations on the rules and procedures contained in this manual, as well as on the information contained in other manuals that apply to their assignments. These examinations shall be administered at least once every 12 months. Employees must adhere to the division's notification of scheduled exams and report as specified.
- 1.12 Operational employees are required to have a copy of the MSRPH, including all current Special Orders in their possession during work assignments.
- 1.13 The safe and efficient transportation of WMATA customers is the primary objective of the Authority. Response to situations adversely affecting this objective shall be given the highest priority.
- 1.14 Employees shall report to their designated locations at the designated times, in fit condition, and equipped to begin work. Having once reported, they shall not absent themselves without permission from their supervisor or ROCC/MOC. Train Operators and Station Managers shall immediately notify ROCC when their relief person fails to relieve them at the scheduled time. If this situation occurs, service must continue without interruption and the original Train Operator or Station Manager shall remain on duty in the operating cab or in the station and shall be governed by ROCC's instructions, until properly relieved.  
  
While on duty, employees shall not travel by personal vehicle unless authorized by a supervisor for a specific purpose and period of time.
- 1.15 Employees assigned to "stand extra," on the "extra list" or who are on special assignment, must report at such time as ordered or as shown on the "extra list".
- 1.16 The trading of work assignments is not permitted.
- 1.17 Employees reporting for duty shall be clean and neat, and each employee shall comply with accepted standards of dress established by the unit to which he/she is assigned. While in uniform, employees must maintain a neat appearance, whether on or off duty.





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- 1.18 Employees required to wear uniforms on duty shall wear only the entire prescribed uniform unless exceptions are authorized by proper authority. Uniforms shall be clean, pressed and maintained in good condition.
- 1.19 Employees shall not permit themselves to be relieved by another employee who is not in proper clothing/uniform, appears to be under the influence of any substance, or who appears to be physically unfit to perform his/her regular duties.
- 1.20 An employee who is physically unable to report at the scheduled time due to illness or injury is required to notify his/her supervisor, Depot Clerk, or other authorized control point as designated by the unit to which the individual is assigned. This report must be made at least one hour before the employee's scheduled report time.
- 1.21 Employees shall provide their office with periodic (specific time frames established by their office) updates as to medical condition, whereabouts, and/or estimated date of return to duty when sick or injured.
- 1.22 Before being permitted to return to work following an absence due to injury, surgical operation, or a serious or contagious disease, an employee shall be required to submit evidence of having been examined by a qualified physician, who has determined that the employee is fit to return to work.
- 1.23 Employees shall take medical examinations when required.
- 1.24 Employees found consuming, possessing or under the influence of an alcoholic beverage, narcotic drug, depressant, stimulant, hallucinogenic drug, a prescription drug labeled for someone other than the employee, or other controlled substance, while on duty, on Metro property, or on call for duty, will be subject to the terms and conditions of existing Authority policies and procedures at the time of the incident. (Related Rules [1.25](#), [1.26](#))
- 1.25 The only exception to Rule [1.24](#) is when an employee is taking a medicinal drug under the written direction of a qualified, licensed, and reputable physician. In this case, the employee must also receive permission from the WMATA Medical Officer before being allowed to work. Employees must have knowledge and understanding of the publication by HRMP "Managing Medications as a Safety Sensitive Transportation Employee." Employees shall be aware of the effects of and interactions of over the counter medications with prescription medications. Questions regarding medication interactions should be directed to the employee's private physician or the WMATA Medical Office.



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- 1.26 Employees, contractors and other authorized parties involved in any accident or serious incident are required to submit to a substance abuse examination immediately following the event. While waiting for the results of such an examination, employees will not be allowed to perform any safety sensitive duties.
- Employees, contractors and other authorized parties are required to submit to a substance abuse examination, if in the opinion of a supervisor, a police officer, or Authority medical personnel, there is justifiable reason to believe that the employee is under the influence of any substance referred to in Rule [1.24](#).
- 1.27 Employees shall immediately notify their supervisor, Transit Police, ROCC, or other appropriate authority when they are aware of unauthorized persons on WMATA property.
- 1.28 Employees shall inform ROCC or the Transit Police, whichever is quicker, when observing customers committing disorderly, unsafe, or criminal acts. ROCC or the Transit Police shall then take appropriate action.
- 1.29 Station Managers shall not permit un-caged animals to be brought into the rail system except guide, service and police dogs in proper harnesses.
- 1.30 Employees discovering lost persons shall inform ROCC and be governed by their instructions.
- 1.31 Articles found on cars, or on or about Authority premises, must be turned in to the Lost Property Office location. Employees shall follow SOP # 18 when handling lost property.
- 1.32 Employees involved in, witnessing, or informed of an accident or incident, to include near misses, on the Metrorail system shall inform their supervisor, Transit Police, ROCC and/or other appropriate authority as soon as possible, and shall file a written report.
- 1.33 In the event of accidents, employees riding as customers shall at a Train Operator's, Station Manager's, Supervisor's or Transit Police Officer's request, assist in all possible ways.
- 1.34 Employees shall be governed by public address announcements made by ROCC, Train Operators and Station Managers.
- 1.35 All accidents shall be investigated and appropriate corrective action shall be taken.
- 1.36 At the time of the accident/incident, names and addresses of witnesses and all other pertinent information shall be obtained and included in all accident/incidents reports.



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- 1.37 When any person is injured on WMATA property and refuses medical attention, that fact shall be recorded in the report filed by the employee involved in, witnessing, and/or investigating the incident.
- 1.38 No employee shall knowingly make any false statement or falsify any official report; or knowingly enter, or cause to be entered, any inaccurate, false, or improper information on the books, reports, logs, or records of WMATA.
- 1.39 Employees shall not make any statement or give any information concerning an accident/incident to anyone except authorized personnel. Media inquiries shall be directed to the WMATA Office of Media Relations.
- 1.40 Employees shall not discuss the condition or operation of vehicles or other equipment with anyone except: (1) properly identified officials of WMATA, (2) members of the supervisory staff, or (3) maintenance employees who are engaged in making repairs. Other requests for information may be referred to the WMATA office of Media Relations.
- 1.41 Before presenting any claim or instituting any suit against third parties for injuries received while on duty, employees shall confer with the WMATA Risk Management Office and shall notify the Authority, in writing, within thirty (30) days of the date of filing the claim or suit.
- 1.42 Employees using their WMATA ID cards to obtain free transportation on the Metrobus system shall process their IDs through the farebox. Employees using their WMATA ID cards to obtain free transportation on the Metrorail system shall process their IDs through the faregate.
- 1.43 Employees shall surrender their WMATA ID cards upon the request of a Metrobus Operator, Metrorail Station Manager, Transit Police Officer or WMATA supervisory personnel.
- 1.44 Employees who lose their WMATA ID cards shall report such loss to their supervisors and WMATA Transit Police the next working day.
- 1.45 Employees shall not permit other persons to use their WMATA ID cards.
- 1.46 Employees shall not permit unnecessary conversation, reading, lounging or any other action or condition of mind to divert their attention from the safe and efficient performance of duty.
- 1.47 While on WMATA property employees shall refrain from holding conversations with other employees who are on duty, and shall not interfere with the proper handling of customers or equipment in any way.



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- 1.48 Employees riding on trains shall, upon request, relinquish their seats to standing, fare-paying customers and shall surrender their seat when no other seats are available.
- 1.49 Only those employees authorized by ROCC are permitted to ride in the cab with the person operating the train.
- 1.50 Employees are not permitted to ride in unused cabs except in the performance of their duties and then only after notifying the operator of the train.
- 1.51 Employees shall not loiter about station kiosks. Entry into station kiosks and use of kiosk telephones by employees other than Station Managers is restricted to emergencies, unusual occurrences, or required maintenance.
- 1.52 Employees shall not use unauthorized radios, electronic, audio, or video devices while on duty.
- 1.53 Employees shall exercise care in the use of WMATA property and resources, and shall make every effort to prevent damage or misuse.
- 1.54 Employees shall not willfully destroy or, through neglect, indifference, or misuse, cause loss of or damage to WMATA property, customer's property or fellow employee's property.
- 1.55 Employees shall immediately report the loss or damage of any WMATA property to their supervisor and/or other appropriate authority.
- 1.56 Employees shall not convert WMATA property to their personal use.
- 1.57 Employees shall not use or permit others to use Authority property, equipment or facilities unless authorized to do so.
- 1.58 Upon leaving WMATA employment, employees shall return all Authority property, or settlement in full must be made, prior to the employee's receiving final payment for services rendered.
- 1.59 Instruction of students is a regular function of those employees who are not permanent instructors but are qualified to instruct in a particular area. Instruction shall be performed in compliance with the approved WMATA training procedures.
- 1.60 Supervisors shall assure themselves that their subordinates are competent, and shall instruct them in the proper performance of their duties.

Training related to primary job functions provided by the Authority may be mandatory. Refusal of, or inability to successfully complete the required training may result in disciplinary action and/or disqualification from related job classifications.



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- 1.61 Employees shall not post or allow to be posted any unauthorized material on WMATA bulletin boards or property.
- 1.62 Employees shall not obstruct the screen of television monitors or the lens of television cameras at any time, nor shall they permit others to do so. An obstructed camera lens must be reported immediately to WMATA Transit Police.
- 1.63 Employees shall not engage in outside employment, instructional courses, or other activities that are competitive with, interfere with, or adversely affect the performance of duties, or deprive the employee of having at least eight (8) consecutive hours off in every 24 consecutive hour period.
- 1.64 Employees shall not perform work for another employer (including self employment) during scheduled work hours without express prior written permission from the Authority.
- 1.65 Employees shall carry a reliable watch, adjusted to the correct time, while on duty. The correct time may be obtained from the RDDS system in the terminals or by dialing ext. 2929 in the WMATA telephone system.
- 1.66 Employees shall keep WMATA advised of their correct home address and telephone number, reporting any change, on the appropriate form, within 24 hours.
- 1.67 When operating WMATA motor vehicles, employees shall comply with and adhere to all jurisdictional motor vehicle laws, rules and regulations.
- 1.68 **Employees shall report the loss or suspension of their motor vehicle operator's license to their supervisor within one working day of such loss or suspension.**
- 1.69 Employees shall use WMATA communications equipment in compliance with Federal Communications Commission Rules and Regulations, and in compliance with WMATA Rules, Procedures and General Notices.
- 1.70 Employees shall use only WMATA issued communications devices, unless otherwise authorized or during an emergency.
- 1.71 Authority telephones and radios shall be used only for official WMATA business, and call preference shall be given to business pertaining to train operations or emergencies.
- 1.72 Employees shall obtain clearance from their respective radio control points prior to initiating train-to-train, train-to-wayside, or portable-to-portable communications.
- 1.73 Employees shall not knowingly transmit nor cause to be transmitted any unnecessary, irrelevant, unidentified, false, or false emergency communications.



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- 1.74 Emergency messages shall be transmitted over the most expedient means of communication consistent with clear understanding.
- 1.75 Employees shall give priority to emergency communications, keeping communications channels clear until the emergency is over.
- 1.76 Employees shall use plain language when describing emergency situations.
- 1.77 Employees shall not interrupt radio communications in process except in cases of emergency.
- 1.78 Employee shall, when communicating with ROCC, provide train/unit number or name/title and location (including track number, when appropriate). ROCC shall acknowledge employee by repeating train number, location and track.
- 1.79 Employees shall not take any action until they are positive that all radio transmissions or receptions are heard, fully understood and acknowledged. Individual radio transmissions shall be repeated by the receiver so the transmitter can confirm the message was received completely and by the intended receiver.

When communicating with Class I and Class II vehicles, employees are to identify the train ID or unit ID by the complete number series. This method of positive train/unit identification shall be consistently used when transmitting and acknowledging information. Examples: Train ID 404 shall be identified as “four zero four”. Train ID 414 shall be identified as “four fourteen”, instead of “four one four”. Train 932 shall be identified as “nine thirty two”. PM-32 shall be identified as “PM thirty two” instead of “PM three two”.

- 1.80 Messages affecting train movement are to be addressed to only one train at a time. However, in an emergency, a blanket message may be sent to all trains in or approaching a particular area. Following a blanket transmission, all trains involved must individually acknowledge receipt of the message.
- 1.81 Employees shall use only the assigned radio channel/talk group unless otherwise authorized.
- 1.82 Employees shall report failure or improper operation of any communications equipment to their controlling agency or supervisor.
- 1.83 Employees, except those authorized, shall not make adjustments to communications equipment.



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- 1.84 Employees shall use radios in compliance with the precautions listed below:
- a. Keep antenna away from body when transmitting.
  - b. Handle radio only by handle or carrying strap, if so equipped.
  - c. Maintain firm grip and keep radio under complete control so as to prevent dropping it or striking any object.
  - d. In moving on or off track mobile or other equipment, keep the radio latched in the radio rack designed for that purpose, with the straps or belts on the hook provided, unless necessary to use it.
  - e. Keep the radio away from any stove, radiator, open flame or other source of heat.
  - f. Place radio in a position where it will not fall or be a tripping hazard.
- 1.85 Employees shall close and secure wayside telephone boxes.
- 1.86 Prior to using party line telephones, employees shall ensure that a conversation is not already in progress.
- 1.87 Employees shall yield party lines to persons making emergency calls.
- 1.88 Calls threatening or informing of harmful acts against the Authority shall always be treated as genuine. As much information as possible regarding all aspects of the harmful act shall be obtained from the caller, and written down verbatim. Following the call, immediately call ROCC and Transit Police.



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# **Section 2 – Rules of Conduct**

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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

## METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

### SECTION 2 – RULES OF CONDUCT

**Rules in RED TEXT are Cardinal Rules:**

- 2.1 Employees, while on or off duty, shall not conduct themselves in any manner that gives just cause for arrest or indictment, or bring disgrace to co-workers or to WMATA.
- 2.2 Employees shall be courteous and orderly in their dealings with the public in accordance with the WMATA 100% Service-Five Point Pledge.
- 2.3 Employees shall conduct themselves quietly and without altercation; avoiding harsh, violent, profane, or insolent language while on or about WMATA premises, whether on or off duty.
- 2.4 **Employees shall not threaten or intimidate other employees or members of the public.**
- 2.5 Employees shall not engage in immoral, indecent, or unlawful conduct while on duty or on or about Authority property or while in uniform whether on or off duty.
- 2.6 Employees shall attend to reasonable requests from customers quickly and accurately, avoiding unnecessary referral to other departments.
- 2.7 The employee's name and identification number shall be supplied when requested for a legitimate reason.
- 2.8 Employees shall not offer or give to any other employee or to any official of WMATA any gratuity or fee to gain special favor or to gain unfair advantage.
- 2.9 The solicitation of contributions, the sale of tickets or merchandise, or the collection of money by employees on duty, or on about WMATA premises, for any reason, are not authorized except from the proper authority.
- 2.10 Employees shall not participate in any form of gambling while on or about WMATA premises, whether on or off duty.



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- 2.11 Off duty employees who are arrested or charged with criminal or serious traffic offenses, such as driving while intoxicated and driving with a suspended license, arising from an incident occurring on or off duty shall report the matter, in writing, to their supervisor prior to beginning their next work assignment. Employees arrested or charged with criminal or serious traffic offenses, while on duty shall report the incident immediately to the division superintendent or designee.

Any employees incarcerated, on probation or parole supervision, or held out from active duty on administrative leave pending a court decision shall report in writing, on a weekly basis, to the division superintendent the status of that employee's incarceration, probation, parole or pending court proceeding.

- 2.12 Employees shall not misappropriate Authority funds.
- 2.13 Employees convicted of a felony or misdemeanor shall be disciplined in compliance with existing Authority policies and procedures.
- 2.14 The carrying, displaying or use of firearms, ammunition or other weapons while on duty, or on or about WMATA property is prohibited, except by authorized police/security personnel.
- 2.15 Employees are prohibited from fighting while on or about WMATA premises, whether on or off duty, except in self defense.
- 2.16 Employees shall be required to pay for all parking and moving violations, other than those resulting from mechanical failure, arising out of their operation of WMATA automotive equipment.
- 2.17 Employees shall not sleep nor give the appearance of sleeping while on duty. Lying down or assuming a reclining position, with eyes closed, or eyes covered or concealed, will be considered sleeping.
- 2.18 Employees shall not eat or drink in trains, train cabs, station kiosks, or in the paid areas of stations, as well as any other areas where these activities are prohibited.

Smoking is prohibited throughout the Metrorail system to include the kiosk, the paid area, the free area, and on or about escalators and elevators and in all WMATA owned vehicles. Employees shall comply with existing WMATA smoking policies and procedures.

- 2.19 Running or horseplay on WMATA property is prohibited.
- 2.20 Employees shall not promote, induce or participate in an illegal work stoppage or slowdown.

# Section 3 – Operating Rules

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SECTION 3 - OPERATING RULES

Rules in **RED TEXT** are Cardinal Rules:

- 3.1 Customer safety is the responsibility of every WMATA employee; however, Train Operators have the ultimate and final responsibility for the safety of the customers on their particular trains. If any Train Operator is instructed by any person, regardless of rank, title, or position, to take any action which would adversely affect the safety of customers, the operator shall stop the train, notify ROCC or the Interlocking Operator, and shall not continue until satisfied that it is safe to do so (Related Rules [3.3](#), [3.4](#), [3.6](#), [3.16](#), [3.67](#), [3.75](#)).
- 3.2 The Operating Rules contained in this section shall not be superseded during emergency or unusual situations.
- 3.3 The Metrorail Operations Control Center (ROCC) has full authority, jurisdiction, and control over all activities on the mainline, except as noted in Rule [3.1](#).
- 3.4 The Interlocking Operator has full authority, jurisdiction and control over all activities in the yard, except as noted in Rule [3.1](#).
- 3.5 Employees shall obtain permission from ROCC or the Interlocking Operator prior to working on or obstructing any track, or energizing or de-energizing any electrical circuit which may affect train operation, except in the case of an emergency.
- 3.6 All employees operating or working on or about mainline or yard tracks shall immediately comply with all instructions issued by the interlocking operator or ROCC, consistent with customer safety as specified in Rule [3.1](#).
- 3.7 The Metrorail Operations Control Center and all Yard Control Towers are designated as "Restricted Areas". Employees shall not attempt to enter these facilities except in the performance of their duties, or unless specifically authorized by the Supervisor / Interlocking Operator on duty.
- 3.8 Employees shall not utilize or operate any WMATA vehicle without proper authority, qualification and training to do so.
- 3.9 Class I vehicles shall be operated only by qualified Train Operators or other employees who have met the training and qualification requirements prescribed for their function by the Office of Rail Transportation.
- 3.10 Class II vehicles shall be operated only by employees who have been trained to operate those vehicles, and who have also met the training and qualification requirements prescribed for their function by the Office of Rail Transportation.



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- 3.11 Students are permitted to operate rail vehicles when supervised by and in the presence of a qualified instructor or line platform instructor.
- 3.12 Train Operators engaged in revenue service shall know their scheduled departure times from terminals and stations on their line.
- 3.13 Train Operators shall be available in the operating cab and keyed up at least two (2) minutes before their scheduled departure times.
  - 3.13.1 Operators shall depress ATO start and verify lunar signal, speed commands and correct alignment one minute prior to their scheduled departure
  - 3.13.2 For mode 2, level 1 operations, Operators shall verify lunar signal and speed commands prior to moving the mode selector switch to manual.
- 3.14 Train Operators shall arrive at and/or depart from yards, terminals, and stations at the scheduled times unless otherwise instructed by ROCC or a Rail Operations Supervisor.

Operators are required upon entering the terminal to identify themselves by providing their name, train ID and the number of cars in their consist. Terminal Supervisors, when manned, shall acknowledge consist length.
- 3.15 Train Operators shall not run ahead of their schedules unless instructed to do so by ROCC or a Rail Operations Supervisor.
- 3.16 Train Operators shall attempt to make up lost time if a train delay occurs, being consistent with customer safety as specified in Rule [3.1](#).
- 3.17 Train Operators shall display and comply with Authority issued running time cards.
- 3.18 Employees shall not operate any vehicle in a reckless or unsafe manner.
- 3.19 Employees shall always sound the horn and wait five seconds prior to moving rail vehicles in the shop, the yard or any area where personnel may be present.
- 3.20 Mode 1 is the normal operating mode for Class I vehicles in revenue service. Mode 1 shall be used when carrying revenue customers except as authorized by ROCC or as specified in the current General Order.
- 3.21 Mode 2 - Level 1 operation shall not be used on the mainline unless specifically authorized by the Operations Control Center, or as specified in the General Orders.



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- 3.22 Mode 2 - Level 2 is the normal operating mode in yards. On the mainline, vehicles shall not be operated in Mode 2-Level 2 unless specifically authorized by ROCC to "operate in Mode 2 with zero speed commands", except as stated in [3.79](#). Operators shall move vehicles in either P1 or P2 while moving in the yards or with zero speed commands on the mainline unless directed otherwise by the Interlocking Operator in the yard or by ROCC while on the mainline.
- 3.23 Mode 3 operation shall be treated by all employees as a serious and potentially hazardous condition, which must only be used as a last resort when absolutely necessary to move a Class I vehicle.
- 3.24 Use of Mode 3 shall be accomplished only after receiving specific authorization from ROCC or the Interlocking Operator to "CUT OUT ATP". Speed shall be restricted to 15 mph unless otherwise authorized by ROCC.
- 3.25 On the mainline, Mode 3 operation shall be used only as a means of removing an otherwise inoperable Class I vehicle from service.
- 3.26 If the train is at a station platform, customers must be discharged prior to initiating Mode 3 operation. If Mode 3 operation must be initiated between stations, customers must be discharged at the next station.
- 3.27 After a Class I vehicle has been operated in Mode 3, or when the ATP C/O switch has been moved to the CUT OUT position for any reason, that pair of cars shall not be used as a lead pair in customer service until Rail Car Maintenance has inspected the cars, and the ATP C/O switch has been resealed.
- 3.28 On the mainline, prior to authorizing Mode 2 - Level 2 or Mode 3 operation, or prior to moving any Class II vehicle or any rail vehicle not equipped with Automatic Train Protection, ROCC shall establish an absolute block as depicted in SOP # 15.
- 3.29 When in Mode 2 - Level 2, a Class I vehicle shall be operated at Restricted speed (15 mph or less, or as directed by ROCC) on the mainline being prepared to stop within half the range of vision, short of any train, obstruction, broken rail or improperly aligned switch. Speed is governed by Rule [3.84](#) for yard operations.
- When in Mode 3, a Class I vehicle shall be operated using absolute block procedures as defined in SOP # 15 and SOP # 4.6 through 4.9 (related rules [3.1](#) and [3.30](#)).
- 3.30 Extreme caution shall be used when operating a Class I vehicle in Mode 3 because over-speed controls are deactivated, and the train will not automatically stop for hazardous conditions on the roadway.



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- 3.31 Train Operators shall not change operating modes on the mainline without authorization from ROCC or as instructed in the General Orders, except when changing from Mode 1 to Mode 2 in order to adjust a train within the platform limits. (See Rules [3.20](#), [3.21](#), [3.22](#), [3.79](#) and [3.87.b](#)). All activations of the ATO Stop shall be reported to the Rail Operations Control Center.
- 3.32 Vehicles shall be at a complete stop prior to changing operating modes.
- 3.33 Seals on control switches on the Operator's Circuit Breaker Panel of Class I vehicles shall not be broken without authorization from ROCC or the Interlocking Operator (with inspection shop supervisor approval) except by qualified Car Maintenance employees performing testing while in the shop.
- 3.34 Train Operators shall check all control switches that are normally sealed to ensure that the seals are intact and in the correct position.
- 3.35 Train Operators shall immediately report any broken switch seals to the Interlocking Operator or ROCC and be governed by their instructions.
- 3.36 The DOOR INTERLOCK and/or POWER KNOCKOUT switches shall not be moved to the BYPASS position without prior authorization from ROCC or the Interlocking Operator. This measure shall be taken only as a last resort when absolutely necessary to move a train after all other troubleshooting measures have been attempted.
- 3.37 After moving the DOOR INTERLOCK switch to the BYPASS position, the operator must verify that all doors are closed prior to moving the train.
- 3.38 If a train in revenue service is at a station platform, and the DOOR INTERLOCK and/or POWER KNOCKOUT switches must be moved to the BYPASS position for any reason, customers must be discharged at that station. If the DOOR INTERLOCK and/or POWER KNOCKOUT switches are moved to the BYPASS position while a revenue train is between stations, customers must be discharged at the next station.
- 3.39 Following POWER KNOCKOUT BYPASS activation, the Train Operator shall perform a Rolling Test, prior to operating the train.
- 3.39.1 Interlocking Operators shall get prior approval from the CMNT Inspection Office prior to authorizing Operators to activate the Power Knockout switch to move rail cars in the yard.
- 3.39.2 Operators shall immediately stop, inform the tower and request CMNT assistance before attempting to complete the move if there is any doubt that all wheels of the consist are rolling free when Power Knockout is activated.





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- 3.40 Train Operators assigned to move defective trains shall request information concerning the condition of the brakes, the operating speed, the route and the destination of the train. See SOP # 32 and SOP # 34.
- 3.41 A functional test of the friction braking system shall be made prior to initiating general operation of any rail vehicle.
- 3.42 A Rolling and Rolling Brake Test shall be performed prior to general operation of any Class I vehicle in the following instances:
- a. When removing a train from storage;
  - b. When any friction brakes are cut out;
  - c. After coupling to another train.
- 3.43 Trains shall not be dispatched for revenue service with any of the trucks cut-out.
- 3.44 No train shall be dispatched for revenue service unless it has received a successful Daily Safety Test during the preceding twenty four (24) hours.
- 3.45 Train Operators shall ensure that Safety devices (e.g., fire extinguishers, switch seals, etc.) are in the proper place and known to be in good working order prior to placing cars into revenue service. CMNT shall also check these items prior to releasing a car for revenue service.
- 3.46 Non-revenue trains shall not be permitted to enter mainline tracks unless they have at least 50% of their propulsion power and do not have more trucks cut-out than are indicated in the chart below.

8-car Consist	4 Trucks
6-car Consist	3 Trucks
4-car Consist	2 Trucks
2-car Consist	No Trucks May Be Cut-Out



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3.47 All Rohr car consist trains that have more trucks cut-out than are indicated in the chart below shall be immediately removed from customer service.

8-car Consist	1 Truck
6-car Consist	1 Truck
4-car Consist	No Trucks May Be Cut-Out
2-car Consist	No Trucks May Be Cut-Out

All Breda car consist trains that have any trucks cut-out shall be immediately removed from customer service.

3.48 No attempt shall be made to move trains with more trucks cut-out than are indicated in the chart below. A recovery train shall be dispatched to couple with any train that has more trucks cut-out than are indicated in the chart below to move it from the line or within the yard.

8-car Consist	8 Trucks
6-car Consist	6 Trucks
4-car Consist	4 Trucks
2-car Consist	No Trucks May Be Cut-Out

3.48.1 After cutting out brakes on a disabled train, employees must verify that a green light is illuminated on each car with the brakes cut out.

3.48.2 Train Operators shall not move trains in revenue service with customers aboard with any number of trucks cut out except after notifying ROCC and being given permission to move with trucks cut out and an absolute block for the move.

3.48.3 Train Operators shall not move non-revenue trains with any number of trucks cut out except after notifying ROCC and being given permission to move with trucks cut out and a permissive block for the move.

3.49 When coupling to a train with any brakes cut out, employees must not release the handbrake on the defective cars until the coupling has been made.



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- 3.50 When uncoupling from cars with any brakes cut out, employees must apply handbrakes before uncoupling.
- 3.51 Prior to moving a train with all friction brakes cut out on both cars of a married pair, with that pair of cars located on the operating or trailing end of the train, ROCC shall dispatch a person qualified in train operations to ride in the pair with the brakes cut out. The responsibility of this person is to secure the train (cut brakes back in and apply a handbrake on at least one car) in case of a pull-apart.
- 3.52 If a qualified person (as identified in Rule [3.51](#)) is not immediately available, the train may be moved to the next available station to off-load customers. This move shall be made at a restricted speed of 15 mph and the direction of the move shall be such to ensure that the position of the disabled pair is not downgrade of the remainder of the consist.
- 3.53 Deleted
- 3.54 No attempt shall be made to move trains on the main line with less than 50% propulsion. A recovery train shall be dispatched to couple with any train on the mainline with less than 50% propulsion to move it from the line.
- 3.55 Deleted
- 3.56 If any propulsion switches or circuit breakers are found tripped that will not reset, or isolation of propulsion control trainline is required, ROCC must be notified.
- 3.57 All propulsion problems, regardless of severity, are to be immediately reported to ROCC, the Terminal Supervisor, or Interlocking Operator as appropriate.
- Train Operators shall immediately notify ROCC when an abnormal sequence of friction and dynamic braking is detected during the station stopping profile.
- 3.58 Deleted
- 3.59 When a four (4) or a six (6) car consist has one (1) car with no propulsion, it is to be operated in Mode 2 using P5 to COAST and is to be taken out of service as soon as practicable as determined by ROCC. If it experiences more problems or is described as sluggish, it is to be off-loaded and removed from service.
- 3.60 When a six (6) car consist has two (2) cars with no propulsion, it is to be off-loaded and taken out of service at the first available station and operated in Mode 2 using P5 to COAST.



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- 3.61 A CMNT Mechanic or an Operations Supervisor shall be dispatched to any train which is removed from service because of a propulsion system malfunction. When the CMNT Mechanic or Operations Supervisor intercepts the problem train, he/she should be instructed to determine how many cars are drawing propulsion.
- 3.62 Trains with 50% or less propulsion are to be removed from customer service immediately and off-loaded at the first available station if not already in a station.
- 3.63 Every attempt should be made not to stop a train experiencing propulsion problems between stations. If the train stops, and cannot be moved in Mode 2 (P5 to COAST), immediately use a recovery train in compliance with SOP # 32.



**Notice:** While operating in this mode, all brake applications will be made in the normal fashion (ref. Rules [3.59](#), [3.60](#), [3.63](#)).

- A four (4) or six (6) car consist with one (1) car not drawing current and which has not been reported sluggish, can remain in revenue service if there is no gap train available at the terminal, based upon the decision of the Assistant Superintendent of ROCC. Every effort must be made to have a CMNT Mechanic check the entire consist on each trip (ref. Rule [3.59](#)).
- 3.64 Train Operators are to ensure that all safety equipment on their trains is present and in good order. Discrepancies are to be reported immediately to ROCC, the Terminal Supervisor, or the Interlocking Operator as appropriate. Also, Train Operators are to be particularly attentive to the presence of smoke or odors on their trains and sluggish train responses. These occurrences shall be reported immediately to ROCC.
- 3.65 Trains with 50% or less dynamic braking capability shall have the dynamic braking cut out on both operating ends of the consist
- 3.66 Friction brakes, dynamic brakes, regenerative brakes, nor propulsion shall be cut out in any car in revenue service without prior authorization from ROCC.
- 3.67 Rail vehicles shall not be operated past or closer than a point 10 feet in approach of an interlocking signal or lamp displaying a red aspect, a red flag, or a dark interlocking signal, unless authorized by ROCC or the Interlocking Operator and the move is consistent with customer safety as specified in Rule [3.1](#).

Upon hearing or seeing the activated overrun alarm at Grosvenor interlocking, Train Operators shall immediately bring their trains to a stop, advise ROCC of the alarm condition, and not attempt to resume train movement until specifically instructed to do so by ROCC.



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- 3.68 Employees shall report immediately to ROCC or the Interlocking Operator any improperly displayed or dark interlocking signals, or missing fixed signs or signals where one is normally displayed.
- 3.69 Operators of rail vehicles stopped by a fixed signal, cab signal, loss of power, or unusual circumstances shall contact ROCC or the Interlocking Operator immediately and be governed by their instructions.
- 3.70 When there is a conflict between any groups of conflicting signals (fixed, cab, speed readouts, flagging, portable), operators shall be governed by the most restrictive indication, and shall immediately inform ROCC of the conflict.
- 3.71 Rail vehicle operators shall stop their vehicles immediately when observing anyone violently waving any object on or near the track.
- 3.72 A red lamp or flag shall never be used to give a proceed signal. Train Operators observing a proceed signal given with a red flag or lamp shall immediately stop and contact ROCC or the Interlocking Operator for instructions.
- 3.73 Rail vehicle operators shall stop their vehicles and contact ROCC when observing a flag or lamp of any color located between the running rails.
- 3.74 Employees shall not wave their hands or other objects unnecessarily while on or near the roadway.
- 3.75 When flagging as prescribed in these rules is not in effect, and an operator observes a person giving a "proceed" hand signal in conflict with an interlocking signal displaying a red aspect, the operator shall not pass the signal but shall stop the train and contact ROCC for instructions. The signal shall not be passed until the operator has determined that the person giving the "proceed" signal is authorized to do so and that the move is consistent with customer safety as specified in Rule [3.1](#).
- 3.76 Rail vehicles shall not be operated through improperly aligned track switches.
- 3.77 If a rail vehicle runs through an improperly aligned track switch, the operator shall stop the vehicle immediately, and report the occurrence to ROCC or the Interlocking Operator. All parties shall treat the situation as if the vehicle has derailed (SOP # 9), and the vehicle shall not be moved. Subsequent movement of the affected rail vehicle shall not be undertaken until investigated and determined to be safe, by authorized personnel.



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3.78 When making a turn back move, the operator shall stop the rail vehicle clear of the interlocking and, on the mainline, shall not pass the Turn Back (TB) sign. The operator shall use all means at his/her disposal to assure that all cars in the consist have cleared the interlocking, including contacting ROCC, contacting the supervisor at the scene to visually verify that the vehicle has cleared, and/or walking the length of the vehicle to personally make a visual check. (Related Rule [3.81](#))

3.79 Train Operators shall not move trains with zero speed commands except after notifying ROCC and being given permission to move with zero speed commands and an absolute block for the move.

Upon losing speed commands on the platform, the operator may adjust the train in the same direction of traffic to service the station without contacting ROCC for permission. After servicing the station the operator must contact ROCC for permission to leave and an absolute block for the move if speed readouts do not return (See Rules [3.20](#), [3.21](#), [3.22](#) and [3.31](#)).

3.80 Changing operating directions in an interlocking is prohibited except when authorized by ROCC or the Interlocking Operator, and then only when a Rail Operations Supervisor or an ATC maintenance crew is on the scene to ensure that the move can be made safely (Related Rule [3.81](#)).

3.81 If operators inadvertently accept a route for other than the intended destination, they shall immediately stop and contact ROCC for instructions. Any subsequent turn back move shall be accomplished in compliance with Rules [3.78](#) and [3.80](#), and only after receiving authorization from ROCC.

3.82 Employees shall not operate rail vehicles at speeds higher than the maximum authorized speed.

Maximum speed for trains passing through station without stopping is 25 mph (dead head speed).

3.83 The maximum authorized speed of Class II vehicles is that which is specified by the equipment manufacturer or as specified by ROCC, and in all cases shall not exceed 30 mph.

3.84 The maximum authorized speed in yards is 15 mph, except on curves, switches, roadway crossings, and storage track entrances, which require a 10 mph maximum speed (Related Rule [3.29](#)).

The normal operating speed for Class 1 vehicles on the mainline is that specified by the regulated speed indication and shall not exceed 59 mph except on the Green Line between Georgia Avenue - Petworth and Greenbelt, and between Anacostia and Branch Avenue where the normal operating speed is 65 mph as set by Performance Level 1. Any exceptions to this rule must be by directive from ROCC.



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- 3.85 When notified of inclement weather, slippery conditions, or limited visibility, ROCC shall direct Class I vehicles to operate in Mode 2 Level 1 at a speed no greater than 49 mph at above ground locations and to enter stations at a speed no greater than 25 mph. ROCC shall establish performance levels in the affected area to limit speeds to 49 mph.
- 3.86 Operators of Class II vehicles are required to control the speed of their vehicle so as to enable the stopping of the vehicle within half of the operator's or flag person's sight distance while never exceeding the maximum speed specified by Rule [3.83](#).
- 3.87 Rail vehicle operators shall maintain a constant lookout in the direction in which their vehicles are moving. When rail operators observe persons on the roadway, they shall:
- Sound mainline horn to warn those people of the vehicle's approach. If personnel do not physically clear the roadway and appropriate acknowledgement of the horn signal is not received, the vehicle shall be brought to an immediate stop and the train operator shall contact the Rail Operations Control Center (ROCC) and await their instructions before moving the train. Train Operators shall report all near misses to ROCC.



**Notice:** Opposite Track Trains: This rule shall not apply to gang(s) with designated watchman/lookouts working on the opposite track. The watchman/lookout shall acknowledge the approaching train by facing the train and giving/displaying the proper proceed/clear signal. The Train Operator shall acknowledge with two horn blasts. The gang shall not have to clear the tracks.

- Upon receiving the appropriate proceed/clear signal from the watchman/lookout on the roadway, and verifying that all personnel and equipment are clear of the roadway, the Train Operator shall:
  - acknowledge the proceed/clear signal with 2 mainline horn blasts (individuals on the roadway do not have to continually proceed trains after the Train Operator's acknowledgement);
  - stop and switch to Mode 2, Level 1 if not already in manual mode;
  - discontinue sounding train horn after acknowledgement, and;
  - continue at 35 mph until clear of personnel on either track.
- Upon clearing the personnel on the roadway, return to the prescribed operating mode.



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3.87.1 Rail vehicle operators shall sound their horns when entering and exiting tunnel portals, except when the installed Automatic Train Approach Warning System (ATAWS) is functioning properly, indicated to the operator by a briefly flashing strobe light on approach to the portal. Rail vehicle operators shall notify ROCC of failed or malfunctioning ATAWS.

In the stations listed below, the horn shall not be blown between the hours 9:00 PM and 6:00 AM, *unless necessary to warn of imminent danger.*

Potomac Yard  
Silver Spring  
Grosvenor  
West Hyattsville  
Morgan Boulevard  
Largo Town Center

3.87.2 The routine use of standard train horns within West Falls Church and Glenmont Yards is prohibited. In lieu of sounding the standard train horn in the yard, operators shall use the yard horn in all situations that call for sounding the standard horn. Standard train horns shall be used in emergency situations only. The operational check of the train's standard horn shall be performed at the time the train enters the Main Line.

3.88 Safety stops shall be made as prescribed in Rule [3.89](#) when approaching another rail vehicle, bumping post, or obstruction.

3.89 Safety stops, when required, must be made three (3) car lengths, then two (2) car lengths, then fifty (50) feet, then ten (10) feet and then proceed at a speed not to exceed 3 mph until final stop is made. Speeds into shop are not to exceed 5 mph. (Refer to rule 3.131). (Related Rule [3.88](#)).

3.90 Rail vehicle operators shall be alert for changing rail conditions, and shall exercise extra care when operating in areas which may be affected by oil, grease, leaves, water, or any other substance which could cause running rails to become slippery and shall adjust their speed accordingly.

3.91 Rail vehicles shall not be operated so as to collide with another vehicle, bumping post, or obstruction.

Train Operators shall activate the emergency stop pushbutton (mushroom) any time a train must be stopped to prevent a collision with any object or, when the train fails to respond to a call for normal braking from the Master Controller. All activations of the mushroom shall be reported to the Rail Operations Control Center.





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- 3.92 At all roadway crossings in yards, rail vehicle operators shall bring their vehicles to a stop, and shall sound their horns before crossing.
- 3.93 Employees shall not attempt to couple to or uncouple from revenue cars, work trains or track equipment that are in motion.
- 3.94 Class I vehicles shall not be operated from other than the lead car without authorization from ROCC, Terminal Supervisor or the Interlocking Operator.
- 3.95 If a train is at a station platform, customers must be discharged prior to operating from other than the lead car (see Rules [3.94](#), [3.96](#) and [3.97](#)). If operations from other than the lead car must be initiated between stations, customers must be discharged at the next station, or to a rescue train in compliance with SOP # 4.
- 3.96 Whenever a Class I or Class II rail vehicle is operated from other than the lead car/end or from either end of a flat car (whether pushing or pulling), a qualified employee shall be assigned as a flag person. Positive communications shall be established between the operator and the vehicle flag person. The Operator shall confirm that the flag person clearly understands each authorized move before proceeding. If communication is lost, the operator shall bring the vehicle to a stop.
- 3.97 When operating from other than the leading end, Train Operators shall request permission to operate in Mode 3. Train speed shall be as directed by ROCC, not to exceed 25 mph.
- 3.98 Whenever a train is taken out of service, customers shall be off-loaded at the next available station.
- 3.99 Movements of Class II vehicles on the mainline shall be governed by General Orders, except as otherwise authorized by ROCC.
- 3.100 Class II vehicles shall be operated under Absolute Block (SOP # 15) procedures at all times.
- 3.101 Diesel engines are the approved work motors for Metrolink.
- 3.102 In recovery operations when a Class I vehicle is coupled to a Class II vehicle, all brakes must be cut out in the vehicle being recovered and a qualified employee shall be assigned to ride on the vehicle being recovered (See SOP # 32).
- 3.103 Operators of Class II vehicles shall make a daily inspection of the condition of the brakes on locomotives and flatcars, and of the standby hoses and brake dump valves on flatcars.
- 3.104 Work cars with diesel engine power may be made up in any train consist. The diesel engine may be centered between work cars or coupled on one end to either push or pull them.



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- 3.105 When one or more work cars are cut away from the work train at the work site, they shall be secured with handbrakes, wheel stops and chocks.
- 3.106 Operators shall secure Class II vehicles while they are stopped within the work area. When the vehicle is left unattended, the vehicle shall be secured with handbrakes. When stopped on a low grade, sufficient handbrakes shall be applied at the low end of the grade to be certain the vehicle is secured.
- 3.107 Before re-coupling to any cars that have been cut away from the Class II vehicle, the operator shall check that handbrakes on cars are set and wheel chocks and stops are in place. After the coupling is made and the vehicle is charged up, the stops and chocks shall be removed and the handbrakes released.
- 3.108 When a Class II vehicle is ordered out of a work area, the operator shall release handbrakes, make certain the track ahead is clear, check with vehicle flag person to make certain track is clear, and sound the horn to alert personnel on the roadway.
- 3.109 When it is necessary to move work cars with revenue cars on the mainline, except for snow removal equipment operating in a snow emergency, a guard train shall precede or follow the Class II vehicle to provide protection for revenue trains if a pull-apart occurs in the Class II vehicle. When work cars are being pushed, the guard train shall precede the work train. When work cars are being pulled, the guard train shall follow the Class II vehicle. The guard train may not enter the work train's block when following nor can the block be extended to include the guard train when the guard train is ahead of the work train. The guard train can be another diesel or revenue car units operating without customers.
- 3.110 When a flatcar is being used, it is the Operator's responsibility to ensure that:
- a. The bed of the car is properly prepared to alleviate slippery conditions;
  - b. The weight of the load is evenly distributed on the car;
  - c. Material loaded on the car does not obstruct the operator's or vehicle flag person's view of the roadway;
  - d. All materials are properly secured to prevent shifting;
  - e. Loaded materials have clearance in the subway;
  - f. Employees do not ride on top of loaded material; and,
  - g. Materials are clear of brake valves and handbrakes.



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- 3.111 All Class II vehicles operating on the mainline shall be operated by a qualified operator or under the guidance of a qualified operator acting as a pilot.
- 3.112 When flat cars are coupled to a diesel unit, the vehicle flag person shall:
- a. Place two white lights on the lead flat car if they are being pushed;
  - b. Place two red lights on the rear flat car if they are being pulled;
  - c. Ride the head end of the lead flat car to advise the operator of interlocking signal aspects and track conditions when being pushed;
  - d. Hold brake dump valve so that brakes can be applied in an emergency; and
  - e. Monitor tools and materials loaded onto the flat car.
- 3.113 When giving signals from a leading flat car that is being pushed, the vehicle flag person must use a white lamp or flag, or give verbal instructions using a radio.
- 3.114 The vehicle flag person shall assist the operator of a Class II vehicle in securing the vehicle at the work site by placing wheel chocks, stops and by setting handbrakes. Likewise, the vehicle flag person shall assist the operator in removing wheel chocks and stops in preparation for train movement. The vehicle flag person shall assist the operator in properly securing all booms and outriggers prior to moving the equipment (Ref. Rules [3.126](#) and [3.127](#)).
- 3.115 Cars on the leading or trailing end of any train which are not equipped with running lights or taillights must have portable battery-operated lamps displayed as follows:
- a. Two white lamps on the lead car
  - b. Two red lamps on the rear car.
- 3.116 Rail vehicle operators shall immediately inform ROCC when an equipment malfunction occurs on the mainline that affects safe and/or efficient train movement, and shall be guided by ROCC's instructions.
- 3.117 When employees other than the Train Operator must go between cars or under a train, they shall advise the operator to secure the train. Train Operators shall not take orders to move the train from anyone except the person going between the cars or under the train.
- 3.118 Train Operators shall stop and request instructions from ROCC whenever a train unintentionally overruns a station platform.



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- 3.119 Failure of train doors to open or close properly must be reported to ROCC immediately.
- 3.120 In revenue service, Train Operators shall not manually operate any OPEN DOORS control except the crew door key switch while any side doors of the train are outside the limits of a station platform, except when directed by ROCC.
- 3.121 In revenue service, when the train is otherwise within the limits of a station platform, Train Operators shall not manually operate the OPEN DOORS control on the side of the train opposite the platform.

In the event train doors are opened outside the platform limits or on the off side of the platform, Train Operators shall close doors, notify ROCC and conduct a ground walk around inspection. ROCC will determine if the train is to be taken out of service and if it is safe to discharge customers at that station.

- 3.122 When trains are operated against the normal direction of traffic, the Train Operator shall alert customers on the platform by sounding the horn in a series of short blasts prior to station entry and until the train is berthed in the station.
- 3.123 When the operating controls of any rail vehicle are left unattended, the vehicle shall be properly secured.
- 3.124 While on the mainline, Train Operators shall not leave an operating console of a Class I vehicle unattended without notifying ROCC.
- 3.124.1 When performing a change-off or relief at a station other than a staffed terminal station, Train Operators shall make face-to face contact with their relief so the relief can acknowledge that they will be operating the train. Train Operators shall make announcements advising customers of the relief.
- 3.124.2 When making a relief or change-off on the mainline, both the Operations Control center (ROCC) Supervisor and the Train Operators involved shall take every step necessary, including cancelling the relief, to ensure uninterrupted train operations with no impact to the customers.
- 3.124.3 When it is necessary for a Train Operator to leave at a station other than a staffed terminal station before a relief operator arrives, the Train Operator shall notify the Operations Control Center (ROCC) as far in advance as possible.



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3.124.4 After the Operations Control Center (ROCC) has approved the action, the Train Operator shall make regular announcements to the customers, as far in advance of the station as possible, informing them what is about to happen and the estimated delay.

The Operations Control Center (ROCC) shall instruct the Station Manager at the station where the train will be left to meet the train at the platform and to step into each car of the train and inform the customers that the Train Operator has had an emergency and that a relief operator will be there soon.

3.125 A hand signal indicating "Stop" shall be acknowledged with two (2) short horn blasts and shall be obeyed immediately. This rule applies whether operating in Manual or ATO.

3.126 When storing Class I Rail Vehicles, operators shall:

- a. Secure cars being stored a minimum distance of two (2) feet apart at all storage locations, yards and/or tail tracks;
- b. Set handbrakes on at least two cars;
- c. Set a sufficient additional number of handbrakes for the grade on which the cars are being stored;
- d. Ensure that the cars being stored are not fouling other tracks; and
- e. If the consist is to be stored for more than 15 days, the consists shall be chocked and blue flagged.

When storing Class II Rail Vehicles, operators shall:

- a. Set parking brakes on all locomotives, prime movers, cars, and any other wheeled units in the consist;
- b. Apply wheel stops or chocks to both sides of one wheel, on one axle, of each truck in the consist; and
- c. Perform a "walk-around" inspection to ensure brakes are properly applied, chocks or stops are in place, and no equipment is fouling any other tracks.



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3.127 Train Operators removing Class I cars from storage or preparing Class I cars for customer service shall perform an interior and exterior inspection, and perform a Rolling and Rolling Brake Test prior to initiating general operation of the consist.

Equipment operators removing Class II vehicles from storage or preparing Class II cars for movement shall perform an interior and exterior inspection (walk-around), and perform a Standing and Rolling Brake Test prior to initiating general operation of the consist.

3.128 Terminal Supervisors and/or ROCC shall insure that gap trains are placed to provide the safest possible operation of the terminal. The gap train should be stored on the track opposite the one used for trains arriving from the mainline and should be stored as deep as possible in the tail track.

3.129 Employees observing one or more blue lamps or flags displayed at either end of cars shall not:

- a. Couple to or move the cars;
- b. Obstruct the view of the blue lamps or flags; or
- c. Key-up or operate any of the trains switches, controls or circuit breakers.

3.130 When entering maintenance shops, operators shall: make verified safety stops (refer to rule 3.89), verify that the shop door is fully open, sound the horn and await assistance from a vehicle flag person. In addition to the required safety stops, operators must stop at the beginning of the apron (intersect between apron and ballasted track) before entering the shop.

3.130.1 Prior to a rail vehicle entering a maintenance shop, a vehicle flag person shall ensure that there are no obstructions in the path of the rail vehicle.

3.130.2 The vehicle flag person shall establish communication with the operator and grant permission to enter the shop, either over the radio or by hand signals.

3.131 Operators shall enter maintenance shops at a speed not to exceed five (5) mph, being prepared to stop short of any obstruction.

3.132 After positioning their vehicle in the shop, operators shall initially secure the cars with sufficient handbrakes.



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- 3.133 Prior to removing a rail vehicle from maintenance shops, operators and vehicle flag persons shall:
- a. Perform an exterior inspection of the cars to ensure that all obstructions have been removed and that there is no hanging equipment;
  - b. Ensure that turntables, lifts and jacks are clear and aligned properly;
  - c. Ensure that shop power is removed;
  - d. Ensure that all handbrakes are released;
  - e. Ensure that shop doors are fully open;
  - f. Sound horn and wait 5 seconds before moving (Rule 3.19); and
  - g. Establish radio communication and get permission from vehicle flag person to move the vehicle and be governed by their instructions until clear of the shop.
- 3.134 Operating rail vehicles for the purpose of testing brakes, etc., shall not be done inside a building.
- 3.135 Customer stations shall not be left unattended during revenue service hours except as specified in the schedule. Station Managers shall report any failure to be relieved at the scheduled time to ROCC and the Sector Supervisor.
- 3.136 Station keys shall be kept in the possession of the Station Manager on duty at the kiosk, and shall be surrendered only to the person who relieves the Manager at the kiosk, an authorized station assist, or an authorized Rail Operations Supervisor.
- 3.137 Farecard Vendors and Addfare Machines shall be checked periodically to ensure that they are in working order. Report all failures to SMNT AFC trouble desk. If a machine appears to have been tampered with or broken into, that fact shall be reported immediately to TRES-Revenue and an Incident Report shall be prepared.
- 3.138 Employees, other than authorized revenue collection personnel, shall not break or remove revenue seals.
- 3.139 Station Managers may assist customers to purchase farecards, but neither cash nor valuables shall be accepted by any employee as payment of fare on Metrorail.
- 3.140 Deleted



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- 3.141 When making public address announcements, employees shall be courteous and use an even and unexcited voice.
- 3.142 Employees shall execute customer evacuations in compliance with SOP # 4.
- 3.143 Prior to customers being evacuated to the roadway, third power shall be removed from all tracks in the area by ROCC.
- 3.144 Employees shall assist in the evacuation of customers as directed by the Train Operator or Rail Operations Supervisor.
- 3.145 Whenever Class I vehicles are in service, employees shall comply with Rules [3.146](#) through 3.164 when flagging on the roadway unless ROCC has given permission to work after the last class1 vehicle clears the area.
- 3.146 Employees engaged in work that can obstruct the safe passage of trains must be provided with flagging protection.
- 3.147 Train Operators must be familiar with and obey all flagging rules and regulations.
- 3.148 Employees assigned to flagging duties shall not be assigned to perform any other duty.
- 3.149 Employees flagging shall wear an approved safety vest.





3.150 Only the roadway flag person or watchman/lookout shall give a proceed signal to approaching vehicle operators. There is only 1 roadway flag person with red flags or lanterns at the entrance to any work zone. Multiple watchman/lookouts with signaling disk (see picture below) may be required throughout a work zone (large work zone, work zones that include obstructed views, i.e. curves and hills). The operator must acknowledge each roadway flag person or watchman/lookout throughout the work zone. Operator shall sound their horn to signal approach and acknowledgement as required (Refer OR 3.87). All approaching vehicle operators shall be alert and stop vehicles if another roadway worker signals stop in case of an emergency. Operators shall always abide by the most restrictive signal given.



Watchman/Lookout with Signaling Disc



**Notice:** The signaling wand is only to be used as a warning at a fixed work location.

3.151 Lighted lamps of prescribed color and type will be used for flagging in the underground portion of the system.

3.152 Flags of prescribed color and size will be used between sunrise and sunset in the open. When vision is obscured, lighted lamps will be used with the flags.



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3.153 Flagging aspects, for lamps and flags, are as follows:

- a. Red - STOP;
- b. Green - Resume speed.

3.154 Flagging lamps and flags shall be located as follows:

- a. Lamps and flags shall be placed on the track structure (right side where possible), in a position which will be clearly visible to the Train Operator.
- b. Lamps and flags must not be placed in conflict with a fixed signal.
- c. Refer to Track Protection Illustrations (Fig. 1-9).



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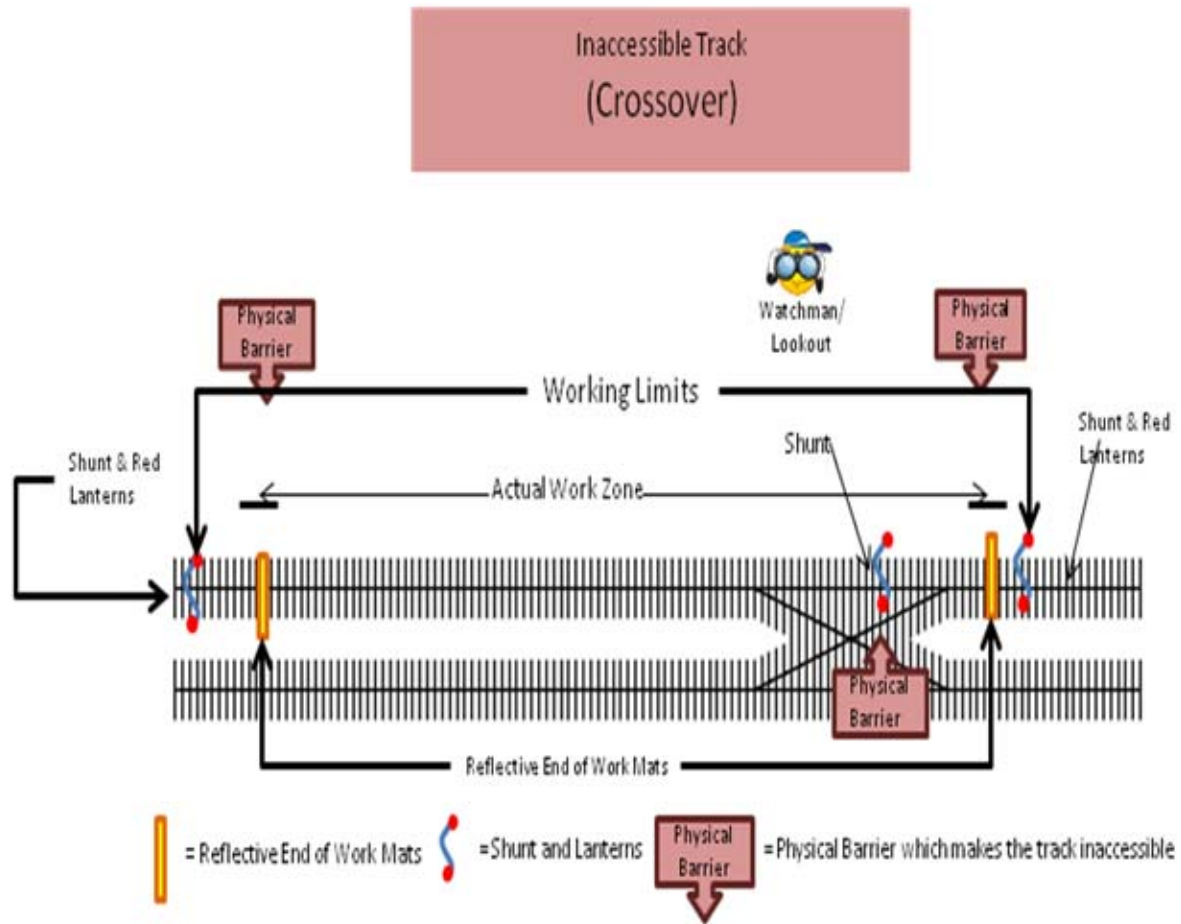


Figure 1

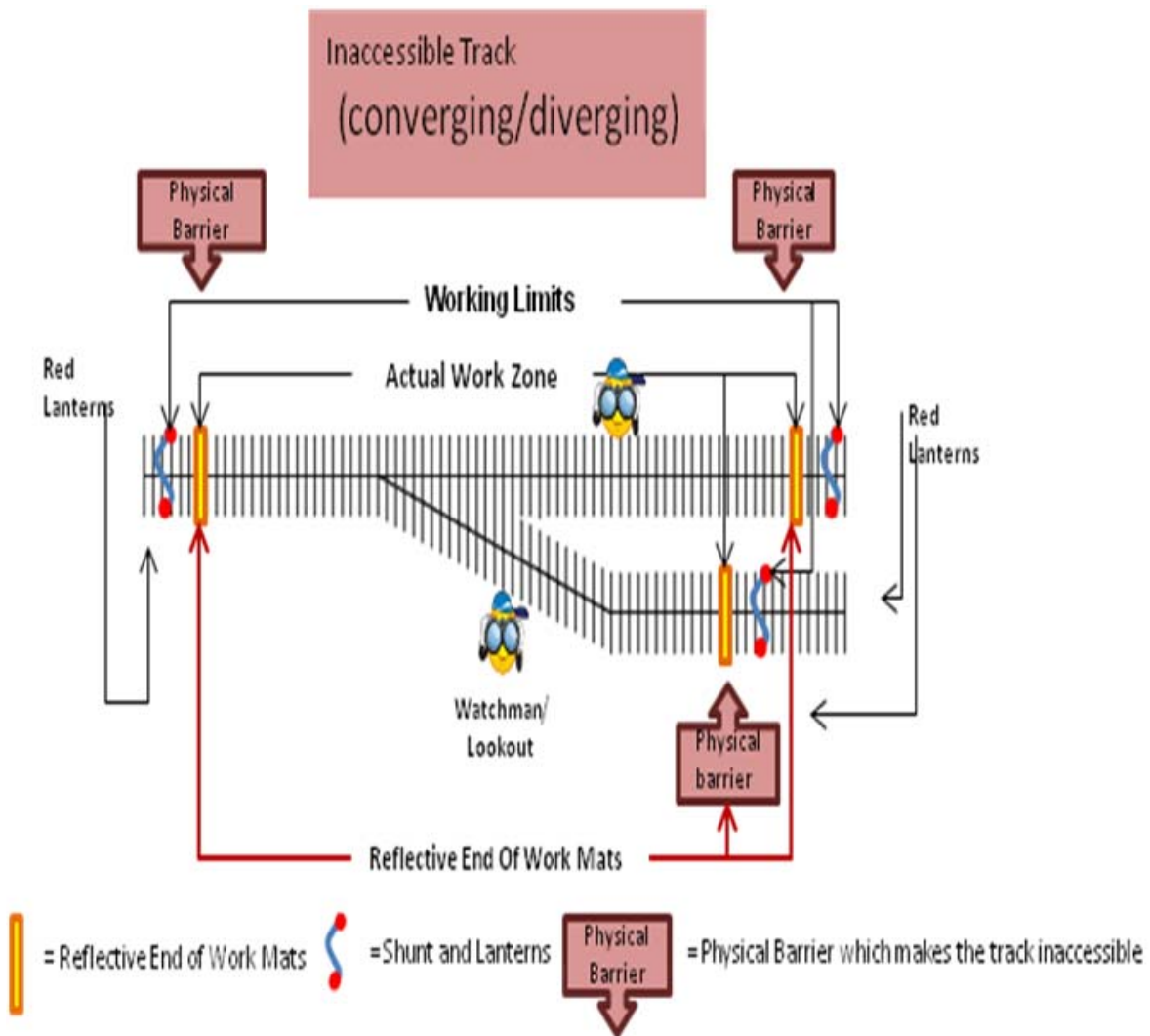


Figure 2

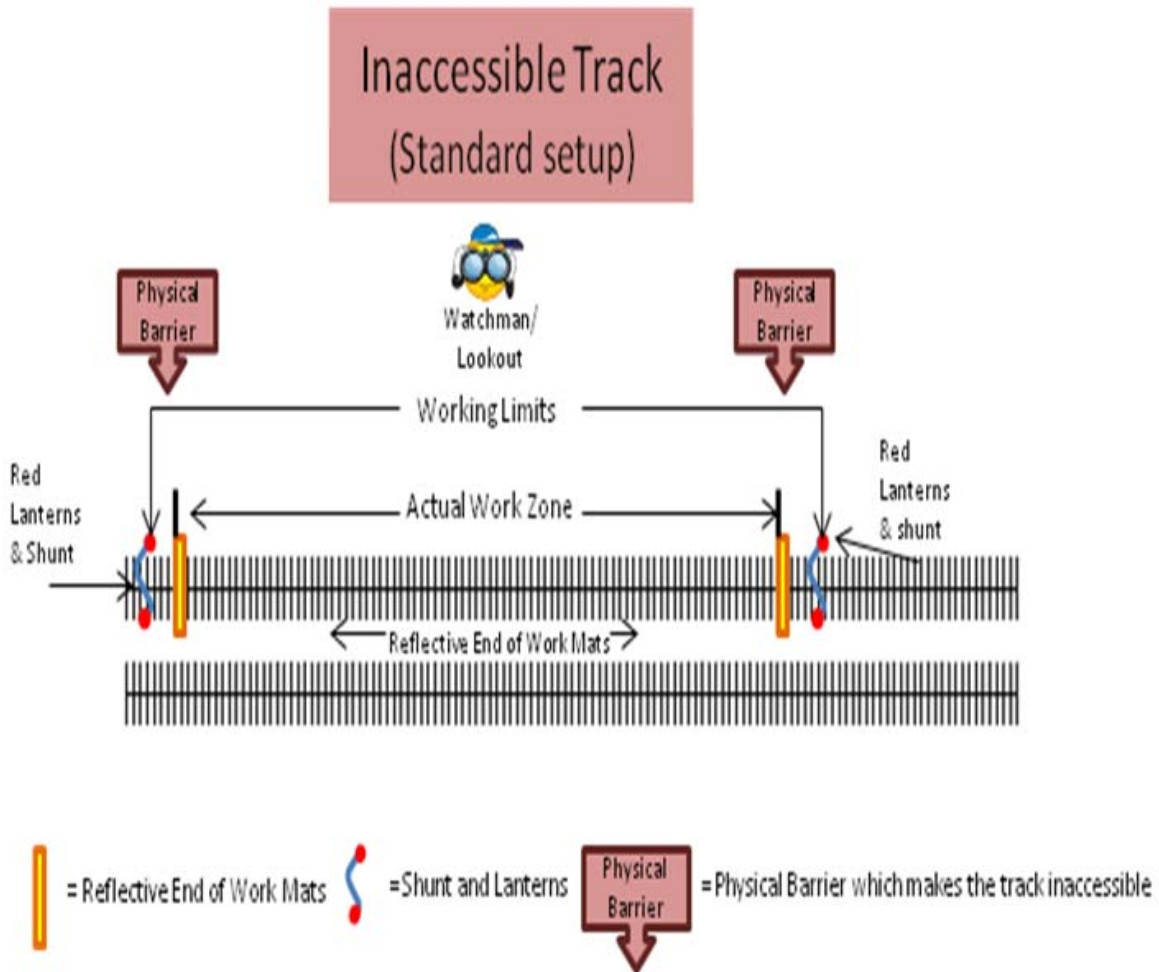


Figure 3



## Exclusive Track Occupancy Protection Standard Work Zones

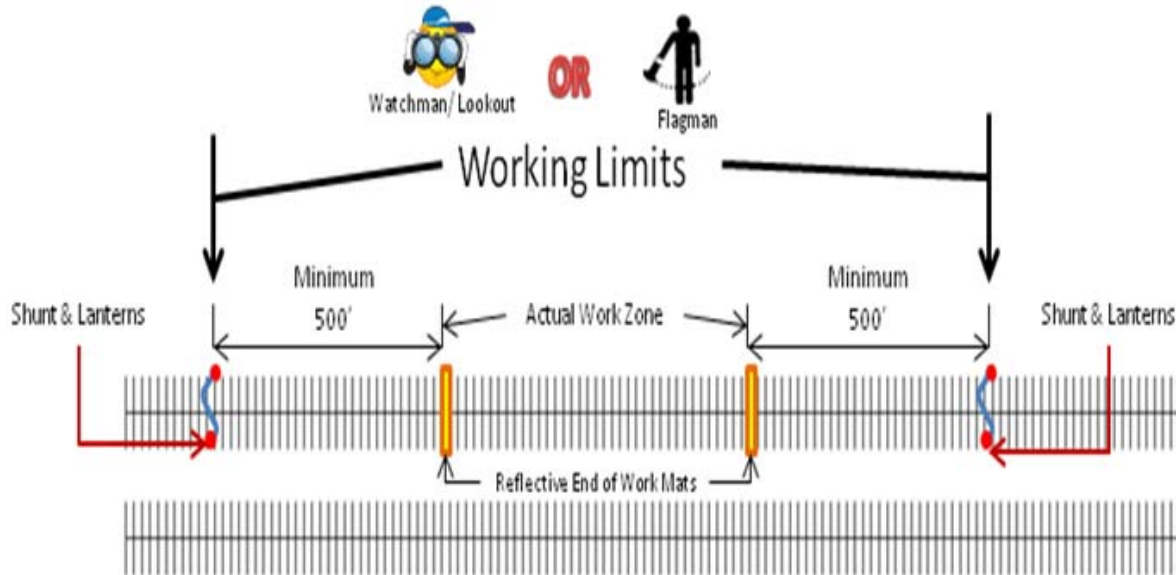


Figure 4



## Exclusive Track Occupancy Protection Crossover Work Zone

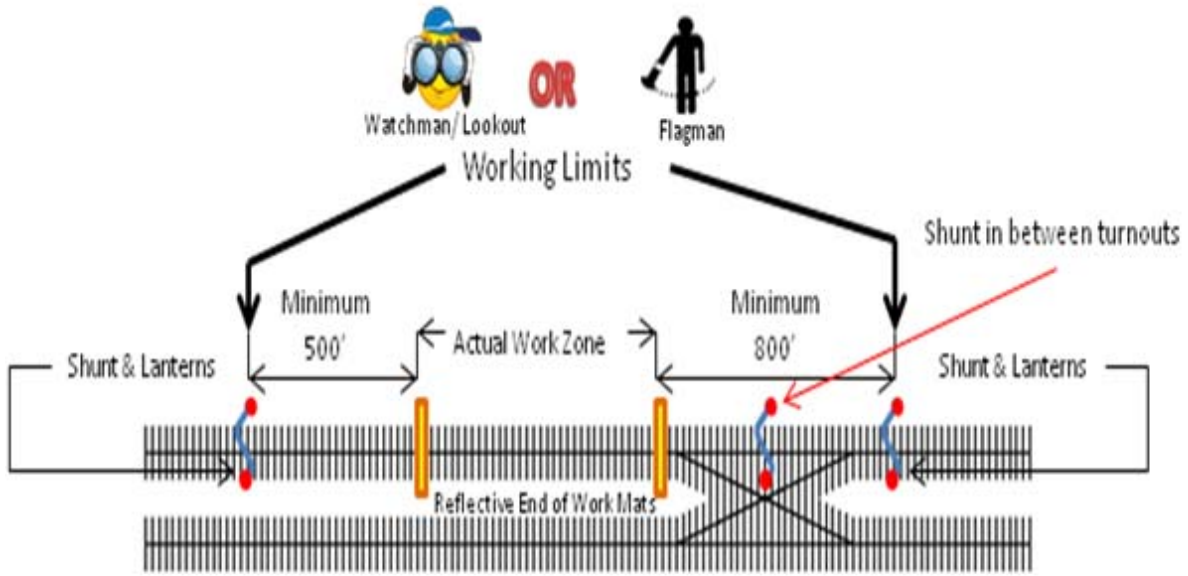


Figure 5



# Exclusive Track Occupancy (converging/diverging)

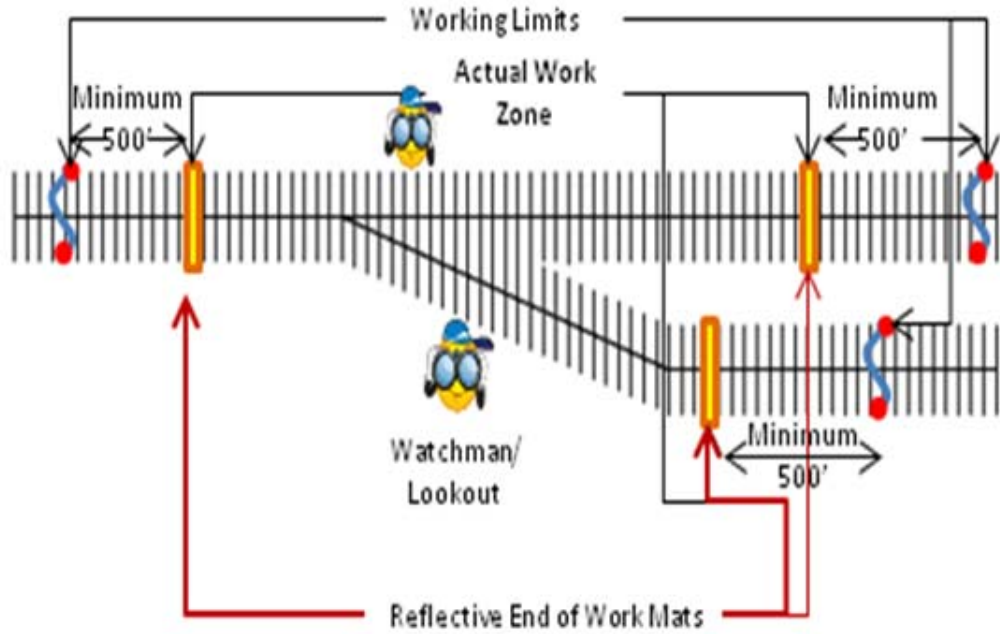


Figure 6





# Piggy Back Work Zones

(With Rail Equipment)

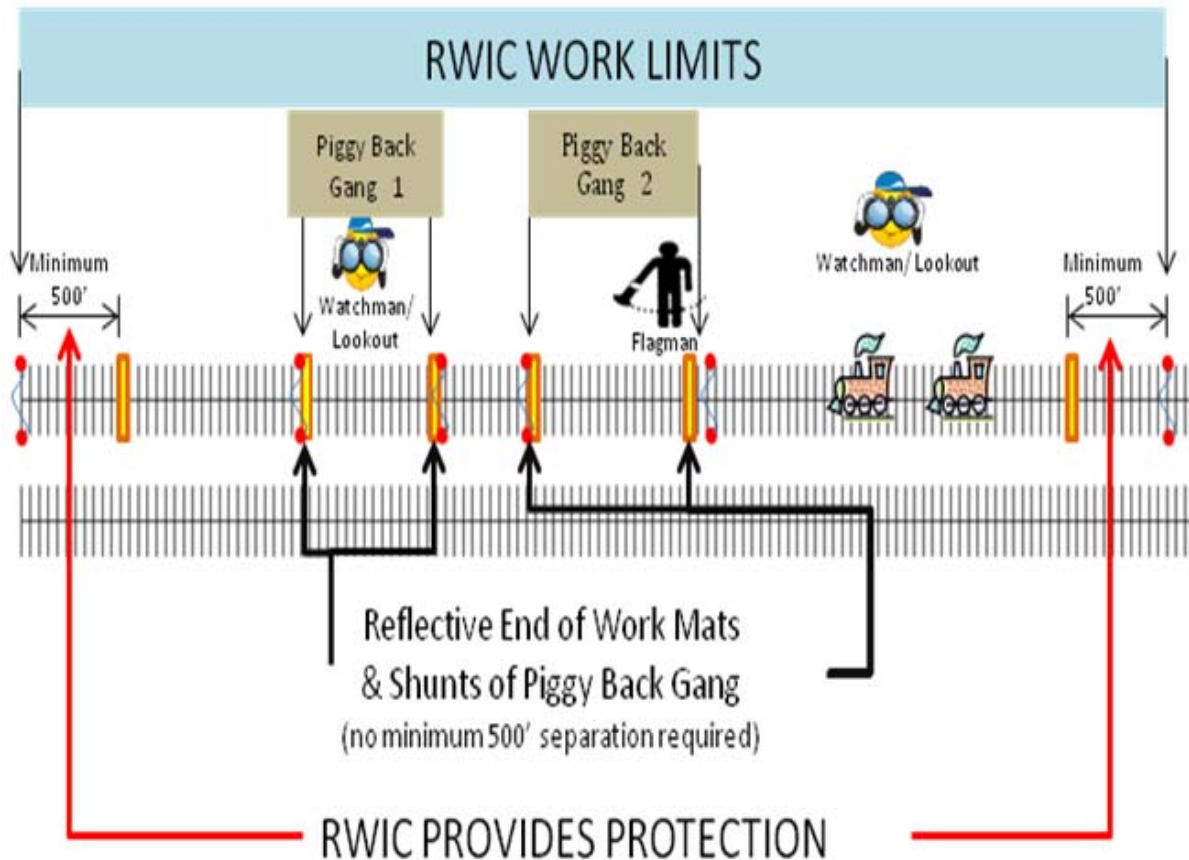


Figure 7



# Piggy Back Work Zones

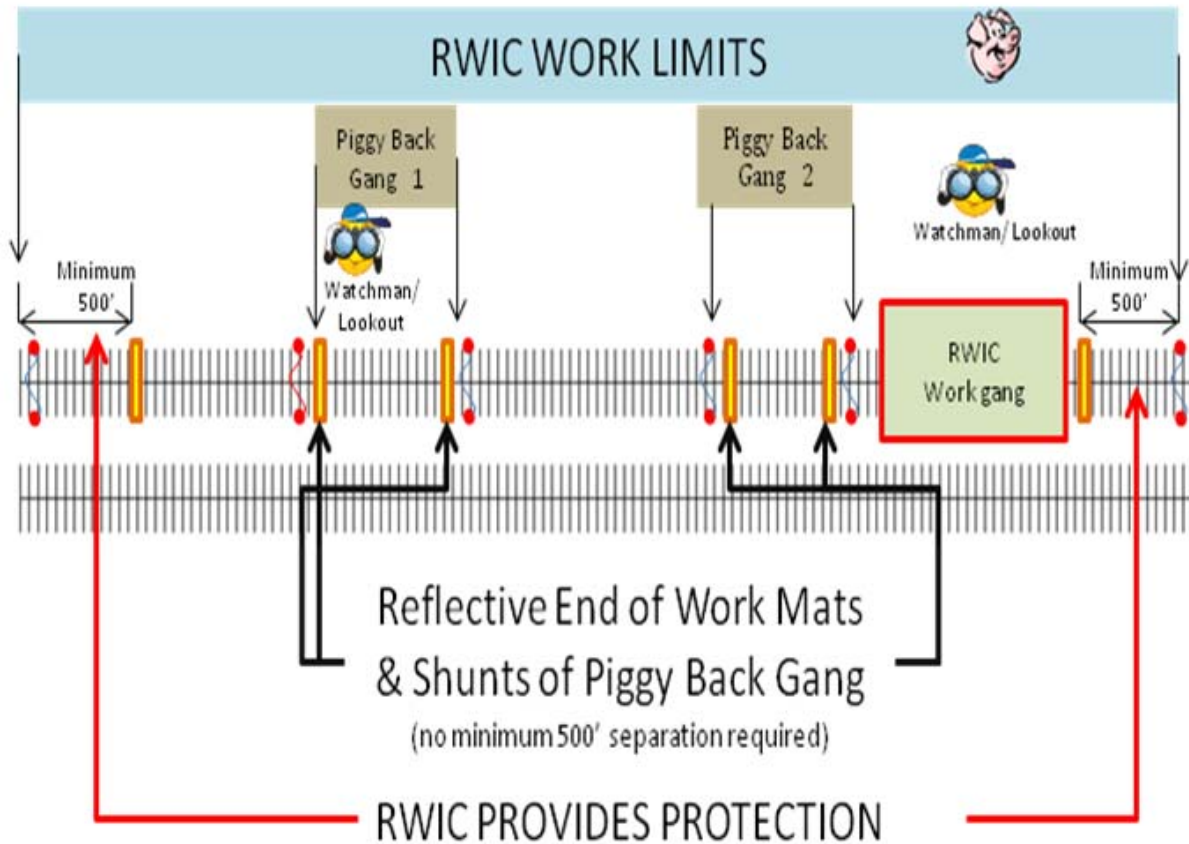


Figure 8



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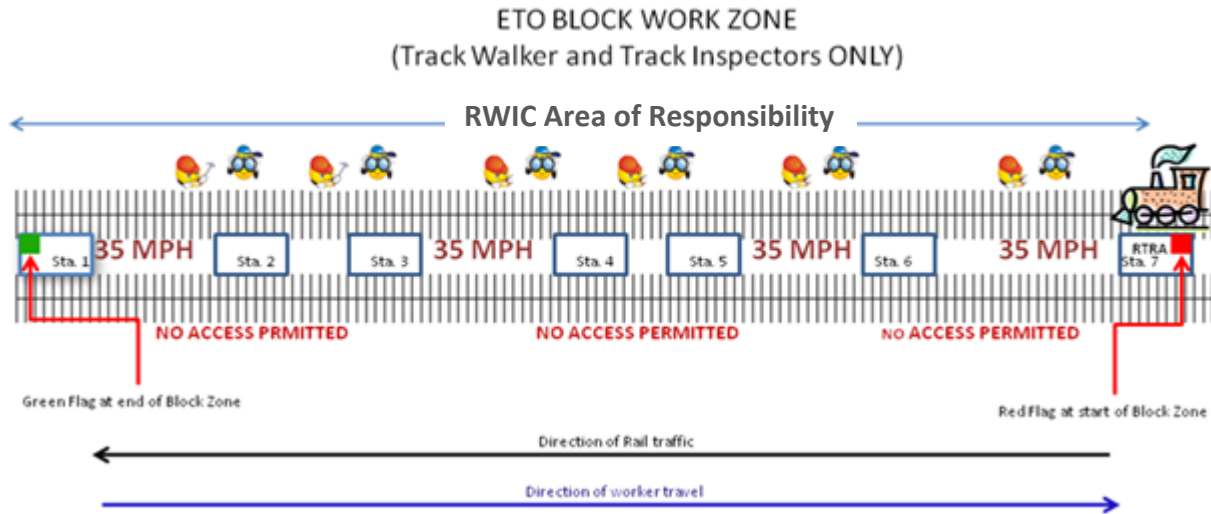


Figure 9

- 3.155 The RWIC shall establish flagging protection as established by the RWPM and coordinate this protection with ROCC (see illustrations in 3.154 above).
- 3.156 Delete
- 3.157 Delete
- 3.158 Delete
- 3.159 Delete
- 3.160 Delete
- 3.161 The roadway flag person shall immediately report a flagging run through the RWIC and ROCC.
- 3.162 Delete
- 3.163 The RWIC shall notify ROCC when the track is clear for normal operation.



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- 3.164 When flagging protection is observed on the roadway or by communication from ROCC, the Train Operator shall:
- a. Reduce speed to not more than 35 mph and be prepared to stop at roadway flag person or watchman/lookout signal;
  - b. Change to low beam headlights; and
  - c. Operate at no more than 35 mph unless directed otherwise by the RWIC or ROCC.

3.165 Interlocking signal indications are given by the following lighted aspects (Fig. 10):

Red - Stop

Steady lunar - Indicates that one of the possible routes are aligned and that the interlocking is not occupied

Flashing lunar - Indicates that a diverging route is aligned and that the interlocking is not occupied. Flashing Lunars are currently installed at the following locations:

D&G Junction	Fort Totten (E06)
C&J Junction (C97 J Line turnout)	West Hyattsville (E07)
Pentagon (C07)	P.G. Plaza (E08)
Van Dorn (J02)	College Park (E09)
Franconia-Springfield (J03)	Greenbelt (E10)
Forest Glen (B09)	L'Enfant Plaza (F03)
Wheaton (B10)	Navy Yard (F05)
Glenmont (B11)	Anacostia (F06)
Mt. Vernon Sq. (E01)	Southern Avenue (F08)
U Street/Cardozo (E03)	Naylor Road (F09)
Georgia Avenue (E05)	Branch Avenue (F11)

Fixed Red - Stop (normally used at bumping posts)

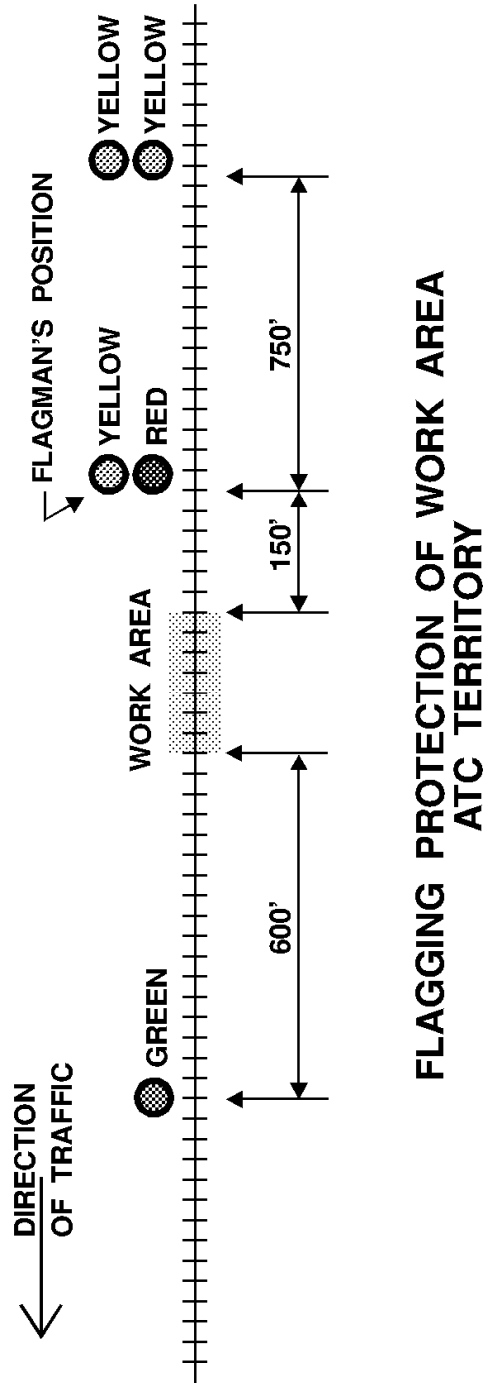


Figure 10



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

### METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK

3.165.1 Repeater signal indications are given by the following lighted aspects (Fig. 11, 11A, 11B, 11C and 11D).

Yellow - Caution

Train in approach of an interlocking signal displaying a red aspect. Reduce speed to no more than 5 miles per hour when passing the repeater signal. Be prepared to stop no closer than 10 feet in approach of the interlocking signal.

Steady Lunar:

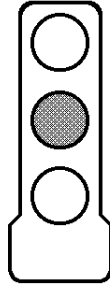
Indicates that the train is in approach of an interlocking signal displaying a lunar aspect.

Flashing Lunar:

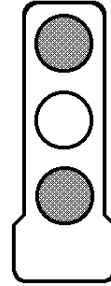
Indicates that the train is in approach of an interlocking signal displaying a flashing lunar aspect (diverging route).

Mainline - Maintain operation under cab signals.

Yard - Proceed, not to exceed the posted speed limit or 15 mph, whichever is less.

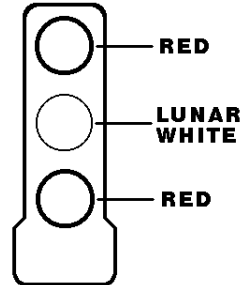


**NAME: ROUTE NOT ALIGNED,  
NOT LOCKED, BLOCK  
OCCUPIED**  
**ASPECT: RED OVER RED**  
**INDICATION: STOP**



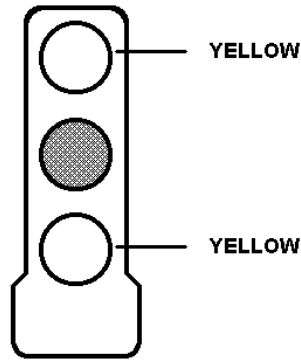
**NAME: INTERLOCKING CLEAR**  
**ASPECT: LUNAR WHITE**  
**INDICATION:  
OPERATE ACCORDING  
TO CAB SIGNAL  
INDICATION**

**NOTE: IF EITHER OF THE  
LAMPS ARE DARK THE  
INDICATION IS STOP**



### **INTERLOCKING SIGNAL**

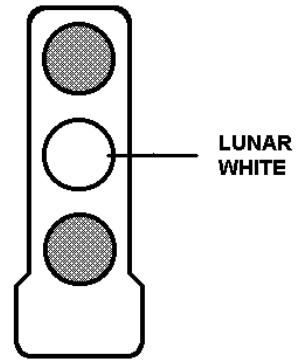
Figure 11



**NAME:** CAUTION: IN APPROACH OF INTERLOCKING DISPLAYING A RED ASPECT

**ASPECT:** YELLOW

**INDICATION:** CAUTION: REDUCE SPEED TO NOT MORE THAN 5 MPH, BE PREPARED TO STOP.

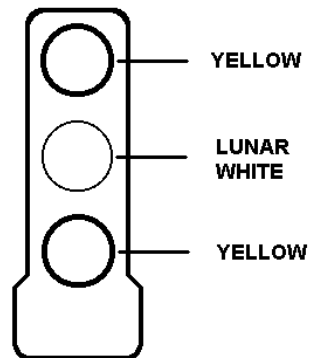


**NAME:** INTERLOCKING CLEAR

**ASPECT:** LUNAR

**INDICATION:** OPERATE ACCORDING TO CAB SIGNALS OR YARD RULES

**NOTE: IF EITHER OF THE LAMPS ARE DARK THE INDICATION IS STOP**



## INTERLOCKING SIGNAL

Figure 11A





INTERLOCKING SIGNAL



Figure 11B

INTERLOCKING SIGNAL



Figure 11C



Figure 11D



3.166 Fixed signs located on the roadway are:

- a. STATIONING MARKER (Commonly Known as Chain Marker) - A sign to identify specific locations (Fig. 12).



Commonly Known as Chain Marker

Figure 12



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- b. **MAXIMUM AUTHORIZED SPEED** – A sign to indicate the limiting authorized speed for a particular area.
- c. **NO CLEARANCE** - A sign to indicate insufficient space between the sides of cars and the adjacent structures to permit a person to pass in safety (Fig. 13).



Figure 13



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- d. "S" MARKER - A marker (approximately 2700 or 1200 feet from a station, depending upon the distance between stations) to indicate the location at which a programmed station stop is initiated by the ATC system to stop the train in the next station (Fig. 14).

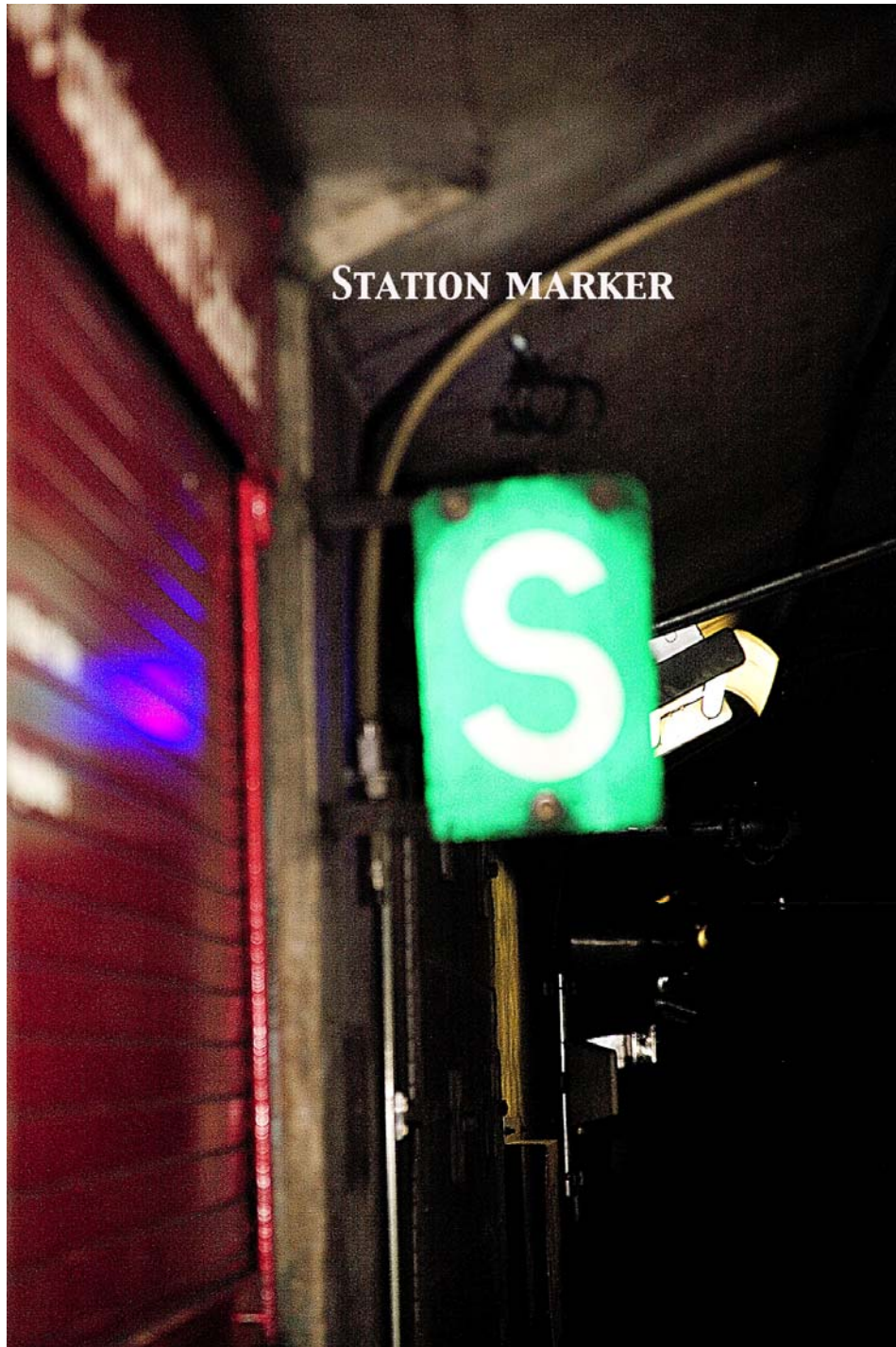


Figure 14



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- e. **TURN BACK** - A sign to indicate where the lead cab of a train must stop when making a Turn Back Move (Fig. 15).

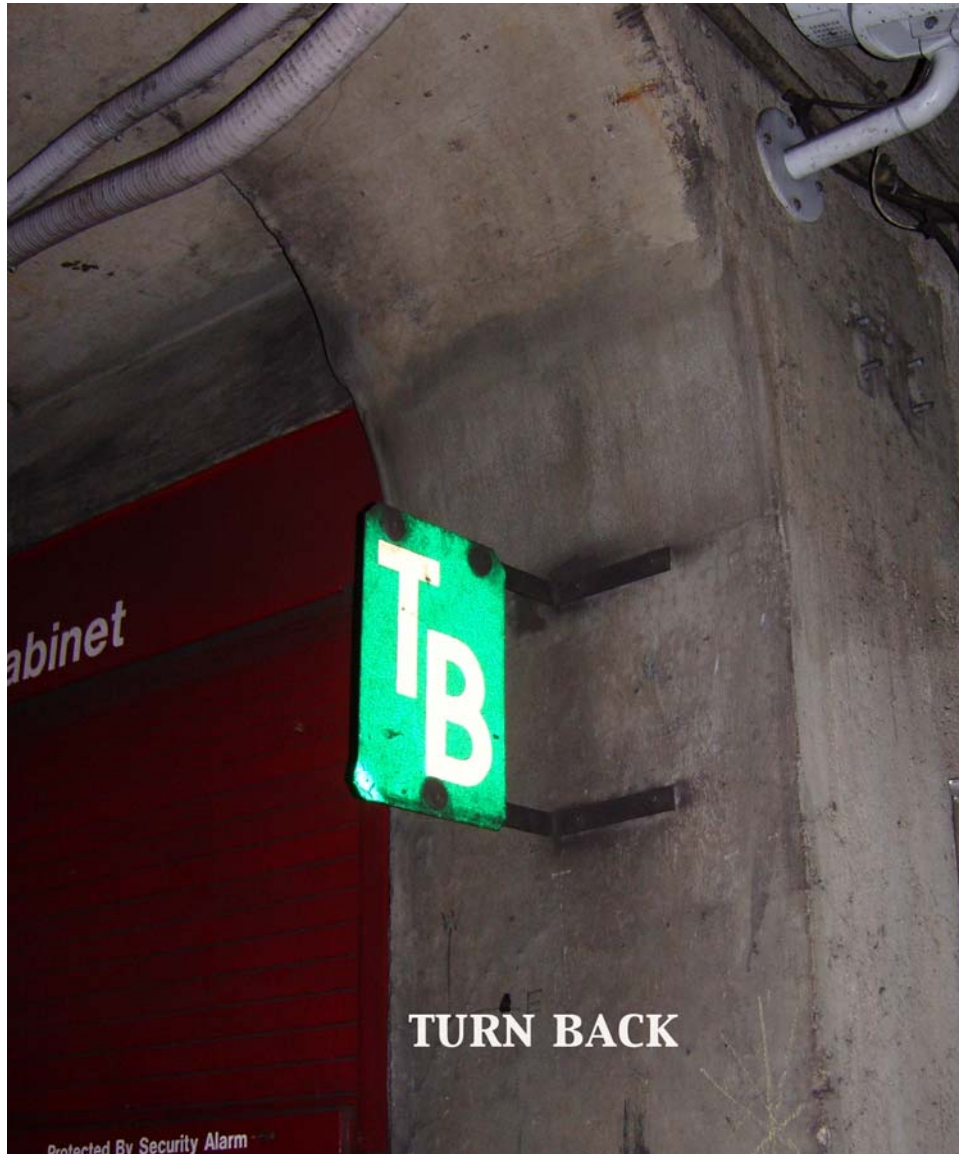


Figure 15



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- f. **FIXED BLUE LIGHT** - A light to indicate the location of the Emergency Trip Station (ETS) and wayside telephone (Fig. 16 & 16a).



Figure 16



Figure 16a



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- g. **DISTANCE AND DIRECTION SIGN** - A sign which indicates the distance and direction to principal points in the Metrorail system (Fig. 17).



Figure 17





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- h. **STREET LOCATION SIGN** - A sign located along the roadway which indicates the street location of a specific exit or vent shaft (Fig. 18).



Figure 18



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- i. **DANGER HIGH VOLTAGE NO TRESPASSING SIGN** - A warning sign located at each emergency exit/entrance and at 200 foot intervals on the roadway fence (Fig. 19).



**DANGER SIGN**

Figure 19



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- j. EXIT SIGN - A sign indicating or leading to a recognized, legal point of egress (Fig. 20).



Figure 20



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- k. HATCH INSTRUCTION SIGN - A sign which illustrates the method used to open emergency exit hatch doors (Fig. 21).



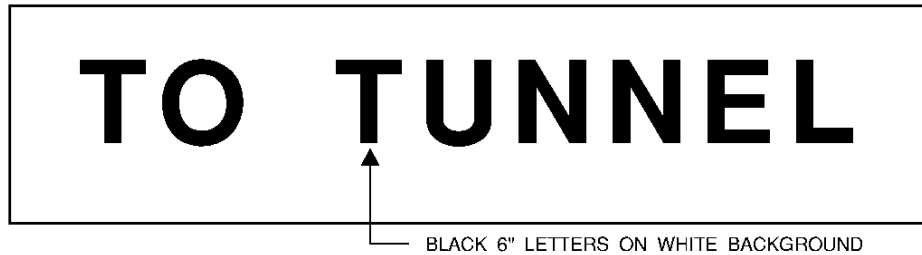
Figure 21



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1. **TO TUNNEL SIGN** - A sign to indicate which door leads to the tunnel in cases where multiple doors are commonly located (Fig. 22).



**TO TUNNEL SIGN**

Figure 22



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- m. **TRACK IDENTIFICATION SIGN** - A sign to indicate track designations at emergency exit locations (Fig. 23).

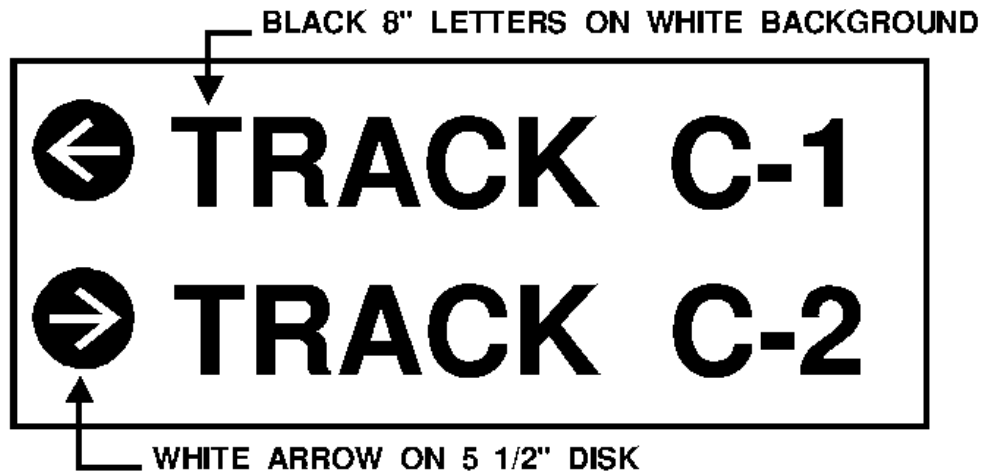


Figure 23



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- n. SAFETY WALK STANDPIPE ID SIGN – A sign which indicates the location of standpipe discharge valves (Fig. 24).



Figure 24



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- o. POWER SYSTEM GRAPHICS - A group of signs which illustrate the control configuration of select third rail sections (Fig. 25).

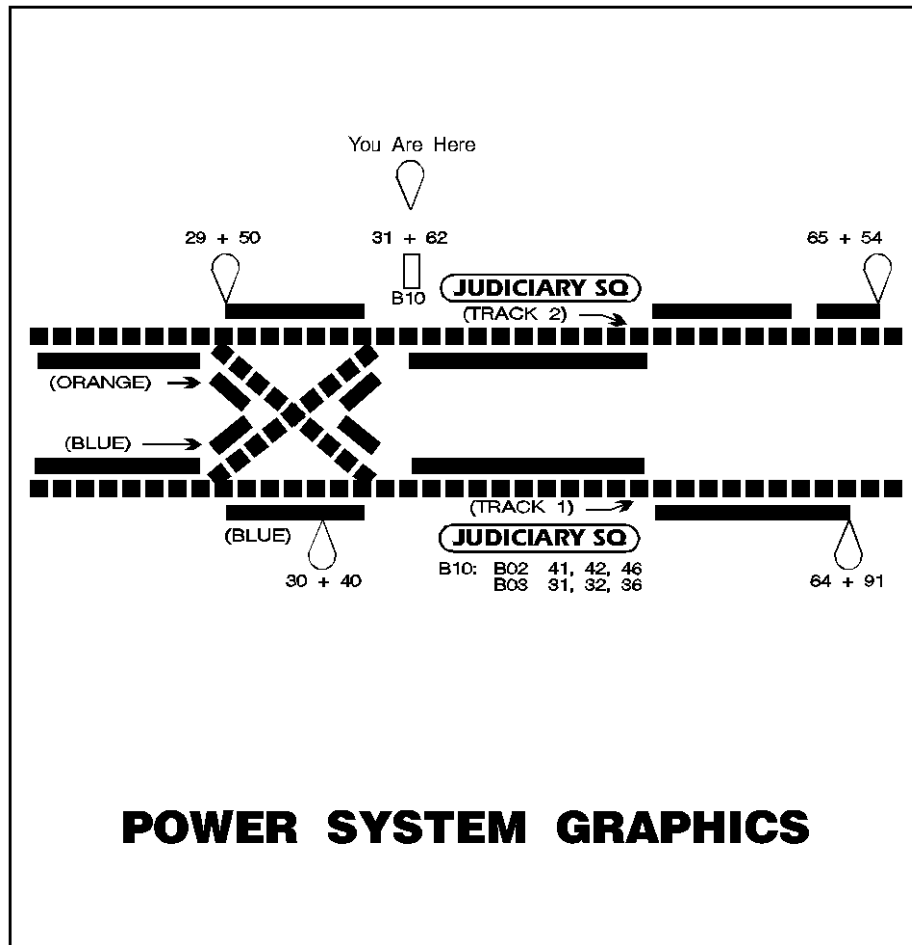


Figure 25





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3.167 Hand signal indications shall be given facing the oncoming vehicle. Personnel giving the hand signal can assume a different position once the hand signal is acknowledged by the operator.

Hand signal indications and aspects are:

- a. STOP - Move hand, flag, light, or any other object back and forth across the track below the waist (Fig. 26).



Figure 26



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- b. **APPLY BRAKES** - (when car is standing) Move hand, flag, or light back and forth across the track above the shoulder.
- c. **RELEASE BRAKES** - (when car is standing) Hold hand, flag, or light vertically above the shoulder (Fig. 27).



Figure 27



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- d. REDUCE SPEED - "Slow Ahead" to not more than ten (10) mph, be prepared to stop. Hold hand, flag, or light in a steady position horizontally away from the body (Fig. 28).

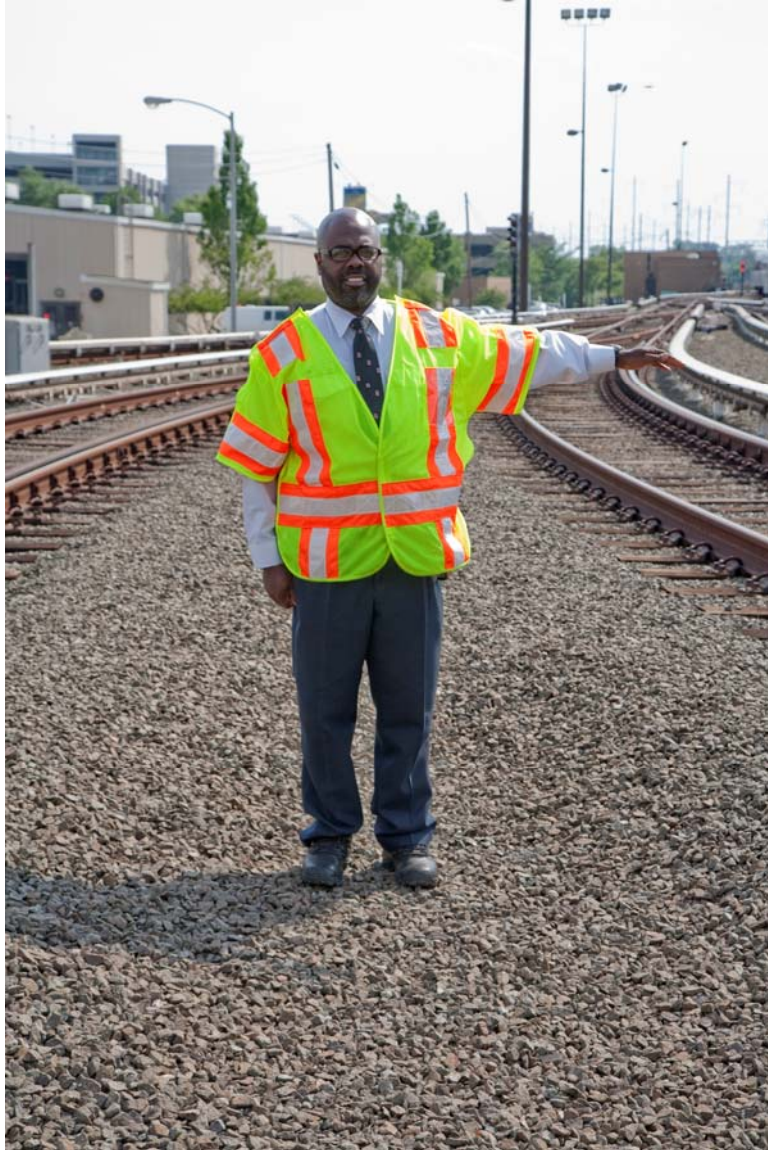


Figure 28



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- e. **MOVE FORWARD** - Move hand, flag, or light up and down in a vertical motion (Fig. 29).



Figure 29



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3.168 Rail vehicle horn signals are indicated below as Long Sounds and Short Sounds. Long Sounds are horn blasts of a second or more and Short Sounds are horn blasts of less than half a second and long enough to make a full clear sound. Operators shall make sounds clearly and distinctly.

2 Long Sounds	Warning that the train is approaching.
2 Short Sounds	Acknowledgment of any signal to the train.
>5 Short Sounds	Warning that the train is passing through a station without stopping or entering a station opposite the normal direction of traffic (i.e. when single tracking).

3.169 When two or more employees are engaged in a train movement, the employee operating the train shall respond to the following buzzer signals:

<u>Sound</u>	<u>Indication</u>
1 Long Sound	Stop.
2 Long Sounds	Proceed.
4 Short Sounds	Reduce speed.
2 Short Sounds	Acknowledgment of any signal.

Long Sounds are buzzer signals of a second or more and Short Sounds are buzzer signals of less than half a second and long enough to make a full clear sound. Operators shall make sounds clearly and distinctly.

**3.170 Inter-Car barriers shall be deployed and stowed in accordance with WMATA authorized procedures.**



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**METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK**

# **Section 4 – Safety Rules**

(This page is in lieu of a divider Tab)



SECTION 4 - SAFETY RULES

Rules in **RED TEXT** are Cardinal Rules:

A. SAFETY RESPONSIBILITIES

4.1 Employees shall immediately report hazardous and/or unsafe conditions to their supervisor, including all near misses.

4.2 Supervisors are responsible for providing employees under their supervision with a safe and healthful work environment. To achieve this objective, supervisors shall:

- a. Develop safety instructions for every job, and conduct safety briefings for all personnel under their supervision in the safe work practices and methods at the time assignments are made or when work conditions or locations change.
- b. Request, be knowledgeable of, and enforce the OSHA safety and health standards applicable to their department, including the use of proper protective equipment and suitable tools for the job.
- c. Provide personal protective equipment and enforce its use at all times.
- d. Detect, correct, prevent and report all unsafe acts and conditions that exist in their area of responsibility
- e. Ensure that all containers of hazardous materials and chemical products are properly labeled with the name of the product and the name of the manufacturer. Unlabeled containers shall not be used but shall be processed for proper disposition. Unlabeled containers in the Metrolink system shall be reported to MOC for removal.
- f. Follow good housekeeping practices; an orderly arrangement of tools, equipment, storage facilities, and supplies.
- g. Set a good example for persons under their supervision. Offer positive reinforcement to employees who need to improve their safety behavior.
- h. Investigate each accident, interview each employee/witness involved and take corrective action as needed.
- i. Ensure that each accident is promptly and fully reported.
- j. Ensure that proper and prompt first aid is administered when an injury occurs.





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- k. Schedule and conduct regular safety meetings with their employees, and follow-up on their suggestions.

- 4.3 Employees shall not alter or render inoperative any safety devices on vehicles, equipment, structures and/or any other WMATA property, except as authorized by these rules or other WMATA procedures, and then only when proper measures are taken to safeguard personnel and equipment.

#### B. TREATMENT OF INJURIES

- 4.4 Employees shall report all on the job injuries, no matter how minor, to their supervisor verbally and in writing as soon as possible, but no later than the completion of work on the date of the injury.
- 4.5 Employees shall ensure that they get proper attention for all injuries. Eye injuries shall be treated by a doctor or at the nearest hospital emergency ward. If a chemical substance enters the eyes, immediately flush with copious amounts of clean water for a minimum of 15 minutes and then immediately seek medical attention.

Employees requiring medical attention for any reason or for any person shall contact ROCC on ext. 1970, or appropriate radio channel, and provide the details of the incident. ROCC will contact and direct local emergency personnel to the scene.

#### C. FIRE PROTECTION RESPONSIBILITIES

- 4.6 Indications of fire observed on vehicles or Authority property must be reported immediately to the Train Operator, the nearest supervisor, or ROCC.
- 4.7 Employees shall submit a written report of all fires to the Department of Safety.
- 4.8 Employees shall be familiar with fire regulations, and with the locations and use of fire alarms and firefighting equipment in their work area and shall keep access to that equipment free at all times.
- 4.9 The use of any fire extinguisher must be reported to the employee's supervisor and documented on the appropriate form.
- 4.10 All employees shall report all empty or used fire extinguishers in facilities to PLNT and all empty fire extinguishers in trains or stations to ROCC and MOC respectively, for replacement immediately after their use.



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- 4.11 Employees shall not smoke or introduce open flames or sparks into areas where the air contains flammable vapors or concentrations of explosive dust, where welding equipment is in use, where flammables or batteries are stored, or anywhere that NO SMOKING signs are posted.
- 4.11.1 Transport of diesel fuel upon Class 1 vehicles is permitted only when the Class 1 vehicle is not carrying customers in revenue service and is authorized by ROCC and coordinated with MOC. Fuel must be in approved labeled containers no greater than 5 gallons in capacity, free from leaks and wiped dry of any over-spill prior to being loaded onto the vehicle. Containers being transported must be properly secured and attended at all times with no more than two containers per attendant and no more than four containers per car. The person attending fuel containers must establish communications with the operator of the vehicle and have ready access to a fully charged fire extinguisher of the type approved for the fuel. Filling, re-filling or transferring fuel from one container to another while aboard a Class 1 vehicle is strictly prohibited. Operators of vehicles transporting fuel shall obtain permission from ROCC and relay confirmation that the fuel containers are secure and attended, prior to moving.

#### D. GENERAL

- 4.12 Only authorized cleaning solvents shall be used for cleaning parts.
- 4.13 All chemical products shall be used only for their specified purpose.
- 4.14 Employees shall not use solvents for cleaning hands.
- 4.15 Compressed air shall not be used to blow dirt off clothes or body.
- 4.16 Employees shall not jump across or into pits.
- 4.17 Employees are prohibited from jumping over or scaling enclosures around WMATA property. Authorized access points must be used to enter or exit WMATA property.
- 4.18 Employees shall never walk backwards.
- 4.19 Employees shall keep away from the edge when on a safety walk.
- 4.20 Employees shall exercise extra care on wet floors.
- 4.21 Employees shall walk at a safe speed; shorten stride on ice.
- 4.22 Employees shall be alert for rough and uneven walking areas.
- 4.23 Employees shall not stand or work under a load supported by a crane.



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- 4.24 Loads supported by cranes shall not be swung over employees or customers.
- 4.24.1 Only standard hand signals shall be used when flagging cranes (ANSI B30.5-1989).
- 4.24.2 Crane operators shall perform an inspection of all crane control mechanisms, safety devices, crane hooks and reeving prior to use (OSHA 1910.180 d.3.i).
- 4.25 Employees shall use established roads, pedestrian crossings, overpasses, underpasses, or safety walks whenever possible.
- 4.26 Adequate protection against falling or tripping hazards shall be provided when temporary openings are made in floors, streets, sidewalks, yards or other structures.
- 4.27 All horizontal hatches and doors leading to vent and fan shafts, and emergency exits shall be closed when not in actual use. When these hatches or doors are opened and left unattended, employees shall erect substantial barricades or chains completely around the opening. These barricades and chains shall be of sufficient strength to withstand the force of a 200 pound load.
- 4.28 A conveyor, chute or other such facility shall not be used as a step, walkway, or as a means of personal transportation.
- 4.29 Before pulling on a rope, wire, cable, chain, or other such tackle, employees shall have firm footing, assume a braced position, snub the pull end if possible, and move clear to prevent injury. Wear gloves or appropriate safety equipment to prevent injury.
- 4.30 Employees shall be alert to other work being performed in their area to avoid being struck by tools or flying objects.
- 4.31 Whenever ladders, trestles or scaffolding are used, employees must ensure that with
- a. Ladders:
1. They are in good condition (no broken or missing rungs or steps, no broken or split side rails, no other defects) and not slippery;
  2. They are correctly and firmly placed;
  3. The side rails shall extend not less than 36 inches above the landing;
  4. Proper planking is used for trestles;
  5. They cannot be dislodged by an opening door or passing vehicle (assign a person to guard them if necessary);



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6. All extension ladders have safety feet.
7. Straight ladders are tied at the top or held at the bottom by a second person, and that they are positioned at a safe angle, such that the horizontal distance from the top support to the foot of the ladder is at least one quarter of the working length of the ladder;
8. Step ladders are in the fully open position;
9. Employees never stand on a rung or step higher than the third from the top (unless designed for such use);
10. Employees face ladders when ascending or descending;
11. Employees do not carry any equipment on ladders;
12. Metal ladders, trestles, and scaffolds are not used in the vicinity of exposed, energized electrical conductors; and
13. All ladders, trestles and scaffolds shall be attended at all times while in use and shall be secured at all other times.

b. Scaffolds:

All Federal OSHA standards in 29 CFR 1926.451 shall be followed when erecting and using scaffolds.

#### E. SUITABLE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT

- 4.32 Employees shall wear suitable clothing for work being performed.
- 4.33 Employees shall wear and/or use the prescribed safety equipment required for the type of work being performed.
- 4.34 Clothing shall not be torn or loose fitting.
- 4.35 Short sleeves shall not be worn when arm protection is needed.
- 4.36 Clothing shall not be saturated with grease, oil, or other flammable substances.
- 4.37 Short pants are prohibited.
- 4.38 Employees shall wear conventional shoes or boots with sound leather or rubber soles and heels on the Rail System, except as noted in Safety Rule [4.41](#).



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- 4.39 Tennis shoes, sandals, or similar type shoes, including safety shoes that look like tennis shoes, are prohibited.
- 4.40 The use of footwear unbuckled, unlaced, or with laces dragging is prohibited.
- 4.41 Safety shoes, approved by the Safety Department, shall be worn when working in areas where there is danger of foot injuries due to falling or rolling objects, piercing the sole, and where there is exposure to electrical hazards. These areas shall include, but are not limited to, mainline, yard roadway, maintenance shops, storerooms, and rail equipment and ancillary rooms.
- 4.42 Eye shades or cap visors made of flammable materials may constitute a hazard and shall not be worn.
- 4.43 Sun glasses or glasses with tinted lenses, to include prescription sun glasses, shall not be worn by any employee in subway sections of the Metrorail system.
- 4.44 The wearing of contact lenses on the job is discouraged due to the hazards associated with chemicals, dust, etc.
- 4.45 An open umbrella shall not be used while on Authority property near tracks except in paid areas of stations.
- 4.46 Employees shall only use head or ear covering which does not interfere with seeing or hearing.
- 4.47 Finger rings, ties, or loose clothing shall not be worn around moving machinery, or when lifting or loading heavy materials.
- 4.48 Keys, metal key chains, or metal clasps for key rings shall not be worn on the outside of clothing when they constitute a hazard.
- 4.49 The wearing of finger rings or wrist watches when performing maintenance on or around electrical equipment is discouraged.
- 4.50 Safety goggles or safety glasses shall be worn for all grinding, sanding, drilling, chipping, or hammering operations, and when using wood or metal working equipment. Chemical splash goggles shall be worn by employees when using solvents, cleaners, de-greasers, or other chemicals.
- 4.51 Bump hats shall be worn while working under vehicles. Hard hats shall be worn in areas where there is a possible danger of head injury from impact or from falling objects or from electrical shock or burn.



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- 4.52 High visibility safety vest shall be worn when working near moving vehicular traffic and/or as required in this rule book.
- 4.53 Gloves shall be worn while operating machinery only when authorized by a supervisor.
- 4.54 Only safety vests or other outer apparel approved by Chief Safety Officer shall be worn. Safety vests shall be worn by all employees when entering the roadway. Safety vests shall be worn by Train Operators when outside the operating cab and by Station Managers when outside the kiosk and on-duty.
- 4.55 When there is the potential for occupational exposure to blood and other potentially infectious materials (human body fluids including, but not limited to, saliva and vomit), because they may contain blood borne pathogens, employees must comply with the WMATA Blood borne Pathogens Exposure Control Plan.



**Personal Protective Equipment:**

**Quick Reference Guide**

**Minimum PPE Requirement for On-Track safety:**

(Edited for quick reference purposes only. Read all Standards in their entirety at OSHA.GOV)

**Hard Hats:**

**OSHA Standard §1910.135**

The employer shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects or when near exposed electrical conductors which could contact the head.

**OSHA Standard §1926.100**

Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.

**Safety Glasses:**

**OSHA Standard § 1910.133**

The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

**OSHA Standard §1926.102**

Employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

**Insulated Gloves, Electrical:**

**OSHA Standard § 1915.157**

The employer shall ensure that each affected employee wears protective electrical insulating gloves and sleeves or other electrical protective equipment, if that employee is exposed to electrical shock hazards while working on electrical equipment.

**OSHA Standard § 1910.333**

The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed), or ...the energized part is insulated both from all other conductive objects at a different potential **and** from the person.

**OSHA Standard § 1910.137:**

Insulated gloves: "...Gloves shall also be capable of withstanding the a-c proof-test voltage specified in Table I-2 after a 16-hour water soak. (See the note following paragraph (a)(3)(ii)(B) of this section.)"

**DO NOT ASSUME, READ THIS STANDARD COMPLETELY!!!**



**Flashlight**

**OSHA Standard §1915.92**

Walking, working, and climbing areas. Walking, working, and climbing areas shall be illuminated. Employees shall not be permitted to enter dark holds, compartments, decks or other spaces (tunnels) without a flashlight or other portable light.

WMATA Roadway illumination Standard for flashlight brightness is a minimum of 65 Lumens.

**Shoes**

**OSHA Standard §1910.136**

The employer shall ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards.

OSHA standards §1910 apply to general industry standards

OSHA standards §1926 apply to construction standards.

OSHA standard §1915.92 is a standard accepted by WMATA absent specific standards for transit agencies with regards to illumination.

Take time to read and learn these OSHA standards on line at: [OSHA.gov](http://www.osha-slc.gov).

F. HOUSEKEEPING

- 4.56 Employees are responsible for maintaining good housekeeping in work areas, lockers, and facilities. Equipment shall be maintained in a clean and operational condition. Tools, material and equipment shall be stored in a position that will not create a hazard.
- 4.57 Employees shall ensure that no refuse or loose materials are left which create a hazard on safety walks or on the tracks.
- 4.58 Spilled oil or grease shall be wiped up with a rag, or covered with absorbent material immediately, and then swept up as soon as possible.
- 4.59 Employees shall promptly place refuse, trash and salvage materials in the appropriate receptacles.
- 4.60 Objects shall not be thrown from a rail vehicle at any time.
- 4.61 Where practicable, outside work areas made slippery by weather or other conditions should be cleaned or covered with salt or an abrasive such as sand.
- 4.62 Designated walkways shall be kept clean and free of obstructions.





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#### G. ELECTRICAL CORDS AND EQUIPMENT

- 4.63 Electrical cords and air lines shall be free of loops and kinks when in use and shall be properly stored after use.
- 4.64 Extension cords and electrical cables passing through work areas, walkways, or passageways shall be covered or elevated to protect them from physical damage which would create a hazard to employees or the public.
- 4.65 Worn, frayed or defective electrical cords shall not be used.
- 4.66 All extension cords and cords to portable electrical equipment and tools shall be provided with ground fault circuit interrupters when used in damp or wet locations.
- 4.67 All waterproof covers of electrical receptacles shall be closed when not in use.
- 4.68 Employees shall not enter electrical power enclosures of substations or operate electrical switches unless qualified and authorized to do so.
- 4.69 Emergency storage batteries shall not be cleaned or refilled while the batteries are in the process of being charged.
- 4.70 Hand blowers shall not be used for cleaning live high voltage equipment. Hand blowers may be used to clean live low voltage equipment only when insulated hose of sufficient length is attached to the blower, and the hose is used to blow down live parts. The metallic body of the blower shall be grounded and kept at a safe distance from live parts. Safety goggles or glasses shall be worn when using hand blowers.
- 4.71 Stranded cable or strands of wire shall be secured before being cut in order to prevent the ends from flying or recoiling.
- 4.72 Employees shall disconnect receptacle plugs by grasping the plug and not pulling the cord.
- 4.73 Portable extension lights shall be inspected before use. Lamp guards shall be used on all extension lamps and nonmetallic lamp guards shall be used where there is a possibility of contact with exposed electrical circuits.
- 4.74 Electrical power supply controls and switches must be placed in the OFF position, locked out and a DO NOT OPERATE warning tag must be placed on any power operated equipment, machines or tools before repairing, dismantling, assembling, adjusting, changing components or performing any other work where machine movement may catch part of the body.



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4.75 Ensure a return circuit path is connected (or equipment is grounded) before connecting energy to any electrical load.

#### H. MATERIAL HANDLING AND STORAGE

4.76 Material and equipment shall be stored in such a way that any pile or stack will not tip, fall or collapse.

4.77 Material or equipment shall not be stored on a station platform or within eight (8) feet of a track, unless authorized by the COO-RAIL.

4.78 Nails, screws, hooks or loose bands shall be removed from materials that are to be stored, transported or reused.

4.79 When lifting objects, employees shall spread feet apart, bend at the knees, keep back straight, grasp the object with both hands, and lift by straightening the knees with a smooth, steady motion. Employees shall not attempt to lift or move heavy objects such as oil drums, etc., in such a way that strain may result. When two or more persons are lifting together, one person shall be designated to give the lift commands. Others involved in the lift shall refrain from talking. Commands shall be given in a clear, distinct voice.

4.80 Employees shall never carry heavy or awkward equipment or move carts on escalators when escalators are in customer service. Elevators shall be used to move such items.

4.81 Slippery or dirty objects must be wiped off before handling.

4.82 Employees shall not carry loads which block their vision; they also shall ensure that the way ahead is clear.

4.83 Long pipe, lumber and other such items are to be carried by two employees when rounding corners, passing through doorways and in congested work areas.

4.84 Removal of stacked or piled materials shall be done from the top rather than the side or middle, taking care to avoid dislodging other pieces.

#### I. HAND AND POWER TOOLS AND EQUIPMENT

4.85 **Employees shall use tools and equipment in the proper manner and for the purpose intended.**

4.86 Self-propelled equipment or machinery, hoisting equipment, cartridge-powered tools or other power-operated equipment, machinery, tools, cutting or welding equipment or pressure lines shall be operated ONLY by qualified and authorized personnel or students under direct supervision.



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- 4.87 Visual inspections and tests of powered equipment, tools and machinery shall be made at the beginning of each tour of duty. Equipment or machinery shall not be operated if it is defective or in an unsafe condition.
- 4.88 Before using and while in use, employees shall make visual inspections of tools, tackle, straps, ropes, jacks or other items of equipment.
- 4.89 Employees shall report defective tools and equipment to their supervisor and mark them "Defective - Do Not Use" including a detailed description of the defect.
- 4.90 A supervisor shall be notified immediately of any missing or defective safety guards and that equipment shall be marked 'Do Not Use' (see rule [4.89](#)).
- 4.91 Employees shall secure material in the desired position before performing machine work on it.
- 4.92 Employees shall not walk or operate equipment through smoke, steam or other vapors that obscure vision.
- 4.93 Tools, materials or other items not in use shall be kept clear of moving parts of power-operated equipment or machinery.
- 4.94 Brushes or brooms, never fingers or hands, shall be used to remove chips, cuttings or scale from drills, hammers, presses or other machines. Steel hooks may be used to remove heavy shavings or borings.
- 4.95 Compressed air used for cleaning purposes shall be reduced to less than 30 P.S.I. and then only with effective chip guarding and eye/face protection.
- 4.96 A drift pin or other suitable item shall be used instead of a finger to determine if a hole is in proper alignment for insertion of a rivet, bolt, pin or other object.
- 4.97 A soft hammer or hardwood cushion shall be used when striking tempered or casehardened objects.
- 4.98 Tools with cracked striking surfaces or mushroomed heads are to be considered defective and shall not be used.
- 4.99 Pointed tools and those with cutting edges shall be stored or carried only when in a protective sheath.
- 4.100 Shovels, forks, rakes, hoes or other pointed or sharp edged tools shall be placed with points or edges down when not in use.



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- 4.101 Tool rests on grinding machines must be as near the center of the wheel as the design permits. They shall cover the entire width of the wheel and shall not be more than 1/8 inch from the wheel. Tongue guards shall be within 1/4 inch of wheel.
- 4.102 Employees shall not stand on, climb on, or stand between a guard rail and a machine, engine or motor that is operating.
- 4.103 Employees shall place small oil cans in a position to prevent the end of the spout from injuring their eyes, arms or bodies.
- 4.104 Machines, switches, valves or other apparatus with danger signs attached shall not be operated. Special locks or danger signs that are placed on switches, valves or machine controls for the protection of employees must be removed only by the person who placed them in position or by a qualified Supervisor and when he/she is sure that it is safe to do so and that all employees are in the clear.
- 4.105 Machines or equipment must not be in operation when being cleaned, oiled or adjusted, except when operation is necessary in order to perform adjustments.
- 4.106 Before repairing a high pressure line or apparatus, employees shall close and lock the control valve and release all remaining pressure.
- 4.107 Employees shall remove tools and replace all safety guards as soon as repair work is completed.
- 4.108 Employees shall use only the proper size wrench or socket, or shall adjust an adjustable wrench to fit the object on which it is to be used.
- 4.109 A shim shall not be used between wrench jaws and a nut or bolt head or other items.
- 4.110 Wrench handles shall not be lengthened with pipe or other objects unless the wrench is designed to be lengthened.
- 4.111 The stroke of a wrench shall be confined to the space available in order to prevent bodily injury.
- 4.112 When using a wrench, the user's body shall be braced securely in order to avoid overbalancing in case the wrench disengages, or in case the wrench, bolt, nut or other object fails.
- 4.113 Before attempting to apply full force to a wrench, the user shall assure that the wrench has proper grip, and shall then gradually increase force until the bolt, nut, pipe or other item turns.



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- 4.114 When using a bar or lever as a pry, the user shall:
- a. Place it securely with firm bearing under or against the object;
  - b. Assume a braced sitting position with firm footing, not sitting on, space or straddling the pry;
  - c. Position all parts of the body so that they will not be caught between the lever or bar and the object being pried;
  - d. Grip the pry securely and move it slowly and steadily;
  - e. Maintain ample watch of base and/or contact points so as to make any necessary adjustments;
  - f. Use a suitable block as a fulcrum for the bar or lever; and
  - g. Immediately crib, block or otherwise secure the raised object.
- 4.115 Jacks shall be set securely with solid contact at the top and bottom. When a foundation is insecure for jacking, suitable blocks shall be placed under the jack.
- 4.116 When using jacks, employees shall immediately crib, block, or otherwise secure the load after it is raised into position.
- 4.117 When jacking against metal parts of equipment, a sound piece of wood shall be inserted between the jack head or trestle and the load.
- 4.118 Wood used for such purpose shall be at least 1/4 inch thick and shall be larger than the jack head.
- 4.119 A sufficient number of sound wood blocks shall be used under a jack to avoid the excessive use of blocks between the jack head and load.
- 4.120 Employees shall only use jacks that are sufficiently rated to lift and sustain the intended load.
- 4.121 The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping or other suitable means.
- 4.122 Hydraulic jacks exposed to freezing temperatures shall be supplied with adequate antifreeze liquid.
- 4.123 All jacks shall be properly lubricated at regular intervals.



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- 4.124 Each jack shall be thoroughly inspected prior to each use.
- 4.125 A jack subjected to abnormal load or shock shall not be used again.
- 4.126 Before jacking up one end of any vehicle, both sides of both wheels at the opposite end of the vehicle shall be blocked.
- 4.127 When operating any jack:
- a. Only the handle designed for the jack shall be used;
  - b. The handle shall be inserted into the socket;
  - c. The handle shall be removed when the jack is not being used;
  - d. Only a jack with sufficient lifting capacity for the job shall be used; and
  - e. Hands shall be kept clear of moving parts and pinch points.
- 4.128 When using a ratchet jack, the user shall stand at the side of the handle in a braced position and move the handle slowly and uniformly, being sure that latches are fully engaged.
- 4.129 Before releasing pressure on the handle of a ratchet jack, the user must ensure that all parts of his/her body are clear of the handle's path of travel.
- 4.130 When not in use, the head of a ratchet jack shall be lowered and the jack shall be laid on its side in a place where it will not constitute a tripping hazard. When a jack is in a tool room, it may be left standing with the head lowered.
- 4.131 When a foundation is insecure, suitable blocking shall be placed under a trestle before using it to support a load.
- 4.132 Sufficient stable blocking shall be placed under a trestle in order to avoid the excessive use of blocking between the trestle head and the load.
- 4.133 Pneumatic tools or equipment may be connected or disconnected only when the control switch or valve at the source is in the "OFF" position and pressure has been bled down, except when the supply hose is designed to be connected or disconnected under pressure.
- 4.134 The chisel or other attachment shall be removed from a pneumatic tool before laying it down with the pressure on, unless the tool is equipped with a pneumatic hammer safety clip and coil spring retainer.



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- 4.135 When riveting with a pneumatic hammer, the hammer must be equipped with a spring clip or other arrangement for holding the die or set.
- 4.136 A pneumatic hammer shall never be pointed toward another person.
- 4.137 A pneumatic drill, reamer or other such tool shall be laid down only when not in operation and then only with trigger valve or switch shielded to prevent its being started.
- 4.138 A secure and firm grip shall be maintained when using a pneumatic drill, reamer or other such tool in case it should stick or jam.
- 4.139 The power supply shall be disconnected before a drill, reamer, tap or other attachment is installed on or removed from a pneumatic tool.
- 4.140 Before turning on the air supply to a pneumatic tool, the control valve shall be placed in the closed position.
- 4.141 Do not take hold of the auger, drill bit, reamer or other such attachment of a pneumatic tool while the tool is attached to the power supply.
- 4.142 Lathe speed shall only be changed while the lathe is stopped, unless the machine is specifically constructed to permit speed changes while moving.
- 4.143 All set screws in revolving spindles or shafts shall be flush, countersunk or protected by a safety guard.
- 4.144 When using a power rip or crosscut saw (table or radial arm saw):
- a. A hood that completely encloses the unused portion of the saw blade shall be in place;
  - b. The spreader and non-kickback guard shall be in the protecting position;
  - c. The user shall stand to the side of material being sawed to prevent being struck in the event of a kickback;
  - d. A forked push stick of sufficient length shall be used to feed the back end of material into the saw;
  - e. Loose or scrap pieces or material shall be removed from the saw or tabled as soon as the cut is completed using a suitable stick; and
  - f. The saw blade shall be lowered or the table shall be raised so that the blade will provide a full cut yet not project more than 1/8 inch above the material being cut.



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#### J. WELDING, CUTTING, SOLDERING

4.145 Prescribed protective equipment shall be worn at all times when cutting, welding or soldering. Protective screens or appropriate guards shall be in place when cutting or welding to prevent eye injury to persons in surrounding areas.

4.146 When cutting or welding, the hose shall be positioned to avoid contact with sparks or molten metal, and shall be kept out of the path of moving vehicles.

4.147 An acetylene torch shall be ignited only with an approved flint lighter, and the lighted torch shall be kept within the user's vision at all times.

The number of oxygen and acetylene cylinders that can be transported on an open bed pickup truck is to be governed by applicable regulations.

4.148 When gas cylinders are not in use, valves shall be closed and keys shall be removed.

4.149 Employees shall ascertain that the opposite side is clear before cutting through any object.

4.150 Cutting, welding or heating operations on containers, cored casting, pipe, plugged holes or other such objects shall be performed only when the objects are thoroughly vented, or drilled to permit gas, steam or hot air to escape.

4.151 When welding or cutting, torch users shall ensure that gas will not be generated from oil, grease, gasoline, or other such substances, and torches shall not be used in areas where torch fumes can accumulate. Adequate ventilation shall be provided when cutting or welding.

4.152 Torch valves shall be closed when the torch is not in use, when employee is climbing, or when passing to another person.

4.153 A welding or cutting torch shall not be used to light or ignite any other object.

4.154 When welding or cutting, an appropriate, approved fire extinguisher shall be present at the job site, and shall be kept in close proximity to the welder or cutter.

4.155 Flammable gases and liquids shall not be transported on Class I vehicles or used in revenue stations during revenue hours.

4.156 Flammable gases and liquids shall not be stored in the underground portions of the Rail System.

4.157 The use of flammable gases and liquids in the underground portions of the Rail System shall be regulated by the Safety Department.





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- 4.158 Before moving gas cylinders, regulators shall be removed and valve protection caps shall be installed, except when cylinders are properly secured on a special truck.
- 4.159 Oxygen/fuel gas and liquids cylinders shall be positioned and secured so as to prevent their being struck by moving equipment, or coming in contact with the third rail or other electrical circuits.
- 4.160 Employees shall use a dry ladle and shall wear a face shield when replenishing solder in a hot solder pot.
- 4.161 Employees shall not drop anything into a pot of hot solder.
- 4.162 Soldering irons shall be placed in holders or other safe places when not in use.
- 4.163 Electric soldering irons shall not be left unattended while connected to a current supply.
- 4.164 Only solder shall be used to test the heat of a soldering iron.
- 4.165 When pouring hot solder, employees shall ensure that the receiving surface is dry.

#### K. SAFETY ON THE ROADWAY

- 4.166 Employees are required to immediately inform ROCC of any condition they have observed, which, in their opinion, will adversely affect the safe and orderly transportation of customers. When the condition is considered dangerous to vehicle movement, employees shall flag trains to a stop.
- 4.167 Employees shall report to their supervisors any dangerous, hazardous or defective condition, missing equipment, or unusual sounds which they may observe or which may be brought to their attention.
- 4.168 Employees shall not enter upon the roadway or cross the tracks except when absolutely necessary in the performance of their duties and permission has been granted by ROCC.  
  
Employees and contractors shall be trained and qualified in roadway safety prior to entering WMATA's roadway.
- 4.169 When on the roadway, employees shall be responsible for their own safety.
- 4.170 Employees shall look in each direction before entering upon or standing close to a track.
- 4.171 Employees shall not walk, stand, step, or sit on running rails, frogs, switches, switch points, third rail cover boards, PVC conduit, guard rails, rail braces, interlocking apparatus, or other wayside equipment.



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- 4.172 Employees shall use safety walks whenever possible.
- 4.173 Employees shall not step in front of or between moving cars.
- 4.174 Employees shall not go under or between cars until making certain it is safe to do so.
- 4.175 Employees shall not hang upon or lean beyond the sides of moving cars.
- 4.176 Employees shall not lean against standing vehicles or equipment.
- 4.177 Employees shall not cross tracks immediately after a rail vehicle or train has passed, but shall wait until adjacent tracks can be observed for a safe distance in both directions.
- 4.178 Employees shall not cross tracks in front of or behind a rail vehicle or train that has just stopped. They shall walk a safe observable distance (at least ten feet) ahead of or behind the vehicle before crossing.
- 4.178.1 Upon receiving a request from personnel to be picked up by a rail vehicle, ROCC shall determine how many personnel are to be picked up and pass this information to the appropriate Train Operator.
- 4.178.2 After stopping to pick up personnel, the Train Operator shall unlock the bulkhead door and confirm with the crew the number of people that will be boarding and ensure that all personnel are on board prior to relocking the bulkhead door. Before moving the train, the Train Operator shall visually inspect the area in front of and down each side of the train to ensure that all personnel and equipment are clear. Upon obtaining a clear track inspection, the Train Operator shall sound the horn and proceed with caution. Personnel (excluding operator) shall exit the cab unless otherwise directed by ROCC.
- 4.178.3 Personnel boarding a train from the wayside shall be prepared to board without delay and inform the Train Operator as to how many people will be boarding. When approaching a train, employees shall walk a safe observable distance (at least ten feet) in front of the stopped train before stepping in between the running rails. The crew leader shall inform the Train Operator when everyone has boarded safely.
- 4.179 Individuals fouling a track shall move to a place of safety in ample time, as soon as there is evidence of a moving rail vehicle in their vicinity. They shall remain as far as practicable from passing vehicles, and, if possible, shall maintain a handhold until the vehicle has passed. Refer to the RWPM for greater detail.



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4.180 Employees shall, before crossing tracks, ensure that there is no movement of cars at either end of the track that might result in their being crushed between cars.

Personnel shall not clear to the field (back) side of a third rail unless a safety walk is provided or a minimum six feet clearance is available from any track and third rail.

4.181 While walking or working in tunnels or on elevated structures, employees shall arrange to carry or otherwise provide sufficient light to permit work to be performed safely.

4.182 All employees who are required to enter the track bed in the performance of their duties shall familiarize themselves with NO CLEARANCE areas between trains and structures.

4.183 When it is necessary for employees to walk beyond the platform end gate where the walkway is not protected by a handrail, or to walk or work on tracks around moving trains or track equipment, they shall:

- a. Expect rail vehicle movement at any time, in either direction, on either track.
- b. Contact ROCC, prior to entering the track area, for mainline access and/or the appropriate tower for yard access, indicating the work area to include the beginning and ending station and track number or entry point and track number and the purpose of the work. Permission to enter the roadway is required from the control point (see rule [4.168](#))
- c. Provide the Terminal Supervisors on the affected line(s) with information regarding schedule walking Track Inspections.
- d. If required, request ROCC or the Interlocking Operator to make periodic (20 minutes) radio announcements to Train Operators. (see rule [4.183.1](#))
- e. When performing walking track way inspections, request/confirm that ROCC has established prohibits and track-block protection in the area of planned walk.
- f. Contact ROCC on the radio after clearing each station and/or interlocking along the way and ensure confirmation of message.



**Notice:** ROCC shall repeat the location of the personnel on the roadway over the radio to confirm accuracy and to inform train operators in the area, until personnel clear the identified work zone (see rule [3.87](#)).



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- g. Wear only the Safety Department approved, WMATA issued Safety Vest as an outer garment at all times. The safety vest must be on/worn prior to walking through the platform endgates. The vest shall be worn so as to provide 360 degree visibility and shall not be obstructed from view by shoulder bags, backpacks, etc.



**Notice:** No other outer garment is authorized as a replacement for the WMATA issued Safety Vest unless approved by the Safety Department. For purpose of identification and system security, contractors and consultants are not authorized to wear WMATA issued Safety Vests.

- h. Carry a hand-held radio and monitor the appropriate radio frequency to ensure they remain aware of train movements and other activities on the rail system (Car Maintenance employees are exempt from this paragraph while working on shop leads and storage tracks within the yard).
  - i. Maintain a careful lookout in both directions to ensure that approaching trains and track equipment are seen before they become hazards.
  - j. When in crews, assign one person to be the lookout/watchperson to provide warning to employees on the roadway of approaching trains or work equipment and to monitor the appropriate radio frequency. When on the roadway by yourself, the individual shall be their own lookout.
  - k. Walk against the direction of traffic when possible.
  - l. When a rail vehicle approaches, STAY CLEAR, and maintain a careful lookout in both directions, acknowledge all vehicle horns with the appropriate hand signals as identified in the Operating Rules, until the vehicle passes. Clearing to the area between two mainline tracks is prohibited where there is no catwalk and track centers are less than 20 feet.
  - m. When work is such that the entire crew must perform it, i.e. no lookout, implement an alternative method of protecting the work area (e.g. insertion of switch crank, application of shunt strap, etc.) prior to the work being started. This method must be authorized by ROCC prior to implementation.
  - n. When work has been completed and access is no longer required, contact ROCC and/or the appropriate yard tower, indicating that access is completed and the work group is in the clear.
- 4.183.1 Elevators, gates, doors or wayside access points used to access Metrorail Facilities after hours shall not be left unsecured for any reason unless directed to do so by ROCC.



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4.183.2 When access to a customer station or any rail support or ancillary building is required during non-revenue service hours, authorized employees shall contact the MOC by telephone or radio and provide the following information:

- a. Reason for access.
- b. Name of the facility to be accessed.
- c. Approximate length of time the personnel will be in the facility.
- d. Specific location or description of the point of access.
- e. Specific location or description of the exit point if different from the access point.



**Notice:** If WMATA personnel are in a rail facility when it closes, they shall follow the above procedures once the facility is closed.

MOC shall advise RAIL-ROCC and the Transit Police Dispatcher that personnel are entering the facility and provide the time of entry; personnel radio call numbers, specific point of entry and anticipated point of exit.

MOC shall notify the personnel requesting access that permission to enter is granted after advising RAIL-ROCC and coordinating with the Transit Police Dispatcher.

Personnel shall enter the facility only after permission has been given by the MOC.

Personnel shall notify MOC upon departing the facility and provide MOC the following information.

- a. Radio call number of all personnel exiting the facility.
- b. Name of the facility.
- c. Specific location or description of the point of exit.
- d. Confirm that the station is locked and secure to include elevators, escalators, gates and all other access points.



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- 4.184 Before permitting employees to be on the track, the person in charge of a work crew shall have an understanding with all crew members as to where each person will go when it is necessary to clear the track for vehicle movement. All crew members should clear on the same side of the track.
- 4.185 Employees shall not permit anyone to be at track level between the platforms of the car wash when the third rail is energized or the washing equipment is operating.
- 4.186 Employees shall not jump from vehicles, station platforms, or elevated structures, but shall use an appropriate means of descent.
- 4.187 Employees shall always close station and platform gates.
- 4.188 Air hoses and electrical power cords, when used at track level, shall be free of loops or kinks.
- 4.189 Employees shall consider the third rail, the third rail heater tape, and their associated components to be energized at all times unless they have positive evidence that they are not. Possession of a Red Tag Number and testing with an approved voltage tester is considered positive evidence.
- 4.190 Employees shall operate manual third rail disconnect switches only after a qualified employee has verified that power has been removed from the section of track involved.
- 4.191 Employees shall not sit, walk or stand in the area between the energized third rail and the adjacent running rail except to step through that area when crossing the third rail
- 4.192 Employees shall exercise extreme care when walking near or crossing the third rail, being especially conscious of the potential tripping hazards at those outside locations where the open-back cover boards and the PVC conduit housing the heater tape wiring have been installed. The PVC conduit is located outside of and parallel to the associated third rail.
- 4.193 Employees shall not touch the third rail, or any circuits connected to the third rail, unless they are issued a Red Tag for the specific area and their duties require contact with the third rail or circuits.
- 4.194 Employees shall not allow wet clothing to come in contact with the third rail.
- 4.195 If necessary to remove objects from the third rail, employees shall use approved rubber gloves and a dry wood stick.
- 4.196 Employees standing beside tracks shall maintain sufficient clearance between themselves and third rail contact shoes.



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- 4.197 Employees shall not place clothing, lunch, tools or other unauthorized items on or near the third rail or third rail cover board.
- 4.198 Tools and equipment shall be placed on or about the third rail only when absolutely necessary in the performance of duties.
- 4.199 Extreme care shall be used when cleaning or picking up objects near the third rail.
- 4.200 Employees shall not touch dangling wires or foreign objects that may be in contact with the third rail or other electrical conductor. The hazard must be reported to a supervisor and others must be warned to keep away.
- 4.201 Metal shovels, scrapers or any conductive object shall not be used near the third rail, unless the third rail is fully protected on all sides with a rubber mat or booting cover, except as approved by the Safety Department.
- 4.202 When a person is injured by contact with the third rail, employees shall do the following:
- Remove third rail power in compliance with SOP #2.
  - Request medical aid and an ambulance.
  - Following confirmation from ROCC that power is down and the trains are stopped, any trained/qualified person should immediately follow the correct procedures for CPR until the victim recovers or trained help arrives. If the victim recovers, TREAT FOR SHOCK.
  - As soon as the cause of the emergency is corrected and the track area is clear of personnel and equipment, take the necessary steps to have the power restored in compliance with SOP # 3.



**Notice:** A person in contact with a live third rail should be immediately removed in a safe manner. Use any dry nonconductor (rubber gloves, clothing, your leather belt, wood, rope, etc.) to remove the person. Do not use any metal or moist material.

#### L. WORK ON RAIL VEHICLES

- 4.203 Caution shall be exercised when washing car interiors to ensure heater grills are not sprayed with solvent.
- 4.204 "Brakes Cut-Out" stickers must be applied to the consoles of any cars when friction brakes are cut out.



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- 4.205 Safety chocks shall be placed under wheels of rail vehicles when:
- Service brakes are cut out and handbrakes are not applied;
  - Handbrakes are defective and the train is to be secured;
  - Maintenance is being performed on the brake system;
  - Trucks are to be removed from the vehicle; and
  - There is a possibility that the vehicle could move during maintenance.
- 4.206 Safety chocks shall not be used for spotting incoming vehicles in the shop.
- 4.207 When entering or leaving a rail vehicle from track level through the end doors or crew doors, employees shall make certain that they have a secure hold on the hand grip and that their foot is properly placed on the ladder rung or coupler before attempting to board or leave the vehicle.
- 4.208 When bleeding air reservoirs on rail vehicles, the drain cock shall be opened gradually to avoid dust being blown from the ground into the eyes.
- 4.209 The load shall be removed from an electrical circuit prior to removing fuses, whenever practicable. If this power removal is done by means of tripping the appropriate breaker, the breaker or breakers shall be red tagged and signed. Fuse removal shall be made with insulated tools, i.e., fuse pullers.
- 4.210 After returning from the wayside, it is the Train Operators responsibility to make sure all personnel are safely aboard before keying-up.
- 4.211 Whenever any vehicle's collector shoe is in contact with the third rail, STINGER, or other power source, employees shall consider all shoes on the car or train to be energized.
- Employees shall have both hands free of materials or equipment when entering or leaving a car. Equipment shall be placed or removed from a car through the crew door, or car doors.
- 4.212 Employees shall not touch any current collector shoes before making certain that all collector shoes are clear of the third rail, that the STINGER is not in contact with the car, and that megger or hypot tests are not being performed.
- 4.213 Collector shoe cover boxes shall be used if collector shoes have voltage applied in the shop while testing or performing maintenance.





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- 4.214 To avoid electrical shock, employees shall not make simultaneous contact with any part of a rail vehicle or the running rail and any grounded metallic object (e.g. handrails, restraining rails, tunnel liners, tools, etc.).
- 4.215 When working on vehicles, ensure that "Do Not Energize" signs are in place.
- 4.216 The house trolley STINGER must be handled with care. Employees shall use the correct method of placing the trolley STINGER on the contact shoe assembly.
- 4.217 Seven hundred fifty (750) volt power shall not be applied to a car unnecessarily when working on its electrical equipment. Cars should not be stored with the STINGER attached. Cars placed in the shop shall not be powered by collector shoes unless the STINGER is being used to position or remove cars from the shop.
- 4.218 Equipment used during STINGING operations shall be clean and free of defects. Defective equipment SHALL NOT be used.
- 4.219 When STINGING cars into areas where the power is cut off, the Supervisor shall be notified before STINGING operations commence.
- 4.220 When STINGING a car over a section of track where the third rail is not energized, employees shall be mindful of the fact that the third rail becomes energized as soon as a collector shoe on the car touches it.

#### M. TRACTION POWER SUBSTATIONS AND TIEBREAKERS

- 4.221 No personnel shall enter a Traction Power Substation or Tiebreaker for any purpose without first contacting and obtaining permission from MOC.
- 4.222 All access doors to Traction Power Substations and Traction Power Tie Breaker Stations shall display a sign prohibiting access without permission from MOC/ROCC.
- 4.223 Upon receiving a request from an employee to enter a Traction Power Substation or Tiebreaker, MOC shall:
  - a. Determines if Red Tags to protect a work area have been issued for breakers housed in that room;
  - b. If no Red Tags to protect a contractor have been issued, authorize entry;
  - c. If Red Tags have been issued for that purpose, determine if the work can be rescheduled to another time;
  - d. If the work can be rescheduled, inform the employee requesting access that the request is being denied and that the work will be rescheduled;



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- e. If the work cannot be rescheduled, contact ROCC and request that the crew working in the affected area be instructed to clear all personnel and equipment from the third rail, its associated components, and the immediate area surrounding the third rail;
- f. After receiving confirmation from ROCC that the crew has cleared, authorize entry; and;
- g. When notified that the work in the affected substation or tiebreaker has been completed and that personnel are clear of the room, notify ROCC.

MOC/ROCC shall not grant permission to enter Traction Power Substations or Traction Power Tie Breaker Stations where a third rail outage is in effect, except in accordance with SOP # 39.

4.224 Upon receiving a request from MOC for an employee to enter a Traction Power Substation or Tiebreaker, ROCC shall:

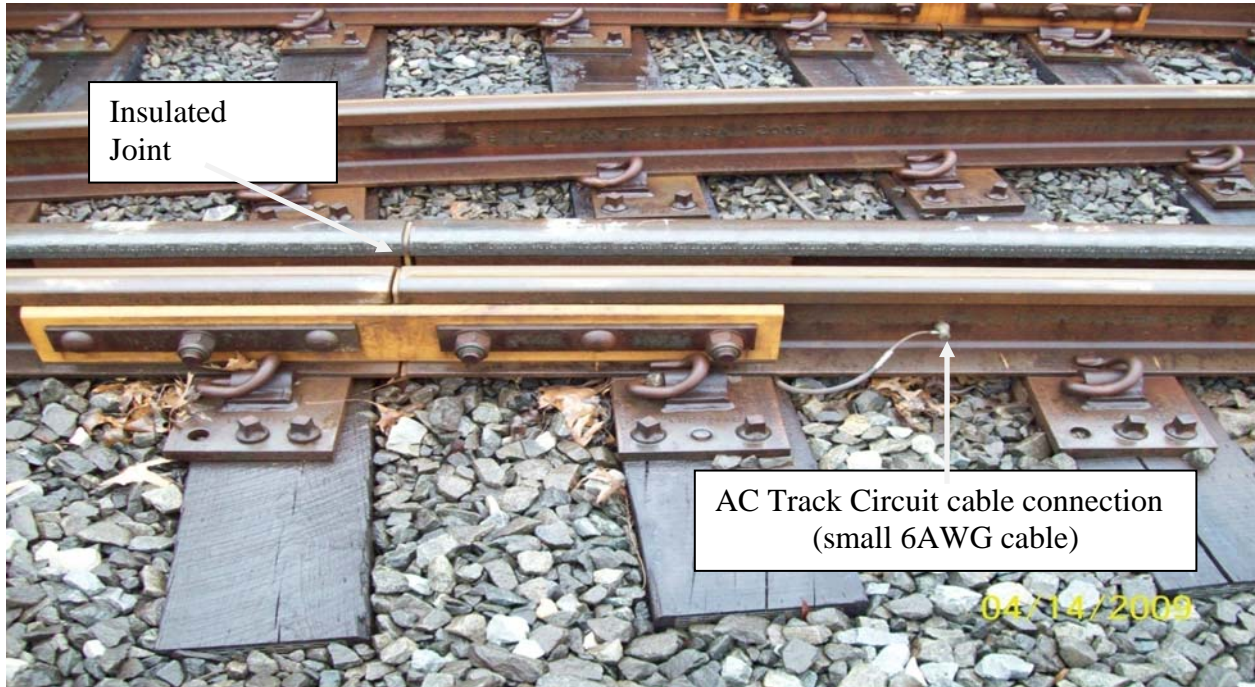
- a. Determines if Red Tags to protect a work area have been issued for breakers housed in that room;
- b. If no Red Tags to protect a work crew have been issued, authorize entry;
- c. If Red Tags have been issued for that purpose, issue instructions to the escort/crew leader in the affected area to clear all personnel and equipment from the third rail, its associated components, and the immediate area surrounding the third rail;
- d. After receiving confirmation from the escort/crew leader that the actions in the above have been accomplished, authorize entry; and
- e. When notified that the work in the affected substation or tiebreaker has been completed and that personnel are clear of the room:
  - 1. Instruct the escort/crew leader standing by in the affected area to reconfirm that the third rail power in their work area is de-energized; and
  - 2. After receiving confirmation from the escort/crew leader that third rail power is still de-energized, authorize resumption of work in the area.



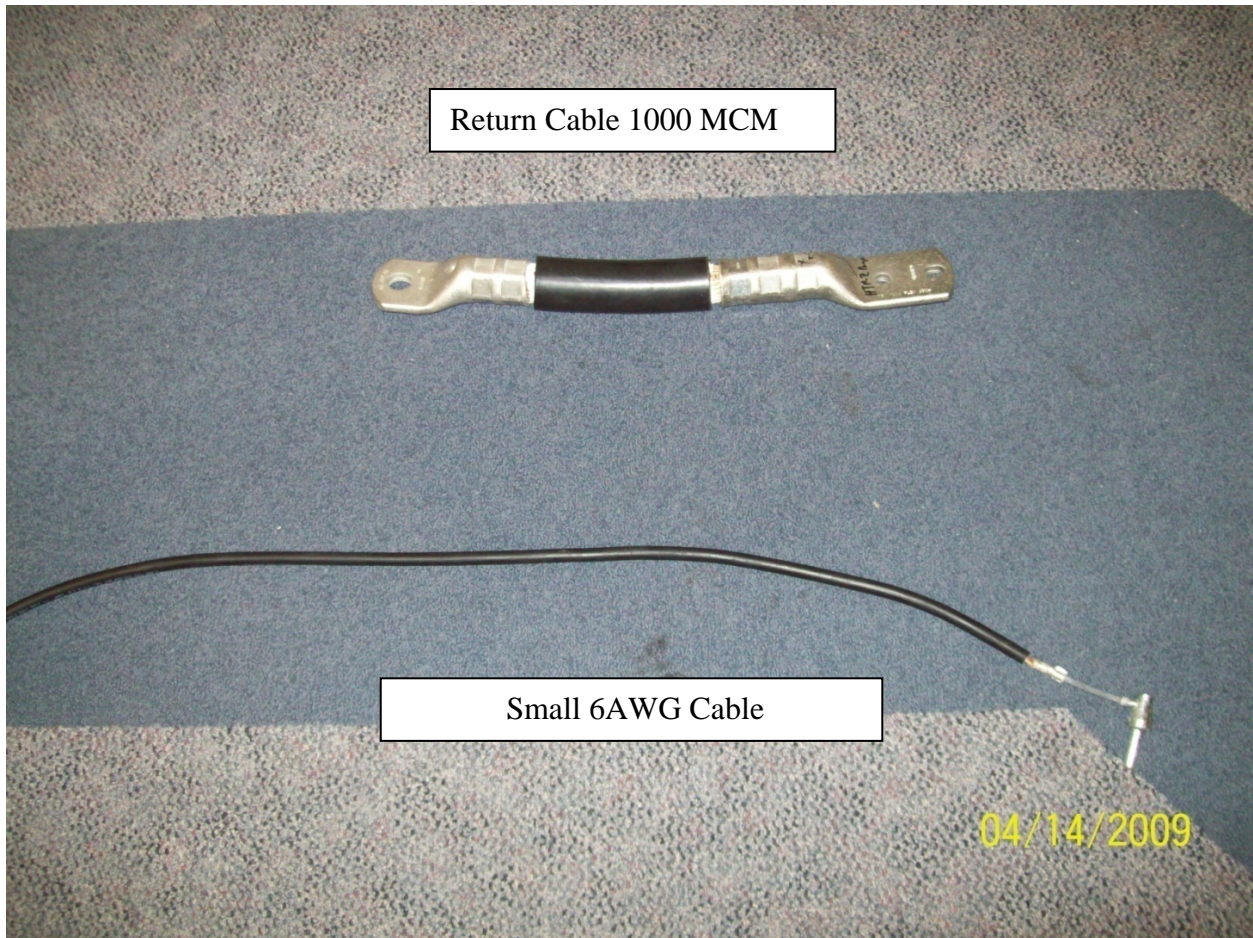
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Do not use Interlocking or Yard “Signal Rails” for Hot Stick reference or WSAD return rails. To do so injects a high voltage personnel hazard into the Train Control Room and may damage equipment and may also provide a false negative hot stick test. If unsure, contact MOC for an ATC escort.







- 4.225 Escorts and crew leaders working in a Red Tag area who are instructed by MOC/ROCC to clear the area shall comply immediately and fully with the instructions and notify MOC/ROCC when the clearance has been accomplished.
- 4.226 Personnel working at Substations and Tiebreakers shall inform MOC upon completion of work.
- 4.227 For the purpose of this rule, cell phones and electronic devices include music devices (such as MP3 players), personal digital assistants (PDAs) and any other electronic handheld games.
- a. It is prohibited to use a cell phone, any electronic device or wear an earphone device while operating a revenue vehicle or directly interacting with WMATA customers. Prohibited use of cell phones includes text messaging, conversations, or using any of the phone applications (calendar, camera, etc.).



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- b. While operating Class I or II vehicles, cell phones and electronic devices are to be turned off and stored off-person. In the event of a life threatening situation or an Authority provided radio malfunction, cellular phones may be used to contact Central Control after the vehicle is stopped in a safe place.
- c. Display and use of personal cell phones and the presence of electronic devices such as personal computers, game or movie devices, in shops and maintenance facilities is prohibited. This also includes but not limited to such areas as Rail Operations Control Center work consoles, Terminal Supervisor work areas, Station kiosks and Tower Interlocking Operator work areas. Exceptions are permitted for cell phone usage before and after the current work shift and during authorized break or lunch periods – make and receive calls during those times from a safe location designated by the facility.
- d. It is prohibited to use a cell phone while engaged in other maintenance activities in the field that require your full attention to maintain safety (inspecting track, using power equipment, etc). If job related cellular communication are required, stop work activities and make or receive the call from a place of safety.
- e. It is prohibited to use a cell phone, without hands free operations, while operating a non-revenue vehicle, If hand held cellular communications are required, stop the vehicle in a safe place prior to making or answering the call. MTPD is exempt from this rule by State and Federal Laws.



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# Rule Number Changes

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**Rule Number Changes**

**Section 4:**

<u>Old Rule Number</u>	<u>New Rule Number</u>	<u>Old Rule Number</u>	<u>New Rule Number</u>
4.54	4.56	4.78	4.81
4.55	4.57	4.79	4.82
4.56	4.58	4.80	4.83
4.57	4.59	4.81	4.84
4.58	4.60	4.82	4.85
4.59	4.61	4.83	4.86
4.60	4.62	4.84	4.87
4.61	4.63	4.85	4.88
4.62	4.64	4.86	4.89
4.63	4.65	4.87	4.90
4.64	4.66	4.88	4.91
4.65	4.67	4.89	4.92
4.66	4.68	4.90	4.93
4.67	4.69	4.91	4.94
4.68	4.70	4.92	4.95
4.69	4.71	4.93	4.96
4.70	4.72	4.94	4.97
4.71	4.73	4.95	4.98
4.72	4.74	4.96	4.99
4.73	4.76	4.97	4.100
4.74	4.77	4.98	4.101
4.75	4.78	4.99	4.102
4.76	4.79	4.100	4.103



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<u>Old Rule Number</u>	<u>New Rule Number</u>	<u>Old Rule Number</u>	<u>New Rule Number</u>
4.77	4.80	4.101	4.104
4.102	4.105	4.128	4.131
4.103	4.106	4.129	4.132
4.104	4.107	4.130	4.133
4.105	4.108	4.131	4.134
4.106	4.109	4.132	4.135
4.107	4.110	4.133	4.136
4.108	4.111	4.134	4.137
4.109	4.112	4.135	4.138
4.110	4.113	4.136	4.139
4.111	4.114	4.137	4.140
4.112	4.115	4.138	4.141
4.113	4.116	4.139	4.142
4.114	4.117	4.140	4.143
4.115	4.118	4.141	4.144
4.116	4.119	4.142	4.145
4.117	4.120	4.143	4.146
4.118	4.121	4.144	4.147
4.119	4.122	4.145	4.148
4.120	4.123	4.146	4.149
4.121	4.124	4.147	4.150
4.122	4.125	4.148	4.151
4.123	4.126	4.149	4.152
4.124	4.127	4.150	4.153
4.125	4.128	4.151	4.154



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<u>Old Rule Number</u>	<u>New Rule Number</u>	<u>Old Rule Number</u>	<u>New Rule Number</u>
4.126	4.129	4.152	4.155
4.127	4.130	4.153	4.156
4.154	4.157	4.180	4.183
4.155	4.158	4.181	4.184
4.156	4.159	4.182	4.185
4.157	4.160	4.183	4.186
4.158	4.161	4.184	4.187
4.159	4.162	4.185	4.188
4.160	4.163	4.186	4.189
4.161	4.164	4.187	4.190
4.162	4.165	4.188	4.191
4.163	4.166	4.189	4.192
4.164	4.167	4.190	4.193
4.165	4.168	4.191	4.194
4.166	4.169	4.192	4.195
4.167	4.170	4.193	4.196
4.168	4.171	4.194	4.197
4.169	4.172	4.195	4.198
4.170	4.173	4.196	4.199
4.171	4.174	4.197	4.200
4.172	4.175	4.198	4.201
4.173	4.176	4.199	4.202
4.174	4.177	4.200	4.203
4.175	4.178	4.201	4.204
4.176	4.179	4.202	4.205



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4.177	4.180
4.178	4.181
4.179	4.182
4.207	4.209
4.208	4.210
4.209	4.211
4.210	4.212
4.211	4.213
4.212	4.214
4.213	4.215
4.214	4.216
4.215	4.217
4.216	4.218
4.217	4.219
4.218	4.220
4.219	4.221
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4.222	4.224
4.223	4.225
4.224	4.226
4.203	4.206
4.205	4.207
4.206	4.208

# **SOP – Emergency SOPs**

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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## **SOP # 1      OUTLINE OF RAIL OPERATIONS CONTROL CENTER (ROCC) SUPERVISOR'S FUNCTIONS**

### **1.1      PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for ROCC Supervisors.

### **1.2      SCOPE**

This SOP is applicable to ROCC personnel and all WMATA personnel actively working in or around the Roadway.

### **1.3      DEFINITIONS**

- 1.3.1    Emergency: Any condition which can or has resulted in harm to customers or employees; damage to equipment or property; a service disruption; or any combination of these circumstances.
- 1.3.2    Speed Restriction: A given speed less than the normal operating speed for a section of track or rail vehicle/equipment. This speed is imposed by verbal instructions, written notices (i.e. RSA's or general orders), flagging procedures and/or speed commands issued by ROCC to mitigate special situations.

### **1.4      RESPONSIBILITIES**

- 1.4.1    The ROCC Supervisors shall be in charge of and responsible for all mainline operations and all ROCC functions during their tour of duty. The ROCC shall not relinquish the responsibility for these operations except as specified in rules or as identified by the General Orders.
- 1.4.2    The ROCC Supervisor shall have a working knowledge of all Operations Control Center facilities and systems.
- 1.4.3    The ROCC Supervisors shall have a comprehensive knowledge of the Operations Control Center computer functions and be familiar with computer language that will be displayed on the alarm monitors.
- 1.4.4    The ROCC Supervisors shall be capable of operating all functions in the ROCC Computer system to:
  - 1.4.4.1    Initiate and establish train routes at the intermediate interlocking locations and terminals; establish other interlocking functions at interlocking locations from the Rail Operations Control Center;



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 1.4.4.2 Control all circuit breakers in the system for traction power and monitor the electrical support systems;
- 1.4.4.3 Operate the tunnel and station ventilation;
- 1.4.4.4 Select performance levels and shall modify them when the need arises;
- 1.4.4.5 Cause listed train information to be displayed on monitors; and
- 1.4.4.6 Monitor and operate support systems.
- 1.4.5 The ROCC Supervisors shall be familiar with and capable of operating the various functions to make station public address announcements.
- 1.4.6 The ROCC Supervisors shall be responsible for directing and controlling the activities by all personnel while working on mainline.
  - 1.4.6.1 They shall make certain that employees are in compliance with instructions in General Orders, notices, and bulletins.
  - 1.4.6.2 They shall report violations of rules, and meritorious actions by employees to the ROCC Assistant Superintendent.
- 1.4.7 The ROCC Supervisor shall be responsible for:
  - 1.4.7.1 The safe operation of revenue trains in accordance with approved headways and modifications of them when necessary;
  - 1.4.7.2 The safe operation of trains not scheduled by the headway schedules;
  - 1.4.7.3 The safe operation of revenue trains when they are not under the protection of the ATC System or on the computer schedule. They shall be familiar with Standard Operating Procedures governing these operations, and;
  - 1.4.7.4 The safe movement of any trains in a single track operation, a train being operated other than from the lead car, and train movements against the established direction of traffic.
  - 1.4.7.5 The safe movement of all work trains.
- 1.4.8 The ROCC Supervisors shall initiate train schedules to cover planned track work special events, severe weather, and modify service levels as needed.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 1.4.9 The ROCC shall make certain that, prior to peak hour operations, all Rail Yards have a sufficient numbers of cars to meet train schedule car requirements. If necessary, they shall direct a transfer of surplus cars from one line to another line in order to supplement a deficient line's requirements. When there is a car shortage and peak hour car requirements cannot be met, the ROCC Assistant Superintendent shall notify the Managing Director of Rail Transportation indicating the number of cars not available and the reason for the car shortage.
- 1.4.10 The ROCC Supervisors shall be familiar with the characteristics of the Metrorail Roadway.
- 1.4.11 The ROCC Supervisors shall be familiar with all yard operations and storage areas.
- 1.4.12 The ROCC Supervisors shall have knowledge of track switches and interlocking operating procedures and other support interlocking features.
- 1.4.13 The ROCC Supervisors communications shall:
- Be clear and concise (refrain from issuing multiple instructions at one time).
  - Be Professional, calm and courteous.
  - Use proper annunciation of train ids and unit numbers (ID 414 pronounced 4- fourteen – GR 1.79).
  - Be repeated back by those who are receiving the communication (GR 1.79). Ensure that instructions repeated back to ROCC are understood and correct before allowing any movement.





# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## 1.5 PROCEDURES

Procedure #	Content
1.5.1	Emergencies/Unusual Occurrences
1.5.2	Maintaining Service During Emergencies
1.5.3	Operation from Other than Lead Car
1.5.4	Resumption of Normal Services

### 1.5.1 Emergencies/Unusual Occurrences:

1.5.1.1 The ROCC Superintendents, as required, shall make certain that reports of incidents occurring during their tours of duty are accurately documented and submitted to the ROCC Assistant Superintendent. Incident reports shall be submitted for the following reasons:

1.5.1.1.1 Train delays of 10 minutes or longer, or of unusual circumstance;

1.5.1.1.2 Incidents involving customers and employees;

1.5.1.1.3 Incidents involving equipment, also equipment failures;

1.5.1.1.4 Employee negligence or failure of duties;

1.5.1.1.5 Commendatory actions by employees.

1.5.1.2 When notified of an emergency condition, the ROCC Supervisor shall be responsible for coordinating all activities to alleviate the condition. The ROCC Supervisor's primary concern shall be the safety of customers and employees and the protection of property and equipment.

1.5.1.2.1 The ROCC Supervisor shall notify the following Authority departments when an emergency condition exists:

1.5.1.2.1.1 Rail Transportation (RTRA).

1.5.1.2.1.2 Maintenance Operations Center (MOC).

1.5.1.2.1.3 Track Structure System Maintenance (TSSM).

1.5.1.2.1.4 Metro Transit Police Department (MTPD) Communication Division.

1.5.1.2.1.5 Safety (SAFE).

1.5.1.2.1.6 Media Relations (MERL).



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STANDARD OPERATING PROCEDURES**

- 1.5.1.2.1.7 Car Maintenance (CMNT).
- 1.5.1.3 The ROCC shall notify concerned departments when the following conditions exist:
  - 1.5.1.3.1 Anticipated severe delay to train service.
  - 1.5.1.3.2 Customer evacuation from trains.
  - 1.5.1.3.3 Death or injury to customer or employees.
- 1.5.1.4 The ROCC Asst. Superintendent/Liaison shall notify the Fire/Rescue Communications Center immediately if the following conditions exists:
  - 1.5.1.4.1 Smoke or fire.
  - 1.5.1.4.2 Flood condition that endangers customers or employees.
  - 1.5.1.4.3 Customers or Employees requiring medical assistance.
  - 1.5.1.4.4 Train derailment/Collision.
  - 1.5.1.4.5 Any other emergency that poses life threatening conditions.
- 1.5.1.5 The ROCC Supervisor shall maintain, in chronological order, a detailed record of all activities occurring during an emergency.
- 1.5.1.6 The ROCC Supervisor shall request the following information from employees who make notification of an emergency condition:
  - 1.5.1.6.1 Caller's name, title and department.
  - 1.5.1.6.2 Reason for notification.
  - 1.5.1.6.3 Location (track number, line identification, and an approximation of their distance from the nearest station).
  - 1.5.1.6.4 Severity of the condition.
- 1.5.1.7 The ROCC Supervisor shall dispatch a Rail Operations Supervisor to the scene to do the following:
  - 1.5.1.7.1 Evaluate the condition.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 1.5.1.7.2 Be responsible for coordinating all activities in accordance with SOP # 1A.
- 1.5.1.7.3 Provide protection for train movements.
- 1.5.1.7.4 Cooperate with outside agencies.
- 1.5.1.7.5 Report to established command center(s) to keep the Rail Operations Control Center informed of activities and developments.
- 1.5.1.8 Based on information reported to the Rail Operations Control Center, the ROCC Supervisor shall evaluate the situation and initiate one or a combination of the following protective actions:
  - 1.5.1.8.1 Stop all train movement at a station if possible in approach to or within the emergency area;
  - 1.5.1.8.2 Removal of third rail power by supervisory outages;
  - 1.5.1.8.3 Operation of the fan and ventilation systems based on conditions at the scene;
  - 1.5.1.8.4 Customer evacuation;
  - 1.5.1.8.5 Flagging protection;
  - 1.5.1.8.6 Speed restrictions;
  - 1.5.1.8.7 Manual absolute block.
- 1.5.1.9 The ROCC Supervisor shall keep Station Managers, Train Operators, and MTPD informed of all operating procedures when there is a service disruption.
- 1.5.1.10 The ROCC Supervisor shall specify the content of public address announcements made by Train Operators and Station Managers.
- 1.5.2 Maintaining Service During Emergencies:
  - 1.5.2.1 After customer and employee safety has been ensured, the ROCC Supervisor shall initiate operating procedures to minimize the impact of the disruption to train service by providing alternate means of travel for customers and by preventing a back up or cessation of train movement. The operating procedures may include one or a combination of the following methods:



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- 1.5.2.1.1 Single track operation.
- 1.5.2.1.2 Train shuttle service.
- 1.5.2.1.3 Turning trains.
- 1.5.2.1.4 Rerouting trains.
- 1.5.2.1.5 Metrobus Shuttle service.
- 1.5.2.1.6 Making terminal schedule adjustments.
- 1.5.2.1.7 Set-up temporary terminals.
- 1.5.2.2 Under emergency conditions, movement of trains shall have specified speed restrictions imposed by the ROCC Supervisor depending upon the circumstances and condition of the equipment. The maximum speed shall not exceed 45 mph.
- 1.5.3 Operation from Other than Lead Car:
  - 1.5.3.1 When a train is operated from other than the lead car, the ROCC Supervisor shall be certain that:
    - 1.5.3.1.1 Before authorizing a move, communications are established between the flag person flagging from the lead car in the direction of travel and the Train Operator operating from the Belly Car.
    - 1.5.3.1.2 If communications are lost between the flag person and the Train Operator, the Train Operator shall immediately stop the train until communications are reestablished.
  - 1.5.3.2 Before initiating a train movement against the established direction of traffic, the ROCC Supervisor shall establish an absolute block.
  - 1.5.3.3 When operating from other than lead car, speed is not to exceed 25 mph.
- 1.5.4 Resumption Of Normal Service:
  - 1.5.4.1 When the Rail Operations Supervisor notifies the Rail Operations Control Center that the emergency condition is resolved and all personnel and equipment are clear, the ROCC Supervisor shall:
    - 1.5.4.1.1 Request a restoration of third rail power if it has been removed, and the breakers have been racked out and tagged;



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- 1.5.4.1.2 Off-load customers from the first available Train and have the Train operator operate the train through the area in Mode 2 level 1 as a test train, if necessary;
- 1.5.4.1.3 Order the resumption of normal train service;
- 1.5.4.1.4 Instruct Station Managers and Train Operators to discontinue public address announcements prescribed during the emergency; and
- 1.5.4.1.5 Discontinue the Metrobus shuttle service; notify all departments that the emergency condition has been resolved and normal service resumed.

### **1.6 REFERENCES**

- 1.6.1 SOP # 1A
- 1.6.2 Operating Rule 3.97



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### SOP # 1A COMMAND, CONTROL AND COORDINATION OF EMERGENCIES ON THE RAIL SYSTEM

#### 1A.1 PURPOSE

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the control and coordination of all responses to emergency situations on the Rail System utilizing the National Incident Management System/Incident Command System (NIMS/ICS). See Appendix A.

#### 1A.2 SCOPE

- 1A.2.1 This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in accordance with NIMS/ICS.
- 1A.2.2 This SOP shall apply to yard operations by substituting Rail Operations Control Center, or ROCC, with Interlocking Operator, except that the Interlocking Operator shall notify ROCC and ROCC shall then notify all concerned personnel in accordance with NIMS/ICS.

#### 1A.3 DEFINITIONS

- 1A.3.1 Incident Command Post (ICP): An area where the Incident Commander, the On-Scene Commander and the RTRA IC Liaison gather to manage emergency response.
- 1A.3.2 Incident Command System: A standardized on-scene emergency management program that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures and communications operating within a common organizational structure, specifically designed to aid in management of resources.
- 1A.3.3 Incident Commander (IC): Senior non-WMATA Fire or Police Department Official, or Federal Official, who is controlling and coordinating all activities of the incident while non-WMATA Fire, Police, Federal Department personnel are involved and will coordinate these activities with WMATA's On-Scene Commander typically from the Command Post.
- 1A.3.4 Maintenance Commander (MC): Appointed by MOC and is responsible for the coordination of all of the maintenance activities through the WMATA (OSC) at the incident scene, except for Car Maintenance.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 1A.3.5 MTPD Forward Liaison: MTPD employee appointed by MTPD to direct and support activities at the incident scene, and carries out the direction of the IC and OSC, with guidance from the RTRA Forward Liaison. Liaison shall be identified by an armband that states "Liaison".
- 1A.3.6 National Incident Management System (NIMS): A federally mandated system that provides a consistent nationwide approach for federal, state, local, private sector and non-governmental agencies to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents or events, regardless of size or complexity.
- 1A.3.7 On-Scene Commander (OSC): The first MTPD Officer or Official that arrives at the scene of the incident will be the OSC and control WMATA resources and assist the IC in managing the scene. The OSC Commander may be appointed by ROCC until the arrival of the MTPD. OSC shall be identified by an armband that states "OSC".
- 1A.3.8 Public Safety Emergency: Any incident involving the response of public safety personnel.
- 1A.3.9 RTRA Forward Liaison: WMATA RTRA personnel assigned by ROCC to work with MTPD Forward Liaison to direct and support activities at the incident scene. Liaison shall be identified by an armband that states "Liaison"
- 1A.3.10 RTRA IC Liaison: WMATA RTRA employee assigned by ROCC to work with OSC in the Incident Command post and provide guidance and assistance to the OSC and IC on restoring service and securing WMATA resources.
- 1A.3.11 Staging Area: An area designated close to the incident scene where resources and personnel await assignments.
- 1A.3.12 Staging Area Manager: MTPD employee responsible for allowing responders access to the incident scene and recording their access
- 1A.3.13 Transfer of Command: A formal face to face reassignment of command from one individual to another.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 1A.4 RESPONSIBILITIES

- 1A.4.1 The Assistant Superintendent of the Rail Operations Control Center (ROCC) is responsible for the overall control and coordination of emergency situations on the Rail System, except at the incident scene.
- 1A.4.2 The Assistant Superintendent of the Maintenance Operations Center (MOC), or designated MOC Supervisor, is responsible for the coordination of all of the maintenance activities at the incident scene through the Maintenance Commander and WMATA's OSC except for Car Maintenance.
- 1A.4.3 The On Scene Commander (OSC) is responsible for overall control and coordination of all WMATA activities at the incident scene.



**Notice:** In Public Safety situations requiring the assistance of the Fire Department or Police Department, the first Metro Transit Police Department (MTPD) officer on the scene will be designated the WMATA OSC and directed to the Incident Command Post.

- 1A.4.4 The Maintenance Commander (MC) is responsible for the coordination of all the maintenance activities through the WMATA OSC at the incident scene except for Car Maintenance.
- 1A.4.5 TSSM and PLNT personnel are responsible for providing technical assistance to ROCC, MOC, the OSC, the MC, MTPD and RTRA Forward Liaisons as required.
- 1A.4.6 Rail Car Maintenance (CMNT) is responsible for providing technical assistance to the WMATA OSC, as required.
- 1A.4.7 Station Operations personnel are responsible for making appropriate station announcements and providing information to customers at the incident scene with coordination of ROCC and the OSC.
- 1A.4.8 Train Operators are responsible for:
  - 1A.4.8.1 Providing their customers with up-to-date and timely information regarding the situation's status and/or progress; and
  - 1A.4.8.2 Operating their trains in compliance with applicable rules and procedures.





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- 1A.4.9 The OSC is responsible for representing WMATA in the Command Post and supporting the IC through instructions given to the MTPD and RTRA Forward Liaisons at the scene.
- 1A.4.10 The MTPD Forward Liaison at the scene is responsible for controlling and coordinating all activities of the Authority's resources with the assistance of the RTRA Forward Liaison.
- 1A.4.11 The RTRA IC Liaison is responsible for remaining with the OSC in the Command Post to provide guidance on rail transportation issues.
- 1A.4.12 The Safety Department is responsible for providing guidance to the OSC regarding safety issues and practices. The Safety Department may conduct preliminary investigations at the scene.
- 1A.4.13 The Incident Commander (IC) at the scene is responsible for controlling and coordinating all activities while Fire Department personnel are involved, and in doing so, should coordinate these activities with the WMATA's OSC and RTRA- IC Liaison. The title of IC is only assigned to non-WMATA personnel Fire Department, Police Department when responding to Public Safety Emergencies.

### 1A.5 PROCEDURES

Procedure #	Content
1A.5.1	NIMS Incident Command Structure
1A.5.2	Securing Scene Once an Emergency Event Occurs
1A.5.3	Notification
1A.5.4	Management of the Incident
1A.5.5	Transfer of Command

#### 1A.5.1 NIMS Incident Command Structure:

Once an emergency event occurs, the NIMS/Incident Command structure will be utilized (see NIMS Incident Command Structure Chart). WMATA first responders will be assigned OSC to control activities of WMATA resources and stabilize the scene. Once a Fire Department or Law Enforcement Agency arrives at the scene, they will assume IC and will have overall control of the emergency.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

1A.5.1.1 Role/Duties of the IC – The IC shall control and coordinate all activities of the incident/emergency. The following is a possible list of Incident Commanders at a WMATA incident or event:

- Local Fire Departments
- Local or Federal Law Enforcement Agencies

1A.5.1.2 Role/Duties of the OSC (see Appendix B for OSC Checklist)– The OSC shall:

1A.5.1.2.1 Ensure that the safety of customers and WMATA personnel at the incident scene is maintained;

1A.5.1.2.2 Establish a command post, at the incident scene if one has not been established.

1A.5.1.2.3 Notify ROCC and MTPD of the location of the ICP or where it is located if moved from its original location.

1A.5.1.2.4 Establish a WMATA Staging Area for personnel and equipment.

1A.5.1.2.5 The OSC must remain at the Incident command Post until relieved or the outside IC transfer command to a WMATA OSC.

1A.5.1.2.6 The OSC is responsible for making strategic decisions and assigning WMATA personnel to supervisory or operational positions as necessary to manage the incident scene and restore rail service as quickly and safely as possible.

1A.5.1.2.7 Handle all inquiries and/or requests made by jurisdictional police officials.

1A.5.1.2.8 ROCC to make public address announcements to customers at the incident scene as necessary;

1A.5.1.2.9 Direct all inquiries and/or requests made by the news media through the IC and to the WMATA Office of Media Relations;

1A.5.1.2.10 Work with the IC and ROCC/BOCC to develop action plans to include length of disruption and possible use of bus bridges or single track operations.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 1A.5.1.2.11 Maintain a chronological log of all events and activities as they occur at the scene and provide ROCC with timely updates through the RTRA IC Liaison and ensure the accountability of WMATA personnel at the incident scene;
- 1A.5.1.2.12 Provide the incoming OSC with the current status of activities, the activity log and Red Tag Numbers. Also, notify ROCC of the change of command, and;
- 1A.5.1.2.13 The incoming OSC shall obtain all information from the outgoing OSC prior to the transfer of command.
- 1A.5.1.2.14 The following personnel are authorized to be OSCs in the absence of MTPD Personnel:
- Train Operators
  - RTRA Supervisors
  - Chief Operations Supervisors
  - Superintendents
  - Line Managers
  - Managing Directors
  - AGM-Rail
  - DGM-Operations
  - When none of the above mentioned personnel are present at the scene, ROCC shall appoint an OSC from the personnel available. However, upon the arrival of one of the above mentioned personnel, the previously appointed OSC shall relinquish control and responsibility to the arriving person.
- 1A.5.1.3 Roles /Duties of ROCC - The Assistant Superintendent of ROCC, or designated ROCC Supervisor shall:
- 1A.5.1.3.1 Appoint the initial OSC if no MTPD personnel are on the scene at the time of the emergency;
- 1A.5.1.3.2 Coordinate all field activities and requests through the OSC;
- 1A.5.1.3.3 Obtain the location of the Incident Command Post;
- 1A.5.1.3.4 Notify all WMATA and non-WMATA departments and personnel, as required;
- 1A.5.1.3.5 Maintain log of individuals assigned to IC, OSC, Liaison positions and the location of command post;



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- 1A.5.1.3.6 Coordinate and direct the safe movement of all trains throughout the rail system. Trains at the incident scene may only be moved with the permission of the IC and OSC;
- 1A.5.1.3.7 Initiate ventilation system activation procedures, as required by the IC or OSC.
- 1A.5.1.3.8 Request MTPD assistance in critical stations for crowd control;
- 1A.5.1.3.9 Coordinate supplementary bus service with BOCC, as required by the OSC;
- 1A.5.1.3.10 Keep Train Operators and Station Managers informed of system status and instruct them to make appropriate announcements to their customers;
- 1A.5.1.3.11 Ensure that system-wide public address announcements are made frequently to provide customers with up-to-date information concerning Rail System status and update the Passenger Information Display system on the same;
- 1A.5.1.3.12 Coordinate and assist MOC with restoration activities, and;
- 1A.5.1.3.13 Provide and obtain, from MOC, frequent updates on events as they occur.
- 1A.5.1.4 Roles /Duties of the Assistant Superintendent of MOC, or designated MOC Supervisor shall:
  - 1A.5.1.4.1 Appoint the initial MC;
  - 1A.5.1.4.2 Coordinate all maintenance activities and requests through the MC;
  - 1A.5.1.4.3 Notify and update all WMATA and non-WMATA departments and personnel on maintenance activities, as required, and;
  - 1A.5.1.4.4 Provide and obtain, from the OSC/ROCC, frequent updates on events as they occur.
- 1A.5.1.5 Role/Duties of Forward RTRA Liaison – The Forward RTRA Liaison shall:
  - 1A.5.1.5.1 Remain with MTPD Forward Liaison and provide guidance to restore service and secure WMATA resources at the scene;
  - 1A.5.1.5.2 Assist MTPD with WMATA resources at scene.



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- 1A.5.1.5.3 Liaison between ROCC and OSC and provide timely updates to ROCC and to OSC
- 1A.5.1.5.4 The following personnel are authorized to be an RTRA Forward Liaisons:
- Chief Operation Supervisors
  - Superintendents
  - Line Managers
  - Managing Directors
  - AGM-Rail
  - DGM-Rail
  - When none of the above mentioned personnel are present at the scene, ROCC shall appoint a RTRA Forward Liaison from the personnel available. However, upon the arrival of one of the above mentioned personnel, the previously appointed RTRA Forward Liaison shall relinquish control and responsibility to the arriving person.
- 1A.5.1.6 Role / Duties of RTRA IC Liaison – The RTRA IC Liaison shall:
- 1A.5.1.6.1 Remain with the OSC in the Command Post to provide guidance on rail transportation issues.
- 1A.5.1.6.2 Act as a liaison between ROCC and IC in the command post and provide timely updates to ROCC.
- 1A.5.1.6.3 The following personnel are authorized to be an RTRA IC Liaisons:
- Chief Operation Supervisors
  - Superintendents
  - Line Managers
  - Managing Directors
  - AGM-Rail
  - DGM-Rail
  - When none of the above mentioned personnel are present at the scene, ROCC shall appoint a RTRA IC Liaison from the personnel available. However, upon the arrival of one of the above mentioned personnel, the previously appointed RTRA IC Liaison shall relinquish control and responsibility to the arriving person.
- 1A.5.1.7 Roles /Duties of MC
- 1A.5.1.7.1 Provide OSC with technical assistance as required;



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- 1A.5.1.7.2 Coordinate all maintenance activities at the incident scene with the OSC and RTRA IC Liaison
- 1A.5.1.7.3 Ensure that maintenance functions are performed efficiently so as to restore service as quickly and safely as possible;
- 1A.5.1.7.4 Maintain a chronological log of maintenance events and activities, at the scene, and inform the OSC and MOC of events as they occur, and;
- 1A.5.1.7.5 Provide the incoming MC when a change occurs with the current status of activities and the maintenance activity log. Also, notify the OSC and MOC of the change of command. The incoming MC shall obtain all information from the outgoing MC prior to releasing the outgoing MC from the scene.
- 1A.5.1.7.6 Following are a list of personnel authorized to act as Maintenance Commander (MC):
- Mechanic
  - Supervisor
  - PLNT/TSSM Assistant Superintendent
  - PLNT/TSSM Superintendent
  - PLNT/TSSM Assistant General Superintendent
  - PLNT/TSSM General Superintendent
  - PLNT/TSSM Chief Operating Officer
  - Rail
  - When none of the above mentioned personnel are present at the scene, MOC shall appoint a MC from the personnel available. However, upon the arrival of one of the above mentioned personnel, the previously appointed MC shall relinquish control and responsibility to the arriving person.
- 1A.5.1.7.7 Mechanics and maintenance supervisors must assume and carry out the responsibilities of the MC until relieved. The first mechanic, on the scene, shall act as the MC until he/she is relieved by the first Maintenance Supervisor to arrive. The Maintenance Supervisor shall continue acting as MC until he/she is relieved by an authorized senior official or released by MOC after another MC has been designated. The (MC) will report to the WMATA (OSC) as soon as possible after arriving on the scene.
- 1A.5.1.8 Roles / Duties of Station Operations:
- 1A.5.1.8.1 Make appropriate station announcements; with coordination from the OSC;



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- 1A.5.1.8.2 Assist with crowd control, and;
- 1A.5.1.8.3 Make every effort to identify and retain knowledgeable witnesses.
- 1A.5.1.9 Roles / Duties of the Staging Area Manager:
  - 1A.5.1.9.1 Allow responders access to scene based on instructions from OSC;
  - 1A.5.1.9.2 Log the date, time, name, employee number, and department of all individuals allowed entry;
  - 1A.5.1.9.3 Advise OSC when responders arrive to the staging area.
- 1A.5.2 Securing Scene Once an Emergency Event Occurs:
  - 1A.5.2.1 ROCC assigns an OSC to stabilize the scene until the arrival of the first MTPD unit at the incident scene.
  - 1A.5.2.2 ROCC establishes conference line or a radio emergency talk group.
  - 1A.5.2.3 ROCC or MTPD arrange transport of RTRA personnel to the scene by MTPD if required to hasten response.
- 1A.5.3 Notification:
  - 1A.5.3.1 ROCC shall dispatch two RTRA managers/supervisors to the scene. The first manager/supervisor to arrive shall be directed to the incident scene to assume the position of the OSC (if no OSCs assigned) or the RTRA Forward Liaison. When the second manager/supervisor arrives, ROCC shall direct the RTRA manager to go to the Command Post and assume the RTRA IC Liaison role.
  - 1A.5.3.2 ROCC and Customer Operations implement standard internal notification process.
  - 1A.5.3.3 ROCC notify MTPD, FD, Safety Department, MREL and Emergency Management.
  - 1A.5.3.4 MTPD shall dispatch two officials to the incident scene and one official to ROCC. The first MTPD officer/official to arrive on the incident scene shall be directed to the Command Post and assume the role of OSC. When the second MTPD official/officer arrives on the scene they will report to the OSC for further direction. When two MTPD personnel are on the incident scene one will assume the position of the forward MTPD Liaison and the other will assume the duties of the OSC.



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- 1A.5.3.5 When it is necessary to notify the Fire Department(s), the following information shall be provided, with frequent updates of pertinent information:
  - 1A.5.3.5.1 Identification of caller;
  - 1A.5.3.5.2 Nature of problem (give in plain English, e.g., fire, flood, smoke, etc);
  - 1A.5.3.5.3 Type of assistance requested;
  - 1A.5.3.5.4 Specific location of the problem and the best access points;
  - 1A.5.3.5.5 Third rail status;
  - 1A.5.3.5.6 Ventilation status, and;
  - 1A.5.3.5.7 Train movement status.
- 1A.5.4 Management of the Incident:
  - 1A.5.4.1 OSC will confirm over the radio when they have linked up with IC and give a status report.
  - 1A.5.4.2 OSC will confirm over radio that they have linked up the RTRA IC.
  - 1A.5.4.3 OSC establishes primary communications link with IC, either FD/PD liaison or ROCC emergency command line.
  - 1A.5.4.4 All communication shall be in plain language and the use of codes shall be avoided.
  - 1A.5.4.5 OSC secure scene and establish staging area.
  - 1A.5.4.6 OSC/Forward Liaisons identify all personnel on the scene and move personnel not immediately needed to the staging area.
  - 1A.5.4.7 Non-essential personnel shall be dismissed from the incident scene to provide service support to adjacent stations.
  - 1A.5.4.8 All responders shall report to the staging area once established.
  - 1A.5.4.9 OSC transfer command from MTPD to RTRA after IC and MTPD personnel leave scene.
  - 1A.5.4.10 OSC stays on scene until situation cleared.





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1A.5.4.11 All red tag numbers obtained during the course of an emergency operation shall be issued to and be under the control of the IC or OSC.

1A.5.4.12 Entry into the incident area by news media or other visitors must be authorized by the IC or OSC.

1A.5.5 Transfer of Command:

1A.5.5.1 MTPD shall assume OSC for public safety emergencies once on the scene and pass command to RTRA the appropriate WMATA entity once the MTPD role in the incident is concluded.

1A.5.5.2 Transfer of command shall be in person.

1A.5.5.3 Outgoing OSC shall brief incoming OSC of the current situation.

1A.5.5.4 The OSC will also serve as the IC (OSC-IC) when non-WMATA FD/PDs leave.

1A.5.5.5 Transfer of command shall be communicated over the radio.

1A.5.5.6 Transfer of command must be acknowledged by ROCC/BOCC.

### 1A.6 REFERENCES

1A.6.1 SOP # 6, # 7, # 8 and all other security SOPs

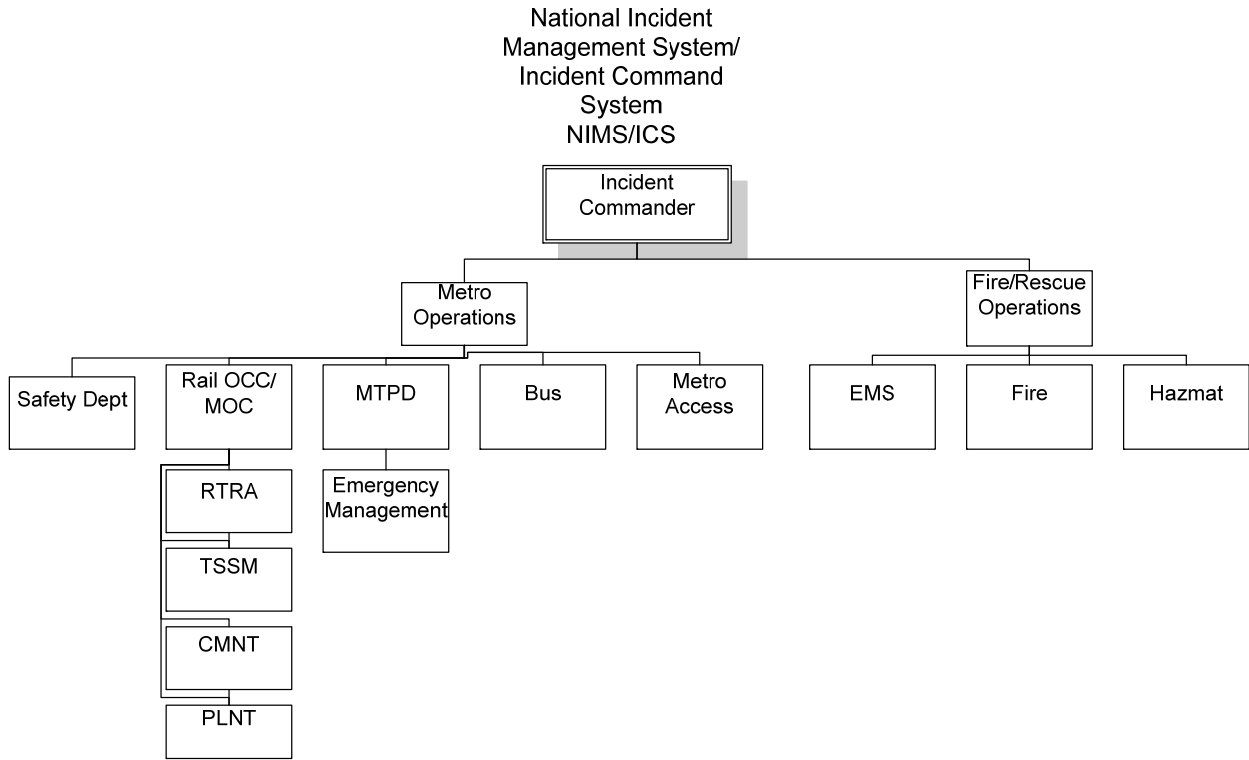
1A.6.2 OSC Checklist

1A.6.3 General Rule 1.76



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## Appendix A – NIMS/ICS Organization Chart





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Appendix B – On-Scene Commander Checklist

**ON SCENE COMMAND CHECKLIST FOR THE FIRST  
RAIL EMPLOYEE ON THE SCENE OF AN  
EMERGENCY**

**This is a general list of duties for the first rail employee on the scene of Metro Rail emergency and it is not all encompassing.**

- **VERIFY TYPE OF INCIDENT AND MAKE NOTIFICATIONS TO ROCC AND MTPD**
  
- **TAKE STEPS NECESSARY TO MITIGATE LIFE SAFETY ISSUES SUCH AS CUSTOMER EVACUATION**
  
- **ADMINSTER FIRST AID AND REQUEST MEDICAL ASSISTANCE AS NEEDED**
  
- **PROTECT THE SCENE BY ESTABLISHING A SAFE PERIMETER AND CONTROLLING ACCESS.**
  
- **REQUEST ADDITIONAL RESOURCES AS NEEDED**
  
- **PROVIDE INCIDENT UPDATES TO ROCC**
  
- **TRANSFER COMMAND TO APPROPRIATE PERSONNEL UPON THEIR ARRIVAL AT THE SCENE AND PROVIDE SITUATION UPDATE**



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
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**SOP # 2      EMERGENCY REMOVAL AND RESTORATION OF THIRD RAIL  
POWER MAINLINE**

**2.1      PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for emergency removal and restoration of third rail power mainline.

**2.2      SCOPE**

This SOP is applicable to all WMATA and non-WMATA personnel working on the Rail System.

**2.3      DEFINITIONS**

2.3.1    Extended Emergency: An emergency that has not been resolved prior to the arrival of the Mobile Power Crew(s) at the involved power substation and/or tiebreaker station(s).

2.3.2    Red Tag: Third rail power outage where the circuit breaker is physically removed from the power circuit and a red tag is issued to implement lockout/tag-out procedures.

2.3.3    Short Duration Emergency: An emergency in which the cause of removal of third rail power has been corrected prior to the arrival of the Mobile Power Crew at the designated power substation and/or tiebreaker station and report to the ROCC Supervisor that they are in position.

**2.4      RESPONSIBILITIES**

2.4.1    The ROCC Supervisors shall be responsible for supervising and coordinating the implementation of this SOP.

2.4.2    The ROCC Supervisor shall ensure that all notifications are made as required by this SOP.

2.4.3    All WMATA Employees shall ensure that all procedures in SOP # 1A are followed.

2.4.4    Train Operators shall be responsible for following all sections of this SOP.



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2.5 PROCEDURES

Procedure #	Content
2.5.1	Cause for Removal of Third Rail Power
2.5.2	Emergency Trip Station (ETS) Description and Locations Mainline
2.5.3	Procedure for Operation of ETS
2.5.4	Verbal Request for Removal of Third Rail Power on Mainline
2.5.5	Order of Responsibility for Requesting Third Rail Power Restoration on Mainline
2.5.6	Restoration of Third Rail Power on Mainline (Short Duration Emergency)
2.5.7	Racking Out, Block Tag and Restoration of Third Rail Power on Mainline (Extended Emergency)
2.5.8	Short Time Power Restoration with Power Crew Member at the Scene
2.5.9	Procedure for Power Restoration
2.5.10	Receipt of an ETS Alarm, but no Communication
2.5.11	Notifications for ETS Alarms
2.5.12	Rail Operations Control Center Actions
2.5.13	Correction Action – Emergency Trip Station Activated on Platform.
2.5.14	Corrective Action – Emergency Trip Station Activated Between Stations

2.5.1 Cause for Removal of Third Rail Power:

2.5.1.1 Third rail power may be removed for the following reasons:

2.5.1.1.1 Emergency maintenance to correct a condition on the Roadway.

2.5.1.1.2 A person under a train or in contact with the third rail.

2.5.1.1.3 An obstruction or person on the Roadway.

2.5.1.1.4 Local fire or police department personnel on the Roadway.

2.5.1.2 The Operations Control Center shall remove third rail power for the following reasons:

2.5.1.2.1 Derailment or collision.

2.5.1.2.2 Car equipment malfunctions.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 2.5.1.2.3 Fire or smoke on cars.
- 2.5.1.2.4 Water above the ball of the rail.
- 2.5.2 Emergency Trip Station (ETS) Description and Locations Mainline:
  - 2.5.2.1 ETS, spaced approximately every 800 feet and indicated by blue lights, are located along the Roadway above the safety walk and at the ends of customer station platforms.
  - 2.5.2.2 In areas where the ETS are located on safety walks along the sides of the track, operation of the emergency trip switch will remove power from the adjacent third rail only.
  - 2.5.2.3 In areas where the ETS are located on the safety walks between tracks; operation of the ETS switch will remove power from both tracks in areas where there is only one ETS box between the tracks, or from only one track in areas where there are two ETS boxes between the tracks.
  - 2.5.2.4 Operation of the ETS switch at side platform stations will remove power from both tracks. At dual level stations such as Rosslyn and Pentagon and at center platform stations, the circuitry allows power to be removed by the ETS on only one track. Removal of power on both tracks requires activation of the ETS on each track or level.
- 2.5.3 Procedure for Operation of ETS:

Any employee discovering a condition requiring emergency removal of third rail power shall proceed to the nearest ETS and operate it in accordance with the procedure posted on the door:

  - 2.5.3.1 To remove power, depress Red Button.
  - 2.5.3.2 PRESS “0” to contact the Rail Operations Control Center. Do not leave the telephone until you have talked to the Control Center.
  - 2.5.3.3 Give the following information:
    - 2.5.3.3.1 Name, Title, and Unit Number (if any);
    - 2.5.3.3.2 Track number and location;
    - 2.5.3.3.3 Reason for activating the ETS.



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- 2.5.3.4 Wait for assurance that trains are stopped and power is off and the ROCC Supervisor authorizes entry on the track.
- 2.5.3.5 If you are able to correct the cause of the emergency and clear the track area of personnel and equipment call the Rail Operations Control Center using the telephone by depressing the “0” Button.
- 2.5.3.6 Note - Employees shall not assume that third rail power has been removed from a power section by the ETS operation. They shall:
  - 2.5.3.6.1 Stay clear of the track until the power removal has been verified by the ROCC Supervisor.
  - 2.5.3.6.2 Be prepared to flag any approaching train to a stop.
- 2.5.4 Verbal Request for Removal of Third Rail Power on Mainline:

Employees shall make a verbal request for the removal of third rail power when a direct line telephone to the Rail Operation Control Center or a radio is immediately available and quicker than going to an ETS.

  - 2.5.4.1 When an extreme emergency condition exists and after receiving the necessary information, the ROCC Supervisor shall instruct the person making the verbal request for the third rail power removal to proceed to the nearest ETS and operate it.
  - 2.5.4.2 The ROCC Supervisor shall:
    - 2.5.4.2.1 Instruct the person who operated the emergency trip switch or made a verbal request for the removal of third rail power to remain on the telephone or standby on the radio.
    - 2.5.4.2.2 Instruct Train Operators of trains approaching the area to stop and confirm their locations after stopping.
    - 2.5.4.2.3 Remove third rail power as verbally requested.
    - 2.5.4.2.4 Confirm to the person on the telephone or the radio that third rail power has been removed and approaching trains have been stopped.
    - 2.5.4.2.5 Authorize the person to enter the track area, if necessary.



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2.5.4.3 The ROCC Supervisor shall telephone the Maintenance Operation Center (MOC) and advise the person answering the telephone of the emergency and provide the location of the trip station switch that was operated or the location of the power section where third rail power was removed by the ROCC Supervisor.

2.5.4.4 The ROCC Supervisor shall then request that a Mobile Power Crew be dispatched to the involved substation and tiebreaker station involved.

2.5.5 Order of Responsibility for Requesting Third Rail Power Restoration on Mainline:

The order of responsibility for requesting third rail power restoration is:

2.5.5.1 In the absence of an Operations Supervisor, the person who operated the ETS.

2.5.5.2 The On Scene Commander (OSC) appointed by the ROCC Supervisor.

2.5.5.3 The senior supervisor of the Office of Rail Transportation at the scene.

2.5.5.4 The Senior Supervisor of another office/department at the scene.

2.5.5.5 The person requesting third rail power restoration at the scene shall request the ROCC Supervisor to restore power only after the cause of the power removal has been corrected, equipment and persons are in the clear and all affected personnel at the scene have been informed that the power is to be restored.

2.5.5.6 **The ROCC Supervisor is the only person authorized to restore third rail power.**

2.5.6 Restoration of Third Rail Power on Mainline (Short Duration Emergency):

2.5.6.1 Upon receiving a request from an authorized person and being assured that equipment and personnel are in the clear and that all personnel have been informed that power is to be restored, the ROCC Supervisor shall restore the third rail power by supervisory control from the Rail Operations Control Center in the following manner:



**Notice:** Personnel are not to enter/re-enter the Roadway, unless authorized by the ROCC Supervisor.





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 2.5.6.1.1 Two ROCC Supervisors shall be involved. One shall operate the Traction Power Console controls and the other shall observe the traction power diagram on the Traction Power Cathode Ray Tube (CRT).
- 2.5.6.1.2 The ROCC Supervisor operating the Traction Power Console shall say “I am restoring power to track(s) number(s) and I am restoring circuit breaker number(s).”
- 2.5.6.2 The ROCC Supervisor observing the Traction Power CRT shall listen attentively and observe the display to verify that the appropriate circuit breaker(s) have been restored. If the supervisor making the observation does not hear the words or if the console operator is about to close an incorrect breaker, the operation shall be stopped until both agree that the appropriate breaker(s) are being restored.
- 2.5.6.3 The ROCC Supervisor shall verify that power has been restored to track(s).



**Notice:** Personnel are not to enter / re-enter the Roadway to hot stick and verify third rail power has been restored, unless authorized by the ROCC Supervisor.

The ROCC Supervisor shall notify the MOC Power desk when:

- 2.5.6.3.1 The cause of the emergency condition has been corrected.
- 2.5.6.3.2 The Mobile Power Crew can be recalled.
- 2.5.7 Racking Out, Block Tag and Restoration of Third Rail Power on Mainline (Extended Emergency):
  - 2.5.7.1 The authorized persons of the Mobile Power Crew(s) shall call the ROCC Supervisor and report the power configuration upon arrival at their assigned stations.
  - 2.5.7.2 The ROCC Supervisor shall update the Mobile Power Crew(s) on the status of the emergency and advise them of the length of time it is expected to continue. If the emergency is expected to continue the ROCC Supervisor shall, upon receiving confirmation from the OSC that all personnel are standing clear, authorize the Mobile Power Crew(s) to rack out and tag the tripped circuit breakers identifying them by substation or tiebreaker station location and circuit breaker number(s).



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 2.5.7.3 The Mobile Power Crew(s) shall rack out and tag the designated breakers. The authorized crew members shall attach a block tag to each of the racked out breakers.
- 2.5.7.4 The Mobile Power Crew(s) will report to ROCC Supervisor and the MOC when the breakers are tagged and indicate the block tag number on each breaker.
- 2.5.7.5 After all involved breakers are reported to be racked and tagged; MOC will receive and hold a red tag for the involved area. The ROCC Supervisor will advise the supervisor at the scene to call MOC for the Red Tag.
- 2.5.8 Short Time Power Restoration with Power Crew Member at the Scene:
- 2.5.8.1 The Mobile Power Crew(s) will be held at the involved substations(s) for the duration of the emergency and can only be released by the ROCC supervisor.
- 2.5.8.2 The MOC Supervisor shall temporarily deactivate the red tag and request the power crew member at the designated station to place the specific circuit breaker needed in the connect and remote position. The MOC Supervisor shall inform the ROCC Supervisor that the specific breakers are in remote.
- 2.5.8.3 The ROCC Supervisor shall restore power by supervisory as prescribed in Section 2.5.6 after receiving verification from the Rail Operations Supervisor at the scene that all personnel are in the clear.
- 2.5.8.4 When power is restored, the ROCC Supervisor shall verify to the Rail Operations Supervisor that power has been restored.



**Notice:** Personnel are not to enter / re-enter the Roadway to hot stick and verify third rail power has been restored, unless authorized by the ROCC Supervisor.

- 2.5.8.5 When power has to be removed again, The ROCC Supervisor shall advise the power crew member at the designated station to rack out the circuit breaker after it is tripped by supervisory control. When the ROCC Supervisor is advised that the breaker is racked out and tagged and that power is off the Rail Operations Supervisor at the scene shall verify and the red tag being held by MOC will be reactivated.



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### 2.5.9 Procedure for Power Restoration:

- 2.5.9.1 When the emergency is corrected, the Rail Operations Supervisor at the scene shall request third rail power restoration through the ROCC Supervisor, advising that the area has been inspected and all personnel and equipment are clear.
- 2.5.9.2 The ROCC Supervisor will then clear the red tag holding the involved circuit breakers out of service.
- 2.5.9.3 The ROCC Supervisor shall advise the authorized power crew member at the substation and the tiebreaker station that power is to be restored. The ROCC Supervisor shall repeat the red tag circuit breaker numbers to the authorized power crew member and request that they be placed in the remote position before restoring power by supervisory control.
- 2.5.9.4 When the ROCC Supervisor is notified that the required circuit breakers are in the remote position and the Rail Operations Supervisor advises that all personnel at the scene are in the clear, the ROCC Supervisor shall restore the power.
- 2.5.9.5 The authorized crew member shall verify to the ROCC Supervisor that the circuit breakers did close and third rail power has been restored to the section. The ROCC Supervisor shall then verify to the Rail Operations Supervisor at the scene that power has been restored.



**Notice:** Personnel are not to enter / re-enter the Roadway to hot stick and verify third rail power has been restored, unless authorized by the ROCC Supervisor.

### 2.5.10 Receipt of an ETS Alarm, but no Communication:

- 2.5.10.1 When the third rail power is removed from a power section or sections by an ETS operation and no communication is received at the Operations Control Center from the person who operated the ETS, the ROCC Supervisor shall.
  - 2.5.10.1.1 Instruct Train Operators of trains approaching the ETS location to stop their trains and report their positions.
  - 2.5.10.1.2 Attempt to establish communication to the ETS that was operated via the CBX number.



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### 2.5.11 Notifications for ETS Alarms:

The ROCC Supervisor shall notify the Maintenance Operation Center (MOC), MTPD and other concerned Authority departments. The ROCC Supervisor shall advise them of:

2.5.11.1 The line and location;

2.5.11.2 The track numbers of the tracks affected;

2.5.11.3 The area affected (limits of power off), and;

2.5.11.4 Location of the ETS that was operated.

2.5.11.5 The ROCC Supervisor shall notify the Station Managers on the affected lines of the anticipated delay to train service and instruct them to keep the customers advised via the station public address system.

### 2.5.12 Rail Operations Control Center Actions:

2.5.12.1 The ROCC Supervisor shall dispatch the nearest operations supervisor to the ETS location to investigate and examine the area for a cause and report back.

2.5.12.2 The ROCC Supervisor shall assure that the third rail power remains off until:

2.5.12.2.1 The cause of the ETS operation is known and corrected, or;

2.5.12.2.2 The area where the ETS was operated has been examined by Authority personnel and no apparent reason for the power removal can be discovered.

2.5.12.3 The ROCC Supervisor shall instruct Train Operators of trains stopped to keep their customers informed via the train public address system.

### 2.5.13 Correction Action – Emergency Trip Station Activated on Platform:

2.5.13.1 If the ETS that was operated is located on a station platform, the ROCC Supervisor shall instruct the Station Manager of that station to investigate. If a train is in the station, the ROCC Supervisor shall instruct the Train Operator to secure the train and assist in the investigation. They shall:



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 2.5.13.1.1 Make inquiries of the people in the vicinity of the ETS as to why it was operated and by whom;
- 2.5.13.1.2 Examine the area where the ETS is located including station platform and ancillary rooms, and;
- 2.5.13.1.3 Confirm that the third rail power is still off and all trains have been stopped. Then, visually examine all tracks in the platform area of the station and as far as can be seen from the extended platform adjacent to the ancillary rooms.
- 2.5.13.2 If no reason is found or furnished for the ETS operation, the ROCC Supervisor shall instruct the Train Operators of the first train proceeding in each direction:
  - 2.5.13.2.1 Change to Mode 2 operation;
  - 2.5.13.2.2 After third rail power is restored, enter and leave the station at restricted speed (15 mph);
  - 2.5.13.2.3 Operate with caution and be alert for any unusual conditions;
  - 2.5.13.2.4 Report any unusual conditions to the Rail Operations Control Center, and;
  - 2.5.13.2.5 Return to Mode 1 operation after the next station unless otherwise instructed.
- 2.5.13.3 The ROCC Supervisor shall restore third rail power in accordance with Section 2.5.6 after:
  - 2.5.13.3.1 Being advised by each person who was instructed to investigate that the area is clear, and;
  - 2.5.13.3.2 All concerned Authority departments and Station Managers on the affected lines have been notified that the power will be restored and normal train service resumed.
- 2.5.14 Corrective Action – Emergency Trip Station Activated Between Stations:
  - 2.5.14.1 When the ETS that was operated is located between stations, the ROCC Supervisor shall instruct any employee in the area, through their control or clearance desk if necessary, to examine the area where the operated ETS is located for a cause and notify the ROCC Supervisor.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 2.5.14.2 When the third rail power is removed from one track and no authority employee is available; the train stopped on the affected track is not in the immediate vicinity of the operated ETS and there is access from one track to the other at the ETS location, then:
- 2.5.14.2.1 The ROCC Supervisor shall instruct the Train Operator of the train on the adjacent track to proceed operating in Mode 2 at restricted speed to the ETS location.
  - 2.5.14.2.2 The Train Operator shall proceed with caution, sounding the train's warning horn at frequent intervals, being alert for any unusual conditions. On arrival at the location, the Train Operator shall secure the train, inform the customers of the action, examine the area for a cause and advise the ROCC Supervisor of the results of the examination.
- 2.5.14.3 When the third rail power was removed from both tracks by the ETS operation or the operated ETS location is not accessible from the adjacent track, then:
- 2.5.14.3.1 The ROCC Supervisor shall instruct the Train Operator of the nearest train with access to the ETS location to secure the train.
  - 2.5.14.3.2 The Train Operator shall notify the customers of the action, walk to the ETS location, examine the area and advise the ROCC Supervisor of the results of the examination.
- 2.5.14.4 When the examination of the area does not reveal a reason for the operation of the ETS. The Train Operators of the first trains to proceed in each direction shall be instructed by the ROCC Supervisor to:
- 2.5.14.4.1 Change to Mode 2 operation;
  - 2.5.14.4.2 After third rail power is restored, proceed at restricted speed through the affected area;
  - 2.5.14.4.3 Operate with caution and be alert for any unusual conditions;
  - 2.5.14.4.4 Report any unusual conditions to the ROCC Supervisor, and;
  - 2.5.14.4.5 Return to Mode 1 operation after the next station stop clear of the affected area.



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2.5.14.5 The ROCC Supervisor shall restore third rail power to the affected power sections after:

2.5.14.5.1 The investigating Train Operator reports back aboard the train, and;

2.5.14.5.2 All concerned authority departments and Station Managers on the affected lines have been notified that the power will be restored and normal train service will be resumed.

**2.6 REFERENCES**

SOP # 1A



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STANDARD OPERATING PROCEDURES**

**SOP # 6 FIRE AND SMOKE ON THE ROADWAY**

**6.1 PURPOSE**

The purpose of this Standard Operating Procedure is to define responsibilities and procedures for WMATA personnel in the event of Fire and Smoke being reported on the Roadway.

**6.2 SCOPE**

This SOP is applicable to all WMATA personnel actively working in or riding on the Metrorail system.

**6.3 DEFINITIONS**

None

**6.4 RESPONSIBILITIES**

- 6.4.1 The ROCC Supervisors shall be responsible for supervising and coordinating response activities in accordance with this SOP.
- 6.4.2 The ROCC Supervisors shall be responsible for all notifications in accordance with this SOP.
- 6.4.3 All employees shall be guided by SOP # 1A when responding to emergencies.
- 6.4.4 Train Operators shall be responsible for following all sections of this SOP. In addition, train operators shall notify ROCC and adhere to SOP 4A if an indication exists that customers have entered the Roadway.

**6.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
6.5.1	Train Operator's Procedures when Observing Fire or Smoke on the Roadway
6.5.2	ROCC Supervisor's Procedures when Fire or Smoke is Reported in the Tunnel
6.5.3	ROCC Supervisor's Procedures when Heavy Smoke is Reported in the Tunnel
6.5.4	ROCC Supervisor's Procedures when Light Smoke (no Visible Fire) is Reported in the Tunnel





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Procedure #	Content
6.5.5	ROCC Supervisor's Procedures when Arching, Glowing or Haze (Light Smoke) coming from a Third Rail Insulator is Reported
6.5.6	ROCC Supervisor's Procedures when a Fire is Reported in an Above Ground Location
6.5.7	ROCC Supervisor's Procedures when Smoke is Reported in an Above Ground Location

6.5.1 Train Operator's Procedures when Observing Fire or Smoke on the Roadway:

Stop their train if possible before reaching the fire or smoke and immediately notify Rail Operations Control Center (ROCC).

6.5.2 ROCC Supervisor's Procedures when Fire or Smoke is Reported in the Tunnel:

6.5.2.1 Stop all trains in both directions.

6.5.2.2 If the Train Operator reporting the fire was able to stop in approach of the fire, the ROCC Supervisor shall instruct the Train Operator to reverse ends and proceed to the next station.

6.5.2.3 If the Train Operator was not able to stop in approach of the fire, the ROCC Supervisor shall:

6.5.2.3.1 Ensure the track and station platform ahead are clear and third rail power is energized.

6.5.2.3.2 Instruct the Train Operator to turn off the train's Environmental System and continue on to the next station.

6.5.2.3.3 Notify the Fire Department and summon assistance.

6.5.2.3.4 Jointly assess the resolution of the situation over the conference line.

6.5.2.3.5 Request permission from the Fire Department to start single-track operations.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 6.5.3 ROCC Supervisor's Procedures when Heavy Smoke is Reported in the Tunnel:

- 6.5.3.1 Stop all trains in both directions.
- 6.5.3.2 If the Train Operator reporting the heavy smoke was able to stop in approach of the smoke, the ROCC Supervisor shall instruct the Train Operator to reverse ends and proceed to the next station.
- 6.5.3.3 If the Train Operator was not able to stop in approach of the heavy smoke, the ROCC Supervisor shall:
  - 6.5.3.3.1 Ensure the track and station platform ahead are clear and third rail power is energized.
  - 6.5.3.3.2 Instruct the Train Operator to turn off the train's Environmental System and continue on to the next station.
  - 6.5.3.3.3 Notify the Fire Department and summon assistance.
  - 6.5.3.3.4 Jointly assess the resolution of the situation over the conference line.
  - 6.5.3.3.5 Request permission from the Fire Department to start single-track operations.

### 6.5.4 ROCC Supervisor's Procedures when Light Smoke (no Visible Fire) is Reported in the Tunnel:

- 6.5.4.1 Instruct the Train Operator reporting the light smoke to turn off the train's Environmental System and continue to the next station.
- 6.5.4.2 Stop trains in both directions. Instruct trains in the area that are not in a station to turn off the train's Environmental System, continue to the next station and hold there.
- 6.5.4.3 Notify the Fire Department and jointly assess the resolution of the situation over the conference line.
- 6.5.4.4 Off-load the train following the train reporting the smoke and instruct the Train Operator to proceed to the area, assess the situation and report findings to the ROCC Supervisor.



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- 6.5.4.5 If fire is observed, instruct the Train Operator reporting the fire to reverse ends and proceed to the next station. On the conference line, request the Fire Department to respond.
- 6.5.4.6 Request permission from the Fire Department to start single-track operations.
- 6.5.5 ROCC Supervisor's Procedures when Arching, Glowing or Haze (Light Smoke) coming from a Third Rail Insulator is Reported:
  - 6.5.5.1 If the Train Operator reporting the arcing, glowing or haze involving a Third Rail Insulator was able to stop in approach of the insulator, the ROCC Supervisor shall instruct the Train Operator to reverse ends and proceed to the next station.
  - 6.5.5.2 If the Train Operator was not able to stop in approach of the arcing, glowing or haze involving an insulator, the ROCC Supervisor shall:
    - 6.5.5.2.1 Ensure the track and station platform ahead are clear and third rail power is energized.
    - 6.5.5.2.2 Instruct the Train Operator to turn off the train's Environmental System and continue on to the next station.
    - 6.5.5.2.3 Notify the Fire Department, jointly assess the resolution of the situation over the conference line and provide the following information:
      - 6.5.5.2.3.1 The nature of the problem insulator glowing, arcing or producing a light haze.
      - 6.5.5.2.3.2 The Chain Marker location.
      - 6.5.5.2.3.3 Nearest station to the incident scene, and;
      - 6.5.5.2.3.4 Estimated Time of Arrival (ETA) of Metro personnel responding to the scene.
    - 6.5.5.2.4 Coordinate a meeting point for the On Scene Commanders from the Fire Department and Metro personnel.
    - 6.5.5.2.5 Remove third rail power on the affected track.
    - 6.5.5.2.6 Dispatch qualified personnel to investigate and/or remove the insulator.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 6.5.5.2.7 Begin a single-track operation on the opposite track.
- 6.5.5.2.8 Check with personnel responding to the location to see if they advise it is safe to proceed with removal of the insulator.
- 6.5.5.2.9 Keep the Fire Department updated on the status of the removal of the insulator.
- 6.5.5.2.10 If third rail power has been removed, it shall be restored after the Rail Operations Supervisor at the scene has notified the ROCC Supervisor that the fire has been extinguished, the smoke has subsided and;
  - 6.5.5.2.10.1 The senior Fire Department official has cleared the scene of Fire Department personnel and authorized the system to be placed back in operation.
  - 6.5.5.2.10.2 All other public agency personnel have left the scene and;
  - 6.5.5.2.10.3 Remaining employees are clear and have been alerted that power will be restored.
- 6.5.5.2.11 The ROCC Supervisor shall restore third rail power in accordance with SOP # 2.
- 6.5.6 ROCC Supervisor's Procedures when a Fire is Reported in an Above Ground Location:
  - 6.5.6.1 Stop trains in both directions. Instruct trains in the area that are not in a station to turn off the train's Environmental System and continue to the next station.
  - 6.5.6.2 Notify the Fire Department and jointly assess the resolution of the situation over the conference line.
  - 6.5.6.3 Off-load the train following the train reporting smoke or fire; instruct the Train Operator to proceed to an area where the reported fire or smoke can be seen and assess the situation.
  - 6.5.6.4 If fire cannot be extinguished quickly (without difficulty), instruct the Train Operator to reverse ends and proceed to the next station. On the conference line, request the Fire Department to respond.



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### 6.5.7 ROCC Supervisor's Procedures when Smoke is Reported in an Above Ground Location:

- 6.5.7.1 Instruct the Train Operator reporting the smoke to turn off the train's Environmental System and continue to the next station.
- 6.5.7.2 Stop trains in both directions. Instruct Train Operators of trains in the area that are not in a station to turn off the train's Environmental System and continue to the next station and hold there.
- 6.5.7.3 Notify the Fire Department and jointly assess the resolution of the situation over the conference line.
- 6.5.7.4 Off-load the train following the train reporting smoke or fire; instruct the Train Operator to proceed to an area where the reported fire or smoke can be seen and assess the situation.
- 6.5.7.5 If the fire cannot be extinguished quickly (without difficulty), instruct the Train Operator attempting to extinguish the fire to reverse ends and proceed to the next station. On the conference line, request the Fire Department to respond.

## 6.6 REFERENCES

- 6.6.1 SOP # 1A
- 6.6.2 SOP # 2
- 6.6.3 SOP # 4A



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## **SOP # 7      FIRE AND SMOKE ON CARS**

### **7.1      PURPOSE**

The purpose of this Standard Operating Procedure is to define responsibilities and procedures for WMATA personnel in the event of Fire and Smoke being reported on Metrorail vehicles.

### **7.2      SCOPE**

This SOP is applicable to all WMATA personnel actively working on or riding the Metrorail system.

### **7.3      DEFINITIONS**

None

### **7.4      RESPONSIBILITIES**

- 7.4.1      The Rail Operations Control Center (ROCC) Supervisors shall be responsible for supervising and coordinating the implementation of this SOP.
- 7.4.2      The ROCC Supervisor shall ensure that all notifications are made as required in this SOP.
- 7.4.3      All WMATA Employees shall ensure that all procedures in SOP 1A are followed.
- 7.4.4      Train Operators shall be responsible for following all sections of this SOP. In addition, if there is an indication that customers have entered the Roadway the ROCC Supervisor is to be notified and all procedures in SOP 4A are to be followed.



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STANDARD OPERATING PROCEDURES

7.5 PROCEDURES

Procedure #	Content
7.5.1	Employee Procedure When Discovering or Being Notified of Fire on Train.
7.5.2	Train Operator Procedures When Discovering or Being Notified of Fire on Train.
7.5.3	Information Train Operator is to Provide to the ROCC Supervisor.
7.5.4	ROCC Supervisor Procedures on Notification to All Departments and Fire Department.
7.5.5	ROCC Supervisor Establish Communications with Those on the Scene.
7.5.6	Third Rail Power Removal Procedures in an Extreme Emergency.
7.5.7	Verbal Request for Third Rail Power Removal.
7.5.8	Train Operators Procedures When the Affected Train is Stopped at a Station.
7.5.9	Train Operator Procedures When a Train is Stopped Before Reaching a Station, or Stopped in Approach to a Tunnel Portal Because Fire, or Smoke, is Issuing From a Car.
7.5.10	Procedures When There is a Fire of Major Proportions.
7.5.11	ROCC Supervisors Procedures for Easing Train Congestion.
7.5.12	ROCC Supervisors Procedures if Medical Assistance is Required.
7.5.13	Restoring Third Rail Power at the Scene.
7.5.14	Restoring Third Rail Power According to SOP # 2.
7.5.15	Resumption of Normal Service.
7.5.16	Notification that Service has Been Restored.

7.5.1 Employee Procedure When Discovering or Being Notified of Fire on Train:

Any employee discovering or being notified of smoke or fire issuing from a train shall immediately notify the Rail Operations Control Center (ROCC) and relay known details to the ROCC Supervisor.

7.5.2 Train Operator Procedures When Discovering or Being Notified of Fire on Train:

Train Operators discovering or being notified of smoke or fire issuing from their trains shall:

7.5.2.1 Immediately notify ROCC.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 7.5.2.2 Continue to the next station or,
- 7.5.2.3 If on an aerial structure or in an open cut in approach to a tunnel portal, stop the train before entering the tunnel.
- 7.5.2.4 If there is an indication that customers have entered the Roadway the ROCC Supervisor is to be notified and all procedures in SOP 4A are to be followed.
- 7.5.3 Information Train Operator is to Provide to the ROCC Supervisor:  
  
The Train Operator shall provide the following information to the ROCC Supervisor:
  - 7.5.3.1 Train identification
  - 7.5.3.2 Location
    - 7.5.3.2.1 If stopped in a station, provide the station name and track number.
    - 7.5.3.2.2 If not stopped in a station, provide line, track number, Chain Marker and the nearest station.
  - 7.5.3.3 Extent of smoke or fire and origin, if known.
- 7.5.4 ROCC Supervisor Procedures on Notification to All Departments and Fire Department:  
  
The ROCC Supervisor shall immediately notify the fire department communications center, Metro Transit Police Department (MTPD), System Safety and other concerned Authority departments.
  - 7.5.4.1 The ROCC Supervisor shall provide the fire department communications center with the following information:
    - 7.5.4.1.1 Identity of caller.
    - 7.5.4.1.2 Line and location.
    - 7.5.4.1.3 Name of station, cross streets and location of station entrance nearest the fire.





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 7.5.4.1.4 Nearest station and emergency exit if train is not in a station.
- 7.5.4.1.5 Nature and extent of the smoke or fire.
- 7.5.4.2 The ROCC Supervisor shall provide the Fire Department communications center with updated information as it becomes available.
- 7.5.4.3 Train Operators of trains approaching or within the area of the affected train shall be alerted and governed by instructions from the ROCC Supervisor.
- 7.5.5 ROCC Supervisor Establish Communications with Those on the Scene.:  
  
The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the scene.  
  
The Rail Operations Supervisor shall establish communications with ROCC Supervisor and the senior fire department official at the scene and be governed by SOP # 1A.
- 7.5.6 Third Rail Power Removal Procedures in an Extreme Emergency:  
  
In an extreme emergency, the emergency trip station switch shall be operated to remove third rail power.
- 7.5.7 Verbal Request for Third Rail Power Removal:  
  
When a verbal request for the removal of third rail power is made by an employee or fire department personnel, the ROCC Supervisor shall:
  - 7.5.7.1 Obtain the name, title, identification number and department or unit of the person;
  - 7.5.7.2 Request time to clear the area of trains, if necessary;
  - 7.5.7.3 Remove third rail power and confirm the removal in accordance with SOP # 2.



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### 7.5.8 Train Operators Procedures When the Affected Train is Stopped at a Station:

Train Operators on the affected train in a station shall:

- 7.5.8.1 Secure the train and evacuate all customers from the train. The customers will be directed to clear the platform area around the train.
- 7.5.8.2 After customers have been evacuated, the Train Operator shall close the doors of the train if the fire or smoke is issuing from the underside or outside of the affected car.
- 7.5.8.3 The Train Operator shall then attempt to extinguish the fire using the closest fire extinguishing equipment and the car borne extinguishers. The closest fire extinguisher should be used first, if available. The Train Operator shall request the assistance of any other Metrorail employees available at the scene.
- 7.5.8.4 If the fire is electrical, prior to restoring power and attempting to move the train, the Train Operator shall remove third rail power from the affected car by:
  - 7.5.8.4.1 Opening the high voltage circuit breakers on the auxiliary circuit breaker panel located on the outside of the car, and
  - 7.5.8.4.2 Opening the main knife switch to the full right position after opening all circuit breakers on the auxiliary circuit breaker panel if the fire is evident on any of the traction motors.
- 7.5.8.5 After extinguishing a fire on a car seat cushion onboard a train, the Train Operator or any other employee who extinguished the fire shall:
  - 7.5.8.5.1 Carefully remove the seat cushion from the car and away from the train,
  - 7.5.8.5.2 Take the seat cushion outdoors away from a Metrorail station, building or any other enclosed facility where the cushion is to be immersed, in or thoroughly soaked, with water,
  - 7.5.8.5.3 At outside stations and on outdoor tracks, remove the cushion to a location that will not interfere with customer or employee activity or cause property damage. The ROCC Supervisor shall be notified of the action.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 7.5.8.5.4 The ROCC Supervisor shall notify the concerned Authority department to follow through with extinguishing and removal of the cushion from the location.



**Notice:** Neoprene seat cushions that have been exposed to a fire source will often smolder until completely consumed even after the fire appears to be extinguished.

- 7.5.8.6 When fire on the car is of major proportions, the Train Operator shall:
- 7.5.8.6.1 Attempt to uncouple the unaffected cars.
  - 7.5.8.6.2 Move them about 100 feet from the affected car.
  - 7.5.8.6.3 Secure the train.
  - 7.5.8.6.4 Remove third rail power from the involved power section in accordance with SOP #2.
  - 7.5.8.6.5 After power is removed, the Train Operator shall return to the affected cars and apply the handbrakes on both cars.
  - 7.5.8.6.6 If the fire prevents applying the handbrakes on both cars, the Train Operator shall apply the handbrake on the unaffected car and notify the ROCC Supervisor of the car that the hand brake was applied.
- 7.5.9 Train Operator Procedures When a Train is Stopped Before Reaching a Station, or Stopped in Approach to a Tunnel Portal Because Fire, or Smoke, is Issuing From a Car:

When a train is stopped before reaching a station or stopped in approach to a tunnel portal because fire or smoke is issuing from a car, the Train Operator shall:

- 7.5.9.1 Notify ROCC Supervisor of the problem immediately.
- 7.5.9.2 Direct passengers to move from the affected car to cars in the unaffected portion of the train.
- 7.5.9.3 Secure the train and investigate.
- 7.5.9.4 Close and lock the end doors of the affected car.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

7.5.9.5 When the condition has been corrected or relieved and the train is able to move, the Train Operator shall operate the train to the next station, off-load passengers and proceed to the nearest yard.

### 7.5.10 Procedures When There is a Fire of Major Proportions:

When fire on the car is of major proportions and the unaffected cars can be uncoupled, handbrakes shall be applied on one or both of the affected cars before uncoupling.

7.5.10.1 If this is not possible because the fire is on the car from which the uncoupling is to be made, the Train Operator shall:

7.5.10.1.1 Direct passengers to move from the affected car to cars in the unaffected portion of the train.

7.5.10.1.2 Uncouple and move the unaffected cars, stop and secure the train.

7.5.10.1.3 Return to the affected car pair, apply a handbrake on the unaffected car and notify the ROCC Supervisor of the car that the hand brake was applied.

7.5.10.1.4 After securing the cars, the Train Operator shall return to the cars with customers, proceed to the next station and off-load customers.

7.5.10.2 Third rail power shall then be removed from the power section containing the affected cars in accordance with SOP # 2.

7.5.10.3 If the train is disabled between stations and the safety of passengers is endangered, the Train Operator shall secure the train with handbrakes and evacuate passengers in accordance with SOP # 4.

### 7.5.11 ROCC Supervisors Procedures for Easing Train Congestion:

The ROCC Supervisor shall initiate operating procedures to ease train congestion by initiating single track operation, turning trains and requesting Metrobus shuttle service, if needed.

7.5.11.1 The ROCC Supervisor shall institute terminal schedule adjustments to further ease train congestion.

7.5.11.2 The ROCC Supervisor shall arrange for appropriate public address announcements to be made to passengers on trains and in stations.



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7.5.11.3 The ROCC Supervisor shall request the assistance of MTPD in critical stations for crowd control.

7.5.12 ROCC Supervisors Procedures if Medical Assistance is Required:

Medical assistance for passengers or employees shall be requested through ROCC. The employee requesting medical assistance shall provide an estimate of the number of people requiring assistance and, if possible, arrange an escort for directing medical personnel to the scene.

7.5.12.1 The ROCC Supervisor shall request medical aid through the fire department communications center, providing the station name, cross streets and location of the station entrance.

7.5.12.2 Names and addresses of the people requiring medical assistance and names of medical agencies and personnel shall be included in the accident report.

7.5.13 Restoring Third Rail Power at the Scene:

If third rail power has been removed, the ROCC Supervisor shall restore it when the Rail Operations Supervisor at the scene notifies the ROCC Supervisor that the fire has been extinguished or the smoke condition has subsided on the car and:

7.5.13.1 The senior fire official has cleared the scene of fire department personnel and authorized the Rail Operations Supervisor to place the system back in operation.

7.5.13.2 All other public safety agency personnel have left the scene.

7.5.13.3 Remaining employees are in the clear and have been alerted that power will be restored.

7.5.14 Restoring Third Rail Power According to SOP # 2:

The ROCC Supervisor shall restore third rail power in accordance with SOP # 2.

7.5.15 Resumption of Normal Service:

After the Rail Operations Supervisor has advised that the affected train has been dispatched to the nearest yard and it is safe to resume normal train operation, the ROCC Supervisor shall order a resumption of train service.



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7.5.16 Notification that Service has Been Restored:

The ROCC Supervisor shall notify all concerned departments and Station Managers on the affected line that train service has been resumed.

**7.6 REFERENCE**

7.6.1 SOP # 1A

7.6.2 SOP # 2

7.6.3 SOP # 4

7.6.4 SOP # 4A



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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## **SOP # 8 FIRE AND SMOKE IN A STATION**

### **8.1 PURPOSE**

The purpose of this Standard Operating Procedure is to define responsibilities and procedures for WMATA personnel in the event of Fire and Smoke being reported in a Metrorail Station.

### **8.2 SCOPE**

This SOP is applicable to all WMATA personnel actively working in or riding on the Metrorail system.

### **8.3 DEFINITIONS**

None

### **8.4 RESPONSIBILITIES**

8.4.1 The ROCC Supervisors shall be responsible for supervising and coordinating response activities in accordance with this SOP.

8.4.2 The ROCC Supervisors shall be responsible for all notifications in accordance with this SOP.

8.4.3 The Rail Operations Supervisor shall ensure that all procedures in SOP # 1A are followed.

### **8.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
8.5.1	Employee Notification
8.5.2	Customer Communication Specialist Activities
8.5.3	ROCC Supervisor Activities
8.5.4	Third Rail Power Removal Request
8.5.5	Station Manager Activities
8.5.6	ROCC Supervisors Instructions and Actions
8.5.7	ROCC Actions for the Customers
8.5.8	Request for Medical Assistance
8.5.9	Forest Glen Station Deluge System Procedures
8.5.10	Third Rail Power Restoration and Resumption of Normal Service





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 8.5.1 Employee Notification:

8.5.1.1 Employees, discovering or being notified of smoke or fire in a customer station shall immediately notify the ROCC Supervisor. If the employee is not the Station Manager, the Station Manager shall also be notified immediately.

8.5.1.2 The Employee shall provide the ROCC Supervisor the following information:

8.5.1.2.1 Employee's Identification.

8.5.1.2.2 Location station name and location of fire and smoke in the station.

8.5.1.2.3 Nature, extent and origin of fire and smoke, if known.

8.5.1.3 When a Station Manager is alerted by a zone fire alarm, the Station Manager shall immediately notify the Customer Communication Specialist of the zone alarm number and the type of room involved.

### 8.5.2 Customer Communication Specialist Activities:

8.5.2.1 The Customer Communication Specialist shall instruct employees discovering a fire to make an attempt to extinguish it if possible, and safe to do so. The employee shall request the assistance of any other Metrorail personnel available at the scene.

8.5.2.2 The Customer Communication Specialist shall immediately notify the ROCC Supervisor, Fire Department Communication Center, the MTPD, all other concerned Authority departments and Station Managers on the affected line.

8.5.2.3 The Customer Communication Specialist shall provide the Fire Department Communication Center with the following information:

8.5.2.3.1 Identification of the caller.

8.5.2.3.2 Station name, line and track number.

8.5.2.3.3 Nature and extent of the fire.

8.5.2.3.4 Cross streets and locations of entrances to the station.

8.5.2.3.5 Zone alarm number and type of room.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 8.5.2.4 The Customer Communication Specialist shall provide the Fire Department Communication Center with updated information as it becomes available.
- 8.5.2.5 Train Operators of trains approaching or within the area shall be alerted and governed by instructions from the ROCC Supervisor.
- 8.5.3 ROCC Supervisor Activities:
  - The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the scene, or, if requested, requested MTPD to transport the Supervisor. The Rail Operations Supervisor shall be governed by SOP # 1A.
- 8.5.4 Third Rail Power Removal Request:
  - 8.5.4.1 When a verbal request for the removal of third rail power is made by an employee or Fire Department personnel, the ROCC Supervisor shall:
    - 8.5.4.1.1 Obtain the name, title, identification number and department or unit of the person.
    - 8.5.4.1.2 Request time to clear the area of trains, if necessary and,
    - 8.5.4.1.3 Remove third rail power and confirm the removal in accordance with SOP # 2.
    - 8.5.4.1.4 In an extreme emergency, the emergency trip station switch shall be operated to remove third rail power.
- 8.5.5 Station Manager Activities:
  - 8.5.5.1 The Station Manager shall attempt to extinguish small fires, if possible and safe to do so. The Station Manager shall request assistance from any other Metrorail personnel available at the scene.
  - 8.5.5.2 When smoke is present in the station, the Station Manager shall evacuate the station by doing the following:
    - 8.5.5.2.1 Make prescribed public address announcements to customers to evacuate the station.
    - 8.5.5.2.2 Stop customers from entering the station fare area.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 8.5.5.2.3 Stop all escalator movement in the direction of the fire and smoke.
- 8.5.5.2.4 Stop all elevators at the surface level.
- 8.5.5.2.5 Cooperate with the Fire Department.
- 8.5.6 ROCC Supervisors Instructions and Actions:
  - 8.5.6.1 The ROCC Supervisor shall instruct Train Operators on trains approaching the station to do the following:
    - 8.5.6.1.1 Change to Mode 2 operation before entering the station.
    - 8.5.6.1.2 Notify the customers on the train that the station stop will be skipped.
    - 8.5.6.1.3 Shut down car borne air conditioning equipment.
    - 8.5.6.1.4 Skip the station stop while proceeding at restricted speed (15 mph).
    - 8.5.6.1.5 Sound the warning horn when approaching and proceeding through the station.
    - 8.5.6.1.6 Return to Mode 1 operation after the next station stop unless, otherwise instructed by the ROCC Supervisor.
  - 8.5.6.2 When the smoke or fire will endanger train movement through a station, the ROCC Supervisor shall instruct Train Operators to stop their trains in stations in approach to the affected station, keep car doors open and await further instructions.
  - 8.5.6.3 The ROCC Supervisor shall initiate operating procedures to ease train congestion by instituting single track operation if it will not interfere with the corrective measures being taken at the affected station (affected station stop will be skipped), turning trains and initiating Metro bus shuttle service if necessary.
  - 8.5.6.4 The ROCC Supervisor shall institute terminal schedule adjustments to further ease train congestion.



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### 8.5.7 ROCC Actions for the Customers:

The ROCC Supervisor shall arrange for appropriate public address announcement to be made to customers on trains and in stations. The ROCC Supervisor shall request the assistance of the MTPD in critical stations for crowd control.

### 8.5.8 Request for Medical Assistance:

8.5.8.1 Medical assistance for customers or employee shall be requested through the ROCC. The employee requesting medical assistance shall provide an estimate of the number of people requesting assistance and if possible arrange an escort for directing medical personnel to the scene.

8.5.8.2 The ROCC Supervisor shall request aid through the Fire Department Communication Center, providing the station name, cross streets and the location of the station entrance.

8.5.8.3 The names and address of the people requiring medical assistance and the names of the medical agencies and personnel shall be included in the accident report.

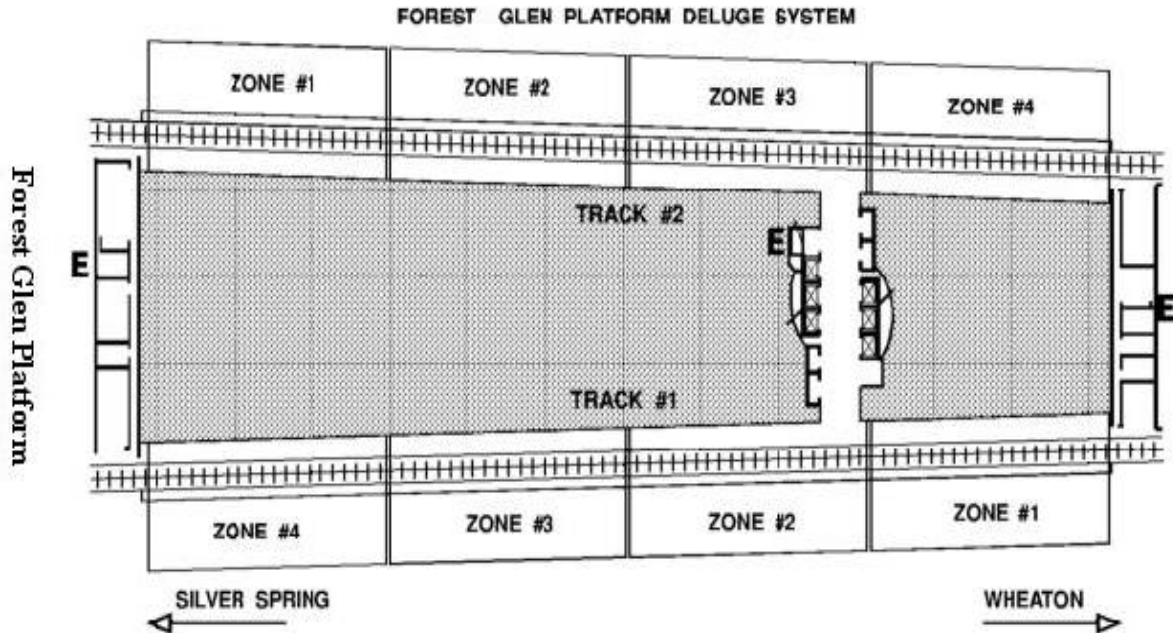
### 8.5.9 Forest Glen Station Deluge System Procedures:

8.5.9.1 A deluge system has been installed in the Forest Glen Station in the track bed, within the platform limits, to extinguish under-car fires on customer trains and/or track vehicles.



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8.5.9.2 Activation of this system removes third rail power, sounds an alarm and causes water to be sprayed up from the track bed in one or all of four zones. Each zone covers a 150' section of the track along the station platform. (See drawing below).



8.5.9.3 Activation panels are located adjacent to the platform ETS boxes and activate the deluge system zones for the track on which they are installed. An additional deluge panel (which controls all 4 zones on both tracks) is located in the elevator lobby on the mezzanine level. All of the panels shall remain locked with a standard train door key.

8.5.9.4 Operation of the deluge system at Forest Glen shall only be considered during emergency situations where fire and smoke are obvious and immediate action is necessary.

8.5.9.5 Employees discovering fire or smoke on a train at the platform at Forest Glen Station shall immediately notify ROCC Supervisor prior to activating the deluge system and be governed by their instructions.

8.5.9.6 When authorized by ROCC, employees shall immediately activate all four zones of the deluge system on the affected track and inform ROCC that the system has been activated.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 8.5.9.6.1 The deluge system shall NOT be activated until the problem train has come to a complete stop and is fully on the platform or cannot continue any farther.
  - 8.5.9.6.2 The deluge system shall NOT be activated in anticipation of a train entering the station with a fire. This will cause power to be removed and may prevent the train from reaching the platform.
  - 8.5.9.6.3 The deluge system shall remain activated until the On Scene Commander (OSC) has determined that no further hazard exists. The OSC may, however, deactivate zones not underneath the affected train to allow access to the track bed.
- 8.5.10 Third Rail Power Restoration and Resumption of Normal Service:
- 8.5.10.1 If third rail power has been removed, it shall be restored after the Rail Operations Supervisor at the scene has notified the ROCC Supervisor that the fire has been extinguished, the smoke has subsided and;
    - 8.5.10.1.1 The senior Fire Department official has cleared the scene of Fire Department personnel and authorized the system to be placed back in operation.
    - 8.5.10.1.2 All other public agency personnel have left the scene, and;
    - 8.5.10.1.3 Remaining employees are clear and have been alerted that power will be restored.
  - 8.5.10.2 The ROCC Supervisor shall restore third rail power in accordance with SOP # 2.
  - 8.5.10.3 The ROCC Supervisor shall order the station reopened to customers and re-establish normal train services, after the Rail Operations Supervisor has ascertained that it is safe to reopen the station and resume normal train operation. All concerned Authority departments and Station Managers on the affected lines shall be advised.

### **8.6 REFERENCES**

- 8.6.1 SOP # 1A
- 8.6.2 SOP # 2



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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP # 10      FLOODS

### 10.1      PURPOSE

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the handling of floods in the rail system.

### 10.2      SCOPE

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in connection with a flood.

### 10.3      DEFINITIONS

None

### 10.4      RESPONSIBILITIES

10.4.1 ROCC Supervisors shall be responsible for notifying all Authority Departments including Fire Department, Metro Transit Police Department (MTPD), and Station Managers on the affected lines; and dispatch the nearest Rail Operations Supervisor to the scene.

10.4.2 Rail Operation Supervisor Shall be responsible for establishing communications with Rail Operations Control Center (ROCC) and Senior Fire Department official at the scene if present; and

10.4.3 Be responsible for coordinating all Authority activities and cooperating with the Fire Department.

### 10.5      PROCEDURES

This SOP contains the following procedures:

<b>Procedure #</b>	<b>Content</b>
10.5.1	Notifications
10.5.2	ROCC Actions When Notified of a Flood Condition on the Rail System
10.5.3	Trains Stalled in Flood Area – Customer Evacuation
10.5.4	Action to be Taken for Customers
10.5.5	Third Rail Power Restoration and Service Resumption





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 10.5.1 Notifications:

ROCC Supervisors shall be responsible for notifying all Authority Departments including Fire Department, Metro Transit Police Department (MTPD), and Station Managers on the affected lines; and dispatch the nearest Rail Operations Supervisor to the scene.

#### 10.5.1.1 Caller's identification.

#### 10.5.1.2 Location (track number, line identification, and their relation to a station).

#### 10.5.1.3 Approximate water level in relation to the ball of the running rail.

#### 10.5.1.4 Place where the water is entering the system, if known.

#### 10.5.1.5 Estimated flow and length of the flooded area.

### 10.5.2 ROCC Actions When Notified of a Flood Condition on the Rail System:

10.5.2.1 When the water is below the ball of the running rail, the ROCC Supervisor shall instruct Train Operators to proceed through the area at restricted speed (15 mph or as directed by ROCC) in Mode 2. At the first station stop after clearing the flooded area, Train Operators shall return to Mode 1 and inform the Operations Control Center of the conditions of the area they passed through.

10.5.2.2 When the water is above the ball of the running rail, the ROCC Supervisor shall instruct Train Operators of trains approaching the flooded area to stop their trains in stations in approach to the area; keep doors open and await further instruction. After all trains are positioned outside the affected area, third rail power shall be removed in accordance with SOP # 2.

10.5.2.3 The ROCC Supervisor shall immediately notify the Fire Department Communications Center advising them of the problem and requesting their assistance.

#### 10.5.2.3.1 Identification of the caller.

#### 10.5.2.3.2 Line and Location.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 10.5.2.3.3 Nearest station, including the cross streets and locations of the stations entrances and emergency exits.
- 10.5.2.3.4 Level of the accumulated water, if known.
- 10.5.2.4 The ROCC Supervisor shall keep the Fire Department Communications Center informed with updated information, as it becomes available.
- 10.5.2.5 When train service is suspended through the area, the ROCC Supervisor shall notify all concerned Authority departments including MTPD and Station Managers on the affected lines.
- 10.5.2.6 The ROCC Supervisor shall initiate operating procedures to ease train congestion by turning trains, requesting Metrobus shuttle service and instituting a single track operation if feasible.
- 10.5.2.7 The ROCC Supervisor shall institute terminal schedule adjustments to further ease train congestion.
- 10.5.3 Trains Stalled in Flood Area – Customer Evacuation:
  - 10.5.3.1 When a train becomes stalled in water, the ROCC Supervisor shall take necessary steps to have the customers evacuated. Under no conditions shall the customers be evacuated by walking them through the water.
  - 10.5.3.2 From the shallow portion of water, an empty train will be closed in to the end of the stalled train. A second train may be used depending a train has to go into the section where power is de-energized to get to the stalled train.
  - 10.5.3.3 When in the evacuation process and the rescue train has to make a move against the established direction of traffic, the ROCC Supervisor shall establish an absolute block in accordance with SOP # 15.
  - 10.5.3.4 Customers shall be walked through the cars to the train clear of the water. After all customers have been evacuated the Train Operator shall operate the train clear of the water to the nearest station where the customers shall be discharged.



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### 10.5.4 Action to be Taken for Customers:

- 10.5.4.1 The Operations Control Center shall arrange for appropriate public address announcements to be made to the customers on the train and in stations.
- 10.5.4.2 The ROCC Supervisor may request the assistance of the Transit Police in critical stations for crowd control.
- 10.5.4.3 The ROCC Supervisor may activate the ventilation system based on conditions at the scene.

### 10.5.5 Third Rail Power Restoration and Service Resumption:

- 10.5.5.1 Third rail power shall be restored after the Rail Operations Supervisor at the scene has advised the ROCC Supervisor that:
  - 10.5.5.1.1 The flow of water entering the subway has stopped;
  - 10.5.5.1.2 The water has receded below the ball of the running rail and the drainage system is draining off the remaining water;
  - 10.5.5.1.3 The pumping operation has stopped and the pumping equipment has been removed or is in the clear;
  - 10.5.5.1.4 The senior Fire Department official has cleared the scene of fire personnel and authorized the system to be placed back in operations;
  - 10.5.5.1.5 Area has been cleaned up and declared operational by the Maintenance Supervisor, and;
  - 10.5.5.1.6 All remaining personnel have been alerted that third rail power will be restored.
- 10.5.5.2 The ROCC Supervisor shall restore the third rail power in accordance with SOP # 2.
- 10.5.5.3 After the stalled train has been dispatched to the nearest yard, another revenue train without customers shall operate through the area as a test train.
- 10.5.5.4 After the Rail Operations Supervisor at the scene ascertains that it is safe to resume train operations, the ROCC Supervisor shall be advised.



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10.5.5.5 The ROCC Supervisor shall re-establish normal train service and notify all concerned departments and Station Managers on the affected line.

### **10.6 REFERENCES**

10.6.1 SOP # 2

10.6.2 SOP # 15



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**SOP # 11 TRAIN COLLISION – MAINLINE and YARD**

**11.1 PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the handling of collisions on the mainline or in the yard.

**11.2 SCOPE**

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in connection with a collision.

**11.3 DEFINITIONS**

11.3.1 Chief Safety Officer (CSO): Head of the WMATA Safety Department

11.3.2 Collision: Whenever a train comes into contact with another object from the front, rear or side, other than appropriate train couplings.

**11.4 RESPONSIBILITIES**

11.4.1 The ROCC Supervisors shall be responsible for supervising and coordinating the implementation of this SOP.

11.4.2 The Interlocking Operator is responsible for notifying ROCC and coordinating the implementation of this SOP for incidents that occur in the yard.

11.4.3 The ROCC Supervisor shall ensure that all notifications are made as required by this SOP.

11.4.4 All WMATA Employees shall ensure that all procedures in SOP # 1A are followed.

11.4.5 Train Operators shall be responsible for following all sections of this SOP.



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11.5 PROCEDURES

Procedure #	Content
11.5.1	Train Collision Mainline Notification and Procedures
11.5.2	Rail Operations Supervisor Procedures for Mainline Collisions
11.5.3	Train Operators Procedures for Mainline Collisions
11.5.4	ROCC Supervisor Actions to be Taken for the Safety and Comfort of the Customers
11.5.5	Requesting Medical Assistance on Mainline
11.5.6	Removal of Damaged Cars from Mainline
11.5.7	Third Rail Power Restoration and Service Resumption
11.5.8	Interlocking Operator Procedures for Collisions in a Yard
11.5.9	ROCC Procedures for Collision in a Yard
11.5.10	Rail Operations Supervisor Procedures for Collisions in a Yard
11.5.11	Requesting Medical Assistance in the Yard
11.5.12	Availability of Revenue Cars for Service
11.5.13	Restoration of Yard Service

11.5.1 Train Collision Mainline Notification and Procedures:

11.5.1.1 Any employee witnessing, discovering or being involved in a train collision shall notify the ROCC and provide the following information:

11.5.1.1.1 Caller's name and identification.

11.5.1.1.2 Reason for the call.

11.5.1.1.3 Location of the collision, track number, line identification and nearest station, if not in a station.

11.5.1.1.4 If medical assistance is needed.

11.5.1.1.5 Equipment involved in the collision.

11.5.1.1.6 Presence of smoke or fire.

11.5.1.2 If the employee making the first report is a Train Operator involved in the collision, the ROCC Supervisor shall instruct the Operator to:

11.5.1.2.1 Notify the customers of the incident.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 11.5.1.2.2 Secure the train.
- 11.5.1.2.3 Check to see if any customers or employees need medical attention or have special needs (wheel chair, vision impaired, etc); if so, notify the ROCC Supervisor immediately.
- 11.5.1.2.4 Check the other train (train operator); if two trains are involved and the other Train Operator has not communicated with the ROCC Supervisor.
- 11.5.1.2.5 Look for the presence of smoke or fire.
- 11.5.1.2.6 Investigate the collision and note the extent of visible damage; if any trucks are derailed or the adjacent track is obstructed.
- 11.5.1.2.7 Report findings to the ROCC Supervisor.
- 11.5.1.3 The ROCC Supervisor shall immediately notify all concerned Authority departments and Station Managers on the affected line.
- 11.5.1.4 The ROCC Supervisor shall alert the Fire Department Communications Center of the collision giving them the caller's name and the location of the collision. They shall be advised that more pertinent information will be forthcoming when available.
- 11.5.1.5 The ROCC Supervisor shall instruct Train Operators of trains in approach to the collision site, in both directions, to stop their trains in stations and report their positions.
- 11.5.1.6 The ROCC Supervisor shall cause the interlocking signals to display red at adjacent intermediate interlocking stations, on both sides of the collision site to prevent trains from moving into the affected area.
- 11.5.1.7 After the second and more informative report of the collision is received at the ROCC, the ROCC Supervisor shall again contact the Fire Department Communications Center and advise them if their assistance is needed for:
  - 11.5.1.7.1 Fire
  - 11.5.1.7.2 Medical assistance





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- 11.5.1.7.3 Customer evacuation.
- 11.5.1.8 The Fire Department Communication Center shall be kept posted with updated information which might require their involvement.
- 11.5.2 Rail Operations Supervisor Procedures for Mainline Collisions:
  - 11.5.2.1 The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the collision site.
  - 11.5.2.2 When dispatched to the collision scene the Rail Operations Supervisor shall establish communications with the ROCC Supervisor. The Rail Operations Supervisor shall be governed by SOP # 1A.
  - 11.5.2.3 The Track Supervisor shall check the track adjacent to the affected track for train clearance and the Rail Operations Supervisors will report the condition to the ROCC Supervisor.
  - 11.5.2.4 When the Rail Operations Supervisor reports that the adjacent track is not obstructed, the ROCC Supervisor shall, with concurrence from the Incident Commander, instruct Train Operators of trains stopped on the adjacent track to:
    - 11.5.2.4.1 Discharge customers, if train is in a station, and proceed as a test train in Mode 2;
    - 11.5.2.4.2 After the appropriate interlocking signals are cleared in the adjacent intermediate interlocking locations, proceed at restricted speed (15 mph or as directed by ROCC) through the affected area, and;
    - 11.5.2.4.3 Return to Mode 1 after the next station stop, clear of the affected area, unless otherwise instructed.
  - 11.5.2.5 The Rail Operations Supervisor shall inspect the operating cabs of the trains involved in the collision without disturbing any controls, equipment or debris and note any irregularities or defects on the cab displays or train operating controls. The Rail Operations Supervisor shall hold the Train Operators involved for interview by MTPD and, at the same time, observe their physical appearance and general behavior to determine their fitness to operate. Any abnormalities shall be reported to the ROCC Supervisor.



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11.5.2.6 The Rail Operations Supervisor shall investigate the collision without disturbing any controls, equipment or debris and provide the ROCC Supervisor with an informative report consisting of the following:

11.5.2.6.1 Customer or employee injuries.

11.5.2.6.2 Damage to equipment, both car and wayside.

11.5.2.6.3 Presence and length of fresh skid marks on the running rails indicating emergency application of the brakes.

11.5.2.6.4 Verify the Train Operator's report of any derailed trucks.

11.5.2.6.5 Recommend customer evacuation procedure based on conditions at the scene.

11.5.2.6.6 In conjunction with MTPD, secure the accident site.



**Notice:** If a formal investigation is to be conducted, then SAFE shall take the lead in coordinating activities, assembling the team and issuing the official agency report.

11.5.3 Train Operators Procedures for Mainline Collisions:

11.5.3.1 Train Operators shall:

11.5.3.1.1 Secure the damaged cars on the train with handbrakes.

11.5.3.1.2 Direct the customers in the damaged cars to move to the unaffected portion of the train.

11.5.3.1.3 Keep the customers informed via the train public address system of conditions and the progress of establishing their evacuation procedure.

11.5.3.2 If third rail power was not faulted as a result of the collision, it should be kept on for customer safety and convenience and train movement. If there is any arcing between any part of a car and the third rail or if the possibility of fire exists, the Train Operator shall remove the third rail power immediately, in accordance with SOP #2.



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- 11.5.3.3 If fire is present, the Train Operator shall attempt to extinguish it using available fire extinguishing equipment, after third rail power has been removed, and it is safe to do so.
  
- 11.5.4 ROCC Supervisor Actions to be Taken for the Safety and Comfort of the Customers:
  - 11.5.4.1 Instruct the Rail Operations Supervisor to institute the customer evacuation procedure in accordance with SOP # 4 and conditions at the scene.
  
  - 11.5.4.2 Activate the ventilation system based on conditions at the scene.
  
  - 11.5.4.3 Arrange for public address announcements to be made to customers on trains and in stations.
  
  - 11.5.4.4 Instruct Train Operators of trains stopped between stations, where a train ahead is held in a station, to initiate train close-in procedure in accordance with SOP # 4.
  
  - 11.5.4.5 Request the assistance of the MTPD for crowd control at critical stations.
  
  - 11.5.4.6 Initiate operating procedures to relieve train congestion at the collision site by:
    - 11.5.4.6.1 Instituting terminal schedule adjustments.
  
    - 11.5.4.6.2 Instituting a single track operation.
  
    - 11.5.4.6.3 Turning trains on both sides of the collision site.
  
    - 11.5.4.6.4 Requesting Metrobus shuttle service.
  
  - 11.5.4.7 If the train is disabled between stations and the safety of the customers is endangered, the ROCC Supervisor shall instruct the Train Operator to secure the train with handbrakes and evacuate the customers in accordance with SOP # 4.



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### 11.5.5 Requesting Medical Assistance on Mainline:

11.5.5.1 Medical assistance for customers or employees shall be requested through the ROCC. The employee requesting medical assistance shall provide an estimate of the number of people requiring assistance, and if possible, arrange an escort for directing medical personnel to the collision site.

11.5.5.2 The ROCC Supervisor shall request aid through the Fire Department Communication Center, providing the station name, cross streets and location of the station entrance.

11.5.5.3 The names and addresses of the people requiring medical assistance, and the names of medical agencies and personnel shall be included in the accident report.

### 11.5.6 Removal of Damaged Cars from Mainline:

Only after release by Chief Safety Officer (CSO) or CSO's designee

11.5.6.1 Third rail power shall be removed from the involved track in accordance with SOP # 2 before the maintenance personnel can begin their operation.

11.5.6.2 The Rail Operations Supervisor shall arrange for proper flagging protection for the work group.

11.5.6.3 When the Track Supervisor in charge of the work group advises the Rail Operations Supervisor that train movement on the adjacent track is hazardous to the operation, the ROCC Supervisor shall immediately be informed.

11.5.6.4 The ROCC Supervisor shall suspend train service on the adjacent track for the duration of the operation and institute alternate means of maintaining service for customer convenience.

11.5.6.5 After the damaged cars have been prepared for removal, and any damage to track and wayside equipment has been repaired and approved for train movement by the Supervisors of ATC, Track, Plant Maintenance and Car Maintenance, the Rail Operations Supervisor shall alert all personnel in the area that third rail power restoration will be requested.



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11.5.6.6 After power has been restored and the damaged cars have been dispatched to the nearest siding or yard, the ROCC Supervisor shall provide a test train to be operated through the area at restricted speed (15 mph) in Mode 2.

11.5.7 Third Rail Power Restoration and Service Resumption:

11.5.7.1 When the Rail Operations Supervisor notifies the ROCC Supervisor that all personnel and equipment are in the clear and power can be restored, the ROCC Supervisor shall restore third rail power in accordance with SOP # 2.

11.5.7.2 After the Rail Operations Supervisor has ascertained that it is safe to resume train operation, the ROCC Supervisor shall be advised.

11.5.7.3 The ROCC Supervisor shall restore train service; notify all concerned Authority Departments and Station Managers on the affected lines.

11.5.8 Interlocking Operator Procedures for Collisions in a Yard:

When notified of a collision in a yard, the Interlocking Operator shall:

11.5.8.1 Stop all train movement in the section of the yard where the collision occurred.

11.5.8.2 Have the third rail power removed from the section of track involved and the adjacent tracks if necessary.

11.5.8.3 Notify the ROCC Supervisor.

11.5.8.4 Report any employee injury.

11.5.8.5 Report the presence of fire.

11.5.8.6 Notify CMNT Inspection Supervisor in the yard.

11.5.8.7 Investigate the collision and report back to the ROCC Supervisor.

11.5.9 ROCC Procedures for Collision in a Yard:



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- 11.5.9.1 On receipt of the notification of the collision from the Interlocking Operator, the ROCC Supervisor shall notify all concerned Authority departments, MTPD and the Fire Department Communication Center.
- 11.5.9.2 The ROCC Supervisor shall alert the Fire Department Communication Center of the collision and the location of the yard. They shall be advised that more pertinent information will be forthcoming when available.
- 11.5.9.3 When the second and more informative report is received at the ROCC, the ROCC Supervisor shall again notify the Fire Department Communication Center and advise them if their assistance is needed for employee injury or fire.
- 11.5.9.4 If their assistance is needed, they shall be advised of the location of the yard entrance. The Interlocking Operator shall be instructed to furnish an employee escort to direct the Fire Department personnel from the yard entrance to the collision site.
- 11.5.9.5 The Fire Department Communication Center shall be kept posted with updated information that might require their involvement.
- 11.5.10 Rail Operations Supervisor Procedures for Collisions in a Yard:
  - 11.5.10.1 The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the yard to investigate the collision in the yard.
  - 11.5.10.2 When dispatched to the collision scene the Rail Operations Supervisor shall establish communications with the Interlocking Operator. The Rail Operations Supervisor shall be governed by SOP # 1A.
  - 11.5.10.3 After establishing communications with the Interlocking Operator, the Rail Operations Supervisor shall inspect the operating cab of the train or trains involved and note any irregularities of the cab displays, the operating controls and the Operator's Circuit Breaker Panel.
  - 11.5.10.4 The Rail Operations Supervisor shall obtain a description of the train movements being made by the train or trains involved in the collision and any operating restrictions, from the Interlocking Operator.



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- 11.5.10.5 The Rail Operations Supervisor shall interview the Train Operator or Operators involved as to the cause of the collision and at the same time observe their physical appearance and general behavior to determine their fitness to operate.
- 11.5.10.6 After investigating the collision, the Rail Operations Supervisor shall provide the ROCC Supervisor with an informative report regarding the following:
  - 11.5.10.6.1 Any irregularities found in the operating cabs.
  - 11.5.10.6.2 Braking capability of the cars being moved.
  - 11.5.10.6.3 Description of the train movement as furnished by the Interlocking Operator.
  - 11.5.10.6.4 Cause of the collision as furnished by the Train Operators, and their fitness to operate.
  - 11.5.10.6.5 Presence and length of fresh skid marks on the running rails indicating an emergency application of the brakes.
  - 11.5.10.6.6 Rail conditions such as wet, slick, oil covered.
  - 11.5.10.6.7 Evidence of a track switch run – through.
  - 11.5.10.6.8 Number of trucks derailed.
  - 11.5.10.6.9 Impact of collision or derailment on train movement in the yard.
  - 11.5.10.6.10 Effect on car availability for peak hour service.
  - 11.5.10.6.11 Any other pertinent information relative to the collision.
- 11.5.11 Requesting Medical Assistance in the Yard:
  - 11.5.11.1 Medical assistance shall be requested through the ROCC. The employee requesting medical assistance shall provide an estimate of the number of people requiring assistance. An employee escort shall be provided to escort the medical personnel from the yard entrance to the people needing their assistance.



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11.5.11.2 The ROCC Supervisor shall request aid through the Fire Department Communication Center furnishing them the required information, the location of the yard and the location of the yard entrance.

11.5.11.3 The names and addresses of the people requiring medical assistance and the names of the medical agencies and personnel shall be included in the accident report.

11.5.12 Availability of Revenue Cars for Service:

11.5.12.1 If the collision prevents the Interlocking Operator from meeting car requirements for revenue service, the ROCC Supervisor shall be notified.

11.5.12.2 The ROCC Supervisor shall arrange for excess cars to be transferred from other yards if there is sufficient time, otherwise the yard and terminal supervisors of the affected lines shall be instructed to institute terminal schedule adjustments to establish a uniform extended headway.

11.5.13 Restoration of Yard Service:

11.5.13.1 When the damaged cars are safely secured and any damage to track and other wayside equipment has been repaired and approved for safe train movement by the Supervisors of ATC, Track, Plant Maintenance and Car Maintenance, and all personnel in the area have been alerted that third rail power will be restored, the Interlocking Operator shall request the restoration of power to the tracks from which it was removed.

11.5.13.2 The Interlocking Operator shall notify the ROCC Supervisor when normal yard operation has resumed. The ROCC Supervisor shall notify all concerned Authority departments.

### 11.6 REFERENCE

11.6.1 SOP # 1A

11.6.2 SOP # 2

11.6.3 SOP # 4

11.6.4 SOP # 10





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### SOP #14 BOMB THREAT/SUSPICIOUS PACKAGE/UNATTENDED PACKAGE

#### 14.1 PURPOSE

The purpose of the Standard Operating Procedure is to provide guidance to Authority personnel on how to handle Bomb Threats and the handling of suspicious/unattended package(s) or item(s).

#### 14.2 SCOPE

This SOP is applicable to all WMATA personnel and contractors.

#### 14.3 DEFINITIONS

14.3.1 **Bomb Threat:** Any form of communication which relays a threat to cause harm/injury/death or destruction to any person, place, or thing by the means of an explosive or an incendiary device as defined by the Bureau of Alcohol, Tobacco, and Firearms (ATF), a federal agency.

14.3.2 **Package, Suspicious:** Any package, based on the totality of the circumstances, which may not belong in the environment in which it has been located. Furthermore, any action or circumstance that makes the package suspicious; e.g., packages that are witnessed to have been purposely abandoned, backpacks or bags left in a secure area, and items that by their mere existence cannot be logically explained.

14.3.3 **Packages/Items, Unattended:** Any item, which when looking at the totality of the circumstances, would normally be present in the environment in which the item was found; e.g., a briefcase left in a conference room or a beverage cooler at a football game.

#### 14.4 RESPONSIBILITIES

14.4.1 It is the responsibility of all WMATA personnel for being knowledgeable of and complying with this SOP.

14.4.2 Any employee receiving a call/note of a Bomb Threat will notify MTPD without delay and provide information in section 14.5.1. Such employee will make him/herself available for an interview by MTPD.

14.4.3 Employees discovering suspicious package(s)/object(s) will not touch, move or otherwise disturb the item(s) pending examination and clearance by appropriate police/fire personnel and be guided by SOP # 1A.



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14.5 PROCEDURES

Procedure #	Content
14.5.1	Employees Receiving a Call of a Bomb Threat
14.5.2	Notifications
14.5.3	Known Location of a Bomb Threat
14.5.4	When the Location of a Bomb Threat is Unknown
14.5.5	Inspection
14.5.6	ROCC Actions and Instructions
14.5.7	Resumption of Normal Service
14.5.8	Report of Suspicious Package
14.5.9	Report of an Unattended Package

14.5.1 Employees Receiving a Call of a Bomb Threat:

14.5.1.1 Employees receiving a call of a Bomb Threat will attempt to obtain as much information as the caller will divulge, including the following:

- Location of the bomb
- Scheduled time of detonation
- Description of the bomb
- Type of bomb
- Name, age, sex, and description of the person calling.
- Exact Location and phone number of where the person is calling from
- Reason why the person is making such threat

14.5.1.2 The Bomb Threat Call Checklist will be used, if available, to document the threat.

14.5.1.3 Employees will report without delay any Bomb Threat call that they receive to the MTPD through ROCC or by telephone on 202-962-2121.

14.5.1.4 MTPD will be responsible for the overall coordination of Bomb Threat or related incidents. If local police and/or Fire Department personnel are required to respond the threat location, MTPD will be the WMATA OSC per SOP # 1A.

14.5.1.5 MTPD is responsible for determining if facilities are to be evacuated or closed.



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### 14.5.2 Notifications:

- 14.5.2.1 MTPD Communications Division will notify the Chief of Police, ROCC or BOCC of such a threat. MTPD will dispatch appropriate personnel.
- 14.5.2.2 The MTPD Chief of Police is the only person authorized to close a Rail Station because of a Bomb Threat, when MTPD, the jurisdictional Fire Department, or jurisdictional Police Department is not on the scene of a Bomb Threat location.
- 14.5.2.3 ROCC and BOCC will keep a Bomb Threat incident in a “as need to know” basis. It is imperative to keep this type of event confidential so as to not cause an undue scare/stress to employees and customers. Bomb Threat information may be passed on to appropriate personnel only.
- 14.5.2.4 Employees discovering a suspicious or unattended package shall communicate on a “as need to know” basis. It is imperative to keep this type of event confidential so as to not cause an undue scare/stress to employees and customers. Suspicious or unattended package information may be passed on to appropriate personnel only.

### 14.5.3 Known Location of a Bomb Threat:

- 14.5.3.1 When a Bomb Threat is reported on an identified train, ROCC will instruct the Train Operator to proceed to the nearest station, unload the train of customers and secure it with the doors open for inspection by the police.
- 14.5.3.2 ROCC will instruct Train Operators approaching the station on the adjacent track to stop outside the station and await further instructions.
- 14.5.3.3 When a Bomb Threat is reported in an identified station and directions are given from command personnel to evacuate, the ROCC will make prescribed public address announcements instructing customers to leave the station.
- 14.5.3.4 Depending on the reported Bomb Threat location in the station, ROCC may order Train Operators approaching the station to stop. Train Operators already in the station will be permitted to continue out of the station in normal service.



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- 14.5.3.5 When a Bomb Threat is reported on the Roadway, ROCC will order Train Operators on both tracks approaching the reported Bomb Threat location to stop their trains prior to reaching the affected area and await further instructions.
- 14.5.3.6 Employees discovering suspicious package(s)/object(s) will refer to 14.4.3.
- 14.5.3.7 Train Operators within or approaching a reported Bomb Threat location, and any employees equipped with portable radios and cell phones that are in the vicinity of discovered suspicious package(s)/object(s) will discontinue all radio transmissions. If it becomes necessary to transmit by portable radio or by cell phone, a minimum distance of 150 feet must be maintained between the suspicious package(s)/object(s) and the radio transmitter.
- 14.5.4 When the Location of a Bomb Threat is Unknown:
- 14.5.4.1 When a Bomb Threat is received and the location and time are not given, ROCC will issue the following instructions:
- 14.5.4.1.1 Station Managers will inspect stations for any unattended package(s)/object(s).
- 14.5.4.1.2 Employees may be requested to inspect all train cars arriving at terminals for unattended package(s)/object(s).
- 14.5.4.1.3 Train Operators will observe the Roadway for unusual package(s)/object(s).
- 14.5.4.1.4 Employees discovering suspicious package(s)/object(s) will refer to 14.4.3.
- 14.5.5 Inspection:
- Third rail power may be removed to permit qualified persons to inspect a reported Bomb Threat location. ROCC will ensure that all non-affected trains have departed the area before removing third rail power.
- 14.5.6 ROCC Actions and Instructions:
- 14.5.6.1 ROCC will initiate operating procedures to ease train congestion by turning trains, initiating a single track operation, or request Metro Bus shuttle service.



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14.5.6.2 When a prolonged delay in service is anticipated, ROCC may turn trains at both ends of the suspected area and initiate terminal adjustments to ease train congestion.

14.5.7 Resumption of Normal Service:

14.5.7.1 When the threat is neutralized by authorized personnel the On Scene Commander will notify ROCC that it is safe to start recovery operations.

14.5.7.2 ROCC will:

14.5.7.2.1 Request a restoration of third rail power after all persons are in the clear and aware that power is to be restored.

14.5.7.2.2 Restore normal train service and notify all concerned departments.

14.5.8 Report of a Suspicious Package:

14.5.8.1 Stop train at next station

14.5.8.2 Send Rail Transportation or Metro Transit personnel to evaluate the item.

14.5.8.3 Rail Transportation or Metro Transit personnel shall report findings to ROCC.

14.5.8.4 If the item is deemed suspicious, ROCC shall:

14.5.8.4.1 Hold train in place.

14.5.8.4.2 Evacuate customers from train/station.

14.5.8.4.3 Notify MTPD and be guided by their instructions.

14.5.8.5 If Item is deemed unattended, follow steps stated in 14.5.9

14.5.9 Report of an Unattended Package

14.5.9.1 Stop train at the next station.

14.5.9.2 Send Rail Transportation or Metro Transit personnel to evaluate item.

14.5.9.3 Rail Transportation or Metro Transit personnel shall report findings to ROCC.



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14.5.9.4 If the item is deemed unattended, ROCC shall:

14.5.9.4.1 Dispatch Station Manager to collect unattended item.

14.5.9.4.2 Move train normally.

14.5.9.4.3 Treat the article as a lost and found item.

14.5.9.5 If deemed suspicious, follow steps in 14.5.8

**14.6 REFERENCE**

SOP # 1A



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**SOP # 27 FLAMMABLE VAPOR ALARM**

**27.1 PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures when a flammable vapor alarm is received.

**27.2 SCOPE**

This SOP is applicable to all WMATA personnel involved in the movement of rail vehicles of any type and the maintenance departments responsible for the maintenance and testing of the flammable vapor alarm system. Also, all non-WMATA personnel actively participating in emergency operations in connection with a flammable vapor alarm.

**27.3 DEFINITIONS**

27.3.1 Flammable Vapor Sensing Devices: Flammable vapor sensing devices are located along the roadway in areas where the possibility of a gasoline spill or flammable gas leak exists. These sensors, when activated, send alarms to the Operations Control Center (ROCC) indicating two separate concentration levels of flammable vapor.

27.3.2 FVD ALARM: Indicates a concentration level of flammable vapor of 60%.

27.3.3 FVD WARNING: Indicates a concentration level of flammable vapor of 20%.

27.3.4 Locations: The areas where flammable vapor sensing devices are located along the roadway are listed below:

Potomac Yard Track #2 423+50 to 469+67	Braddock Road Track #2 490+25 to 491+75
Braddock Road Tracks #1 and #2 505+00 to 514+64	King Street Tracks #1 and #2 578+92 to 582+50
Gallery Place Fan Shaft 7+97 – G St. between 9 <sup>th</sup> and 10 <sup>th</sup> St., N.W.	Gallery Place Vent Shaft 9+87 – G St. between 9 <sup>th</sup> and 10 <sup>th</sup> St., N.W.
Gallery Place Vent Shaft 11+01 – G St. between 9 <sup>th</sup> and 10 <sup>th</sup> St., N.W.	Rosslyn Vent Shaft 144=93 – Intersection of Wilson Blvd. & North Lynn Street





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### 27.4 RESPONSIBILITIES

- 27.4.1 The ROCC Supervisor is responsible for supervising and coordinating the implementation of this SOP.
- 27.4.2 The ROCC Supervisor shall ensure that all notifications are made as required in this SOP.
- 27.4.3 All WMATA Employees shall ensure that all procedures in SOP # 1A are followed.

### 27.5 PROCEDURES

Procedures #	Content
27.5.1	FVD WARNING Validation
27.5.2	ROCC Supervisor Procedures for FVD WARNING
27.5.3	ROCC Supervisor Procedures for FVD ALARM
27.5.4	Third Rail Power Restoration and Service Resumption

#### 27.5.1 FVD WARNING Validation:

Upon receiving an "FVD WARNING", the ROCC Supervisor shall notify MOC and request that an investigation be conducted to determine the validity of the WARNING and report their findings to the ROCC Supervisor.

#### 27.5.2 ROCC Supervisor Procedures for FVD WARNING:

If notified that the FVD WARNING is valid, the ROCC Supervisor shall:

- 27.5.2.1 Dispatch a Rail Operations Supervisor to the affected area to investigate for combustible vapors.
- 27.5.2.2 Advise MOC to reset equipment and to have personnel standby at the location.
- 27.5.2.3 Notify the Fire Department Communication Center, advise them of the problem and request their assistance. The following information shall be provided:



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- 27.5.2.3.1 Identification of the caller.
- 27.5.2.3.2 Line and location of the alarmed condition.
- 27.5.2.3.3 Adjacent stations including the cross streets and locations of the station entrances and emergency exits.
- 27.5.2.4 Notify the Transit Police and request a surface investigation. The Transit Police shall report the observed conditions to the Operations Control Center, and remain at the scene to prevent accidental ignition of flammable materials.
- 27.5.2.5 Keep the Fire Department Communication Center informed with updated information as it becomes available.
- 27.5.2.6 Activate the ventilation system based on conditions at the scene.
- 27.5.3 ROCC Supervisor Procedures for FVD ALARM:
  - Upon receiving an "FVD ALARM", the ROCC Supervisor shall:
    - 27.5.3.1 Instruct Train Operators of trains approaching the affected area to stop their trains in stations in approach to the area keep the doors open and await further instructions.
    - 27.5.3.2 If the alarm is at an above ground location the ROCC Supervisor shall:
      - 27.5.3.2.1 Instruct the Train closest to the affected area to off-load passengers in the station.
      - 27.5.3.2.2 Proceed at restricted speed (15 mph or as directed by ROCC) through the affected area investigating for any possible cause of the alarm.
    - 27.5.3.3 If the alarm is in or near a tunnel location the ROCC Supervisor shall:
      - 27.5.3.3.1 Instruct the Train closest to the affected area to off-load passengers in the station.
      - 27.5.3.3.2 Proceed at restricted speed (15 mph or as directed by ROCC Supervisor) to the affected area.
      - 27.5.3.3.3 Stop the train prior to entering the tunnel.
      - 27.5.3.3.4 Once the train is stopped, the Train Operator shall advise ROCC Supervisor and secure the train.



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- 27.5.3.3.5 The ROCC Supervisor shall then remove third rail power in accordance with SOP # 2.
- 27.5.3.3.6 After third Rail Power is de-energized, the Train Operator shall investigate the area on foot.
- 27.5.3.3.7 ROCC Supervisor shall advise the Train Operator not to smoke or cause any sparks or flames during this time.
- 27.5.3.4 Notify the Fire Department Communication Center, inform them of the problem and that personnel are investigating.
- 27.5.3.5 Notify MOC and request that an investigation be conducted.
- 27.5.3.6 Notify all concerned Authority departments and Station Managers on the affected lines.
- 27.5.3.7 If the FVD ALARM is found to be false, normal service shall be resumed, as soon as possible.
- 27.5.3.8 If notified that the FVD ALARM is valid, the ROCC Supervisor shall:
  - 27.5.3.8.1 If the FVD ALARM is at an above ground location, instruct the Train Operator of the investigating train to operate the train to the next station.
  - 27.5.3.8.2 After the investigating train is back in the station, remove third rail power in the affected area in accordance with SOP # 2.
  - 27.5.3.8.3 If the ALARM is in or near a tunnel location, instruct the Train Operator to standby until relieved by a Rail Operations Supervisor.
- 27.5.3.9 Notify the Fire Department Communication Center, advise them of the problem and request their assistance. The following information shall be provided:
  - 27.5.3.9.1 Identification of the caller.
  - 27.5.3.9.2 Line and location of the alarmed condition.
  - 27.5.3.9.3 Adjacent stations including the cross streets and locations of the station entrances and emergency exits.



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- 27.5.3.10 Notify the Transit Police and request a surface investigation. The Transit Police shall report the observed conditions to the Operations Control Center and remain at the scene to prevent accidental ignition of flammable materials.
- 27.5.3.11 Keep the Fire Department Communication Center informed with updated information as it becomes available.
- 27.5.3.12 Keep all concerned Authority departments and Station Managers on the affected lines updated on the situation.
- 27.5.3.13 Initiate operating procedures to ease train congestion by turning trains, and requesting Metrobus shuttle service.
- 27.5.3.14 Institute terminal schedule adjustment to further ease train congestion.
- 27.5.3.15 Activate the ventilation system based on conditions at the scene.
- 27.5.3.16 The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the scene of a valid FVD ALARM.
- 27.5.3.17 The Rail Operations Supervisor Shall:
  - 27.5.3.17.1 Establish communications with the Operations Control Center and the senior Fire Department official at the scene, and act as the Authority's On Scene Commander (OSC), until MTPD arrives on the scene.
  - 27.5.3.17.2 Be responsible for coordinating all Authority activities and cooperating with the Fire Department and other public safety agencies.
- 27.5.4 Third Rail Power Restoration and Service Resumption:

Third rail power shall be restored after the Rail Operations Supervisor at the scene has notified the ROCC Supervisor of the following conditions.

  - 27.5.4.1 The Flammable Vapor Detector Control Unit located in the Station Communications Equipment Room does not indicate the presence of combustible gases at any detector location.
  - 27.5.4.2 The senior fire official has verified that the source of the flammable vapors has been eliminated, accumulation of flammable vapors has been exhausted from the systems, and associated flammable liquids have been removed from the system.



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- 27.5.4.3 The senior fire official has cleared the scene of Fire Department personnel and authorized the system to be placed back in operation.
- 27.5.4.4 All other public agency personnel have left the scene.
- 27.5.4.5 Remaining employees are clear and have been alerted that power will be restored.
- 27.5.4.6 The ROCC Supervisor shall restore third rail power in accordance with SOP # 2.
- 27.5.4.7 After the Rail Operations Supervisor has ascertained that it is safe to resume normal operations, the ROCC Supervisor shall be advised.
- 27.5.4.8 The ROCC Supervisor shall reestablish normal train services and notify all concerned Authority departments and Stations Managers on the affected lines.

### **27.6 REFERENCES**

- 27.6.1 SOP # 1A
- 27.6.2 SOP # 2



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**SOP #31 COORDINATION OF AN EMERGENCY IN A COMMON CORRIDOR**

**31.1 PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures during an emergency in a common corridor.

**31.2 SCOPE**

This SOP is applicable to all WMATA personnel involved in the movement of rail vehicles of any type and the maintenance departments responsible for the maintenance and testing of the IDW and associated systems. Also, all non-WMATA personnel actively participating in emergency operations in the common corridor.

**31.3 DEFINITIONS**

31.3.1 A common corridor is a section of Metrorail Tracks alongside or between Railroad Mainline Tracks, Railroad Yard Tracks, or Highway Traffic Lanes/Roads.

31.3.2 Metrorail Common Corridors are:

31.3.2.1 A-Route;

31.3.2.1.1 Where Metrorail Track #2 is alongside the CST Railroad Mainline Tracks from approximately Station A673+50 to Station A949+94 (from the portal between the White Flint and Twinbrook Stations to the Shady Grove Station Track #2).

31.3.2.1.2 Where Metrorail Track #1 is alongside Hungerford Drive (Rt. 355) from Station A850+30 to A879+10 (Track #1).

31.3.2.1.3 Where Metrorail Tracks are alongside the CST siding at Twinbrook from Station A674+00 to A690+00 (Track #1).

31.3.2.2 B-Route;

31.3.2.2.1 Where Metrorail Tracks #1 and #2 are between the CST Railroad Mainline.

31.3.2.2.2 Tracks from approximately Station B 187+00 to Station B480+85 (from Rhode Island Avenue Station to Silver Spring Station).



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### 31.3.2.3 C-Route;

31.3.2.3.1 Where Metrorail Track #2 is alongside the RF&P Railroad Yard from approximately Station C407+00 to Station C465+85 (south of National Airport Station to approximately midway between National Airport and Braddock Road Stations).

31.3.2.3.2 From track #1 Station 505+52 to 509+50 at Braddock Road, from approximately Station C 519+44 to Station C569+85 (north of Braddock Road Station to the portal south of King Street Station) and;

31.3.2.3.3 From C2574+35 to C2579+50 adjacent to the J-Route at the C&J Connector.

### 31.3.2.4 D-Route;

31.3.2.4.1 Where Metrorail tracks #1 & #2 from Minnesota Avenue to between Deanwood and Cheverly are alongside or between CST, CONRAIL, and AMTRAK Mainline Tracks from approximately Station D309+50 to Station D398+58.

31.3.2.4.2 Where Metrorail tracks #1 & #2 from Cheverly to Landover approximately Station D420+29 to Station D460+70 are between AMTRAK/CONRAIL Mainline Tracks.

31.3.2.4.3 Where Metrorail track #2 between Cheverly and New Carrollton Yard approximately Station D477+44 to Station D608+58 is alongside the AMTRAK/CONRAIL Mainline Tracks.

### 31.3.2.5 E-Route;

Where Metrorail track #2 between from College Park to Greenbelt Station E2-594+00 to E2-757+54 is alongside CST tracks.

### 31.3.2.6 J-Route;

31.3.2.6.1 Where Metrorail Tracks are alongside RF&P Mainline Tracks from approximately Station J2502+50 to Station J2507+50 adjacent to C2574+00 to C2579+00 at the C&J Connector.

31.3.2.6.2 Where Metrorail tracks are alongside RF&P Mainline Tracks from approximately Station J1675+00 to Station J1704+75 on track #1 and from approximately Station J2519+00 to Station J2655+00 on track #2.



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### 31.3.2.7 K-Route;

Where Metrorail Tracks are between the vehicle traffic lanes of Interstate Highway Route 66 from approximately Station K310+07 to Station K776+00 (from between Ballston Station and East Falls Church Station to Vienna Station).

31.3.3 An emergency in the common corridor could be an intrusion of either WMATA Equipment, Railroad Equipment, or Highway Vehicles into the Roadway of the other; or a fire, derailment, or other event that could impede or endanger operations.

31.3.4 The Intrusion Detection and Warning System consists of breakable cables which are attached to the chain link fences which separate the Metrorail Tracks, Railroad Tracks, or Vehicle Traffic Road, along the Metrorail Roadway; type-over boxes which are mounted at intervals to the fence posts; control panels located in the Train Control Rooms; and Train Alarm CRT's located in the Operations Control Center (ROCC). The IDW system will indicate the location of an intrusion of WMATA Equipment, Railroad Equipment, or Road Vehicles which impact or penetrate the fence and intrude into the Roadway of the other. In addition, the IDW is tied to the Train Control Room to initiate zeros Deed commands in track circuits in the affected area to stop trains in the immediate vicinity.

31.3.5 On the B-Route, WMATA fence alarm indications are sent to a display panel in the CST QN Tower when an intrusion has been detected. The IDW system on the B-Route also transmits warnings to ROCC when CST has detected dragging equipment/derailment on their tracks using a system consisting of a brittle bar mounted on the ties.

31.3.6 Dedicated telephone lines and the hot line telephones from the WMATA ROCC Consoles which connect WMATA to the other authorities that jointly share a common corridor and the jurisdictional Fire and Rescue Departments, to allow a coordinated response to any common corridor emergency.

## 31.4 RESPONSIBILITIES

31.4.1 ROCC Supervisors are responsible for following the procedures in SOP 31 regarding IDW alarms and testing.

31.4.2 WMATA employees shall notify ROCC when aware of an emergency in a common corridor.





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**31.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
31.5.1	Notification and Response Procedures
31.5.2	False Activation Procedures
31.5.3	Testing

31.5.1 Notification and Response Procedures:

31.5.1.1 The IDW System provides immediate notification and warning to ROCC if an intrusion occurs from a penetration of WMATA's fence. ROCC will receive an audible alarm and a visual alarm when an intrusion occurs. The visual alarm will appear on the ROCC Train Alarm CRT, which will display the time of the alarm, the Station designation, the hazard, the IDW zone, and the WMATA track where the intrusion occurred.

31.5.1.2 The following diagrams located in the Metrorail Emergency Response Maps book show the intrusion zones by Station, Track Number and Zone Number:



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

A-Route; Twinbrook, Rockville and Shady Grove along the CST track, and Frederick Road and Hungerford Drive (Rt. 355), along the highway and Twinbrook along the CST siding (Figures 1 and 2).

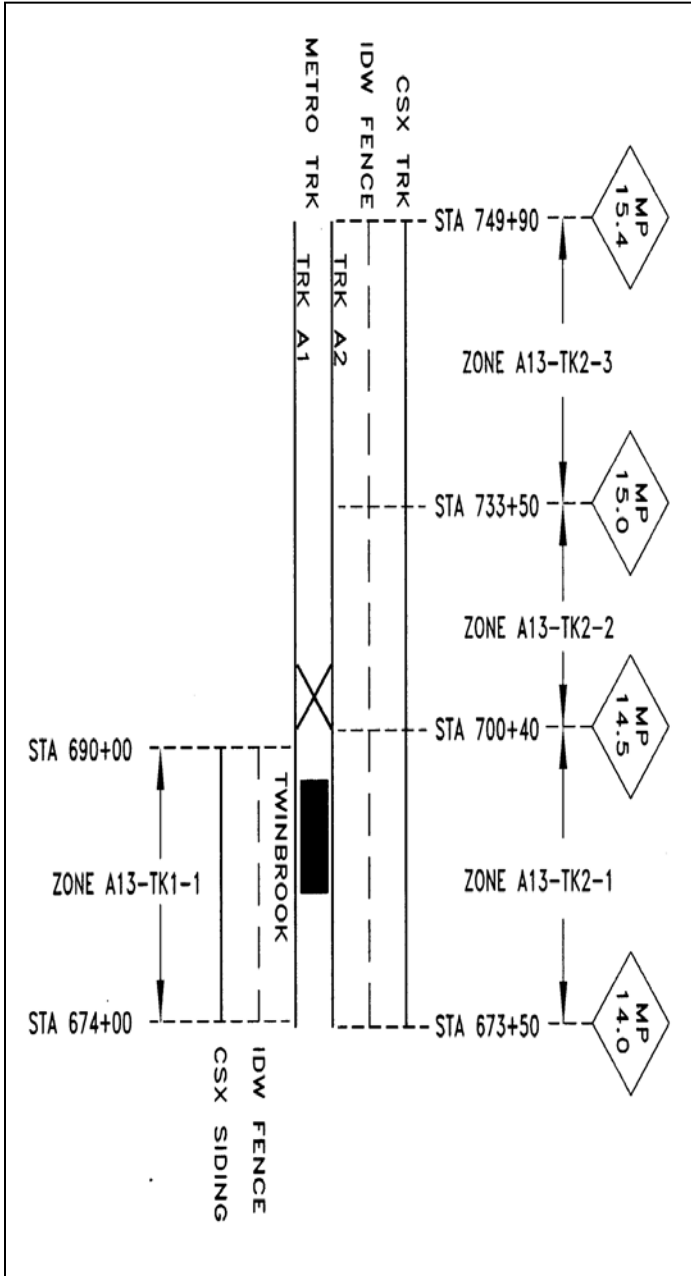


Figure 1: Twin Brook

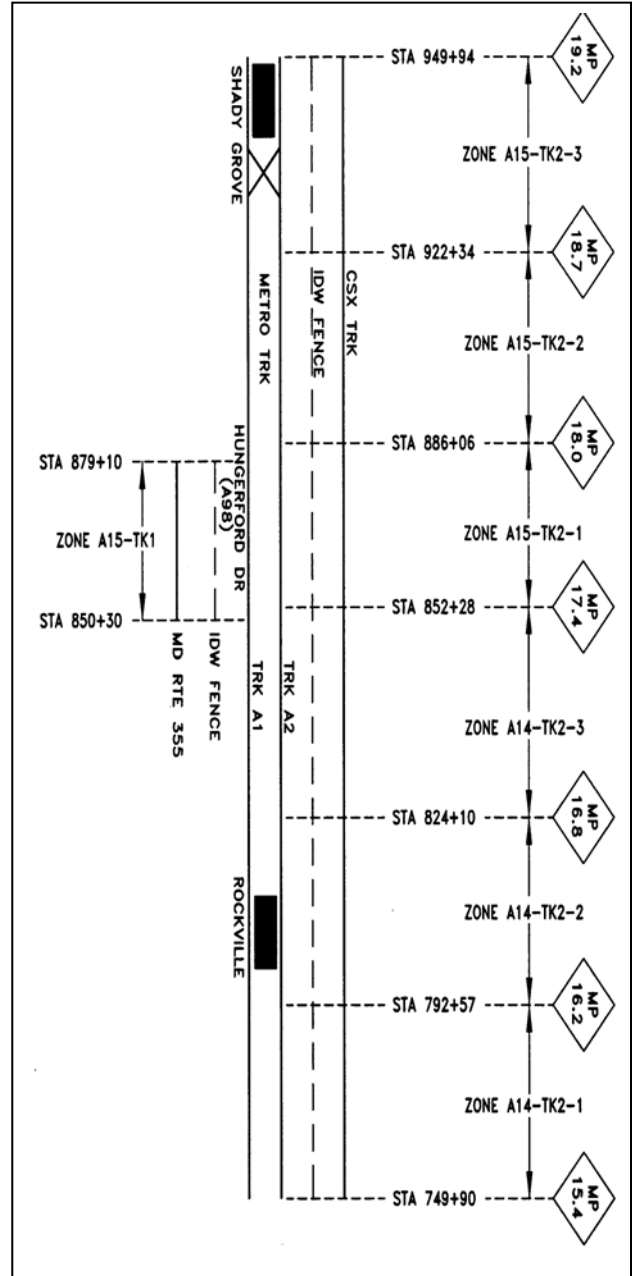


Figure 2: Shady Grove, Rockville



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

B-Route; Brookland, Fort Totten, Takoma and Silver Spring Stations, (CST Dragging Equipment/Derailment Detector Zones are also shown on this drawing with CST's milepost markings) (Figures 3 and 4).

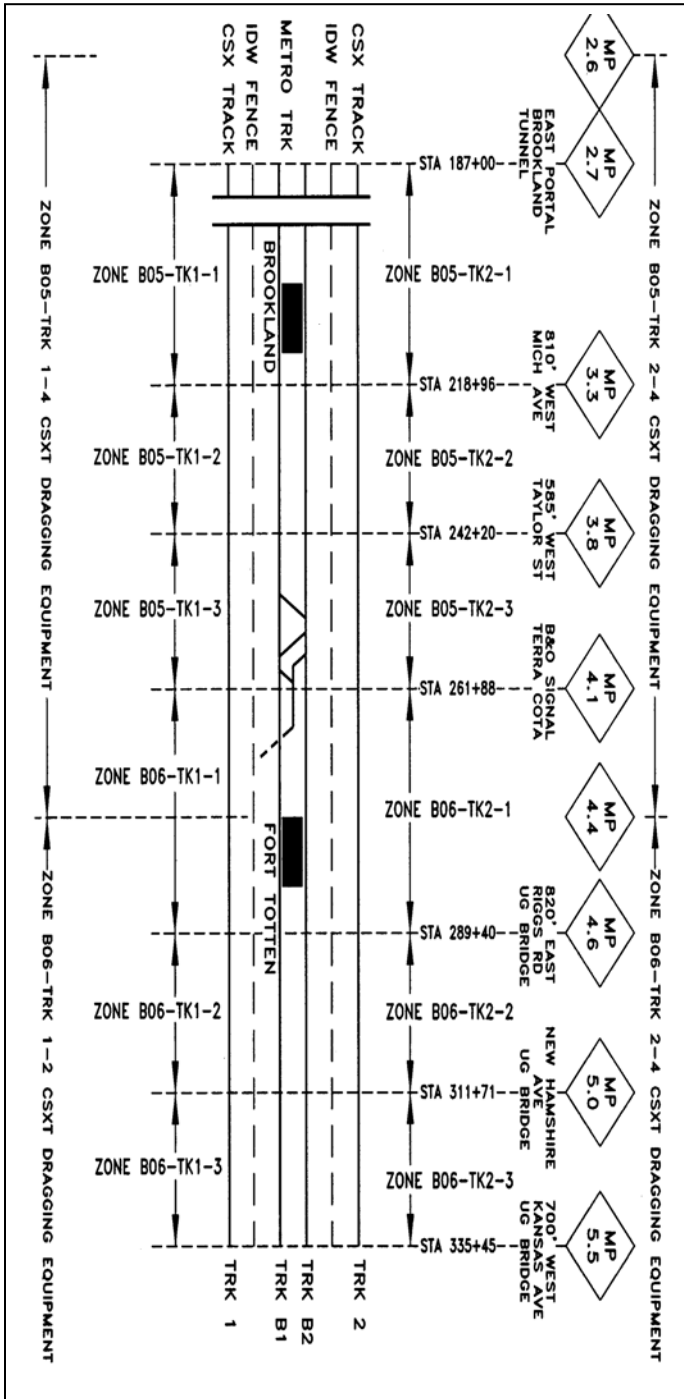


Figure 3: Brookland, Fort Totten

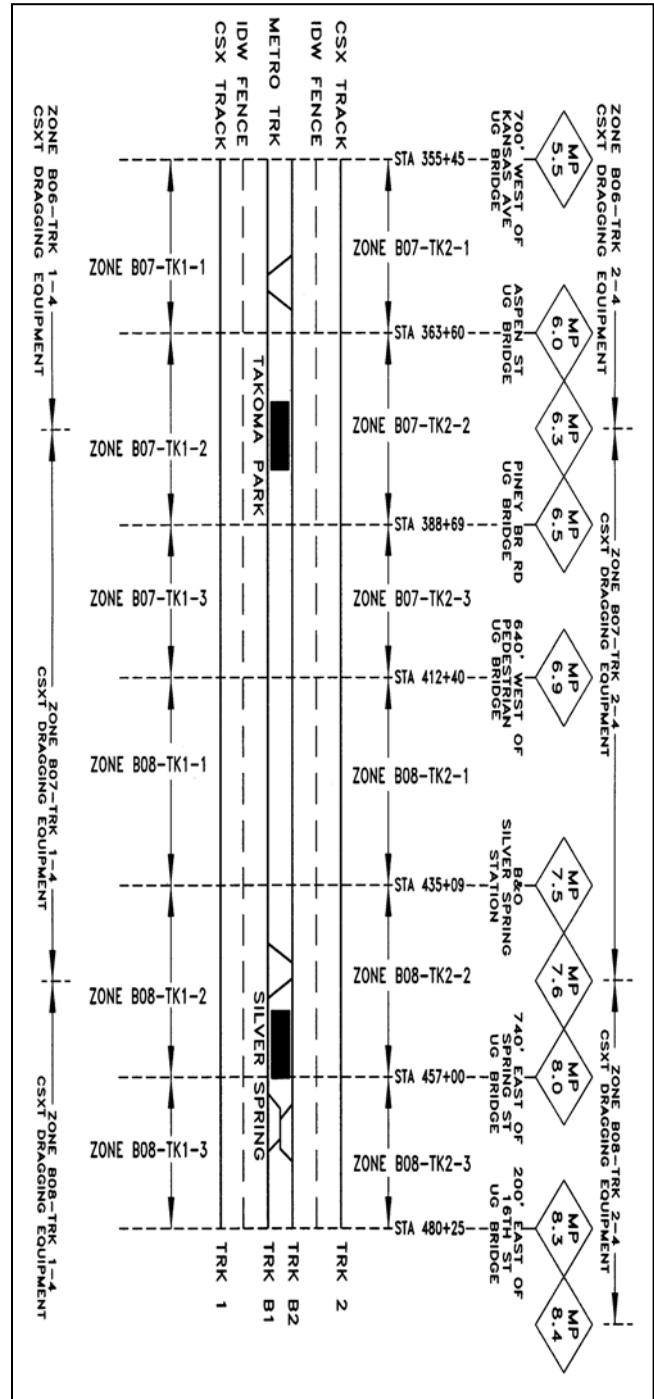


Figure 4: Takoma, Silver Spring



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

C-Route; Potomac Yard, Braddock Road and King Street Stations  
(Figures 5 and 6).

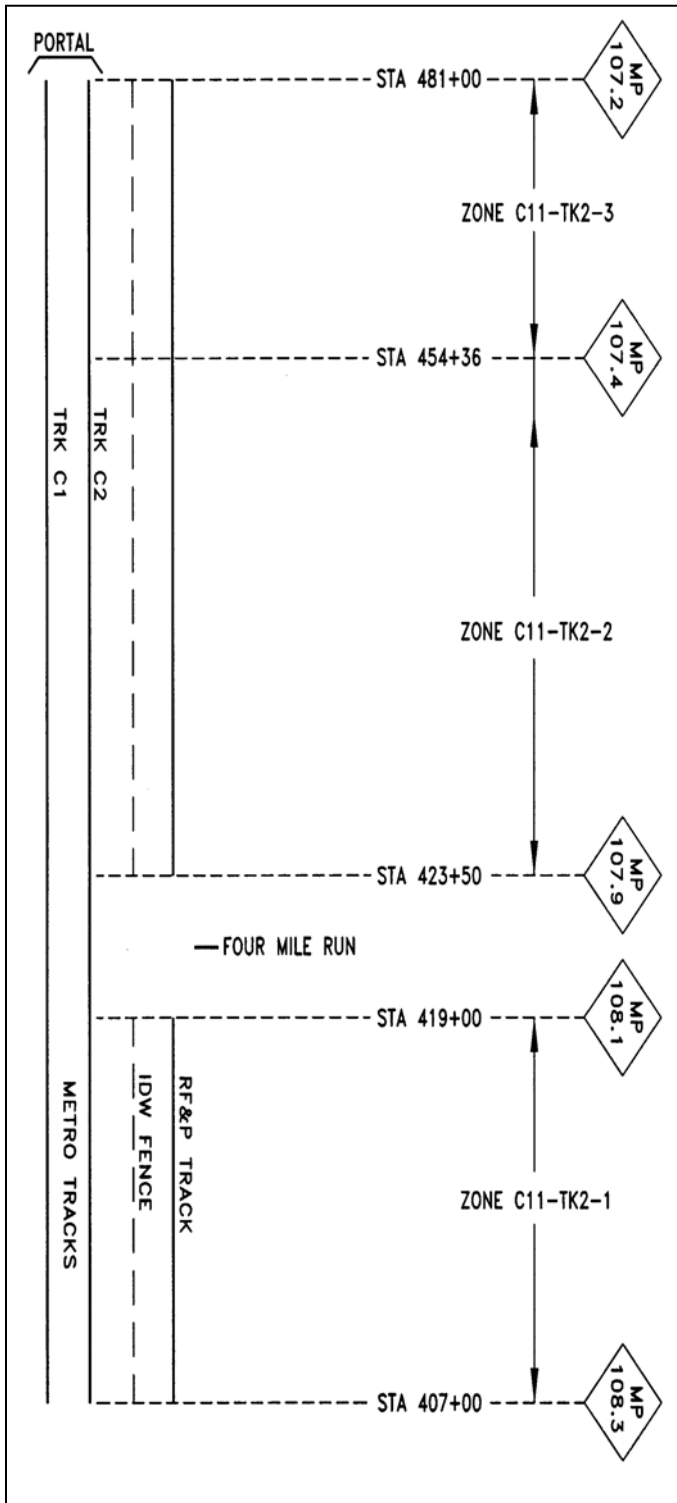


Figure 5: Potomac Yard

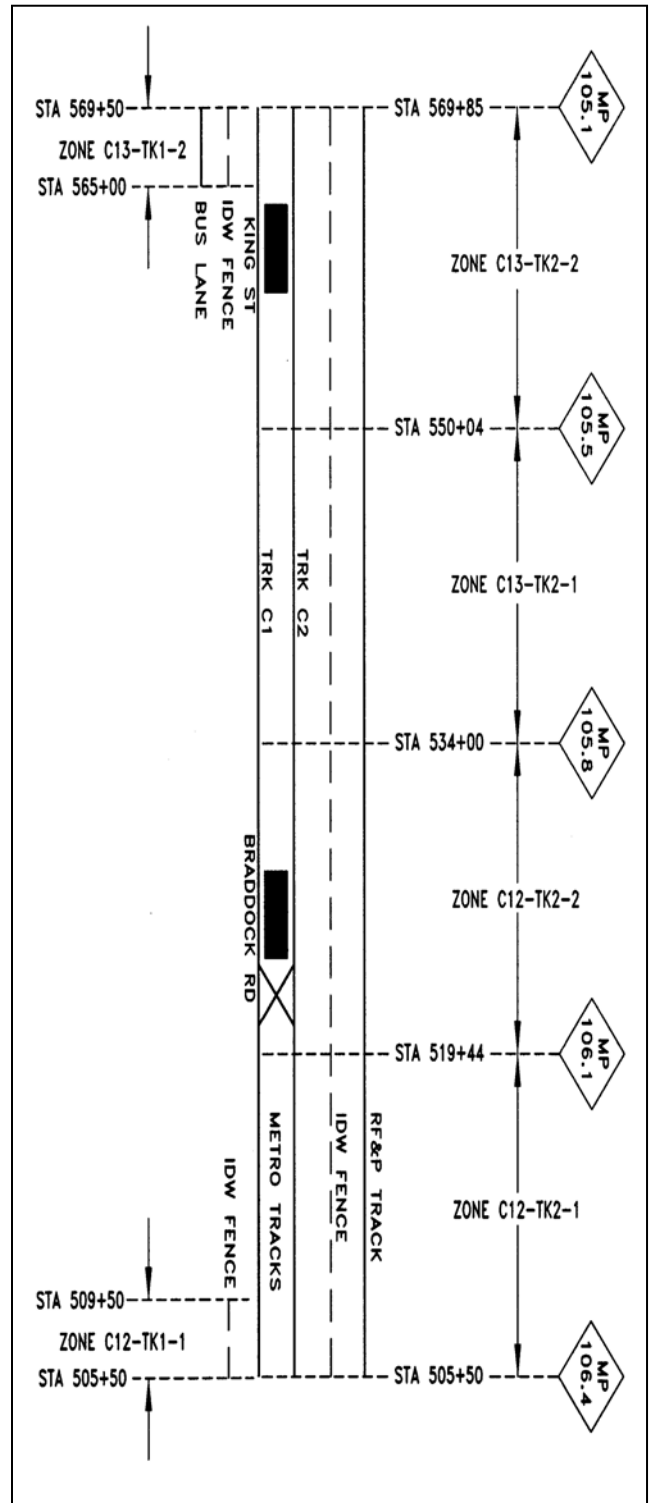


Figure 6: Braddock Road, King Street



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

C&J Connector track; J-Route; Van Dorn Station (Figures 7 and 8).

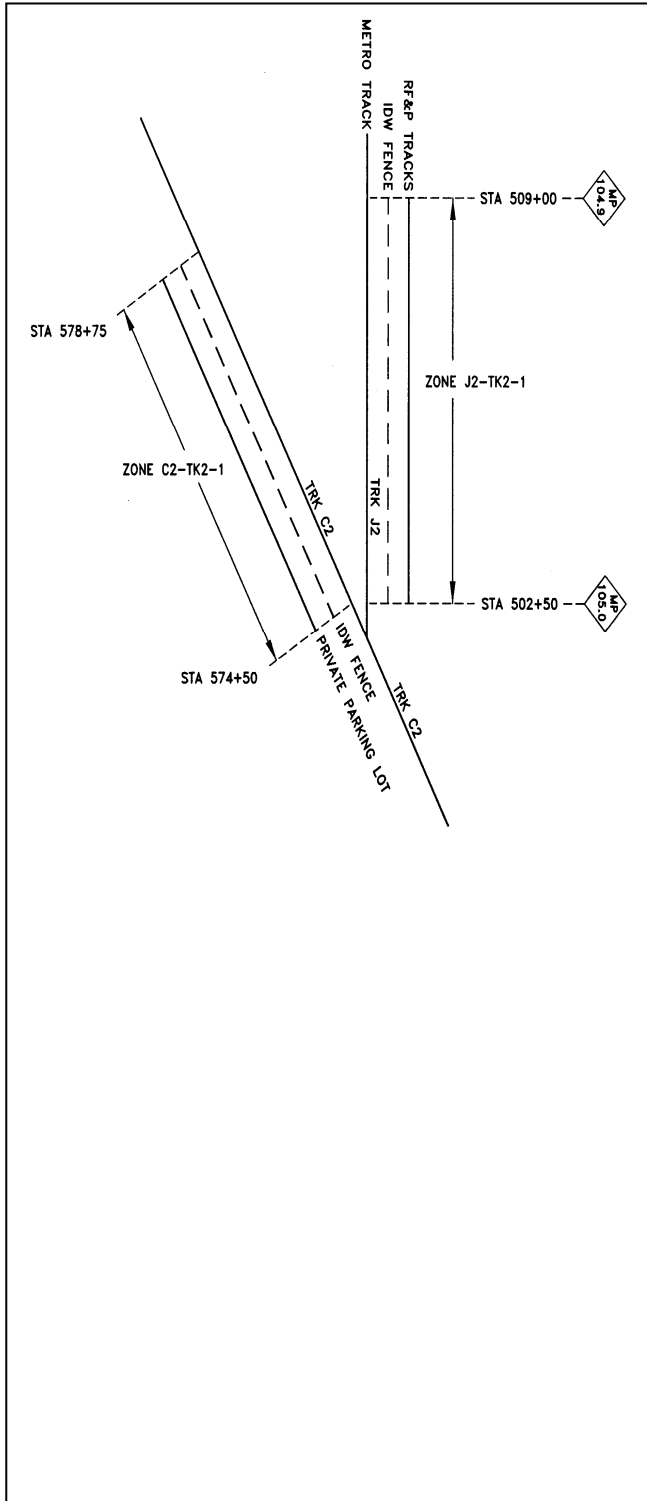


Figure 7: C&J Connector track

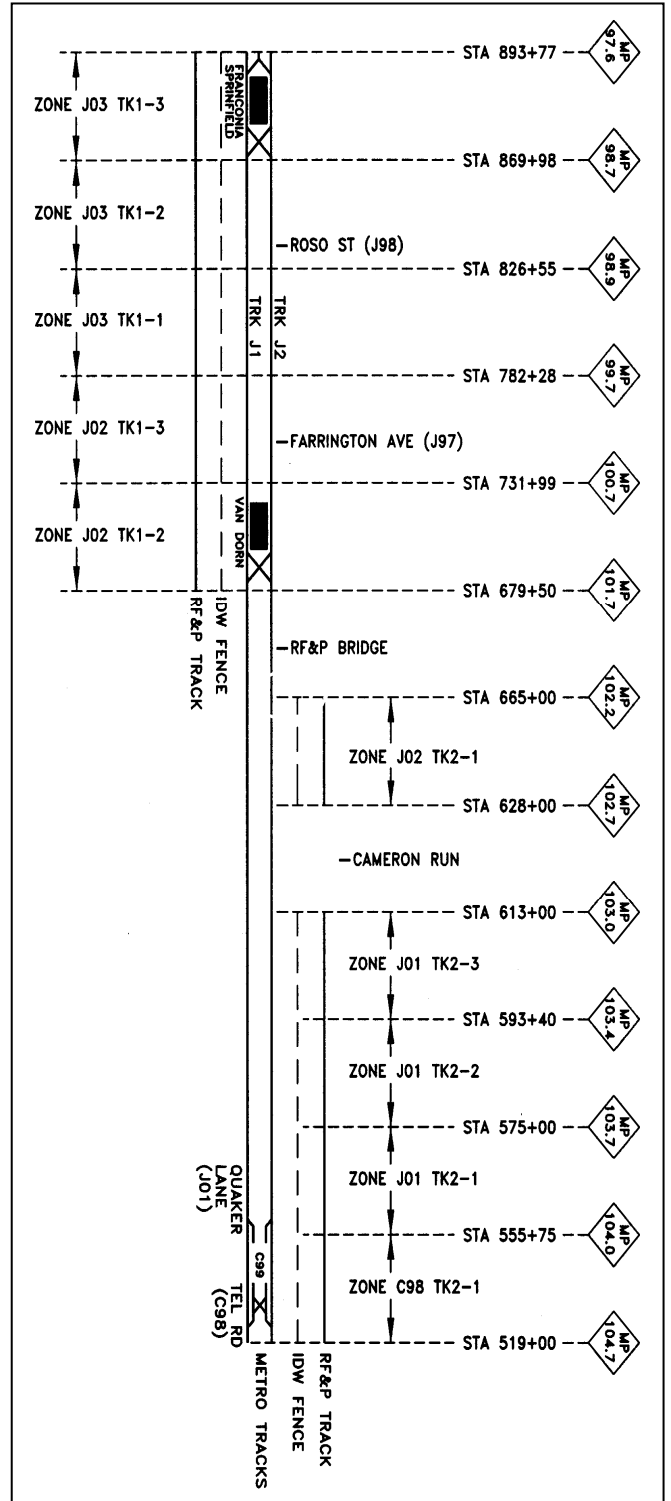


Figure 8: Van Dorn



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

D-Route; Minnesota Avenue, Deanwood, Cheverly, Landover and New Carrollton Stations (Figures 9 and 10).

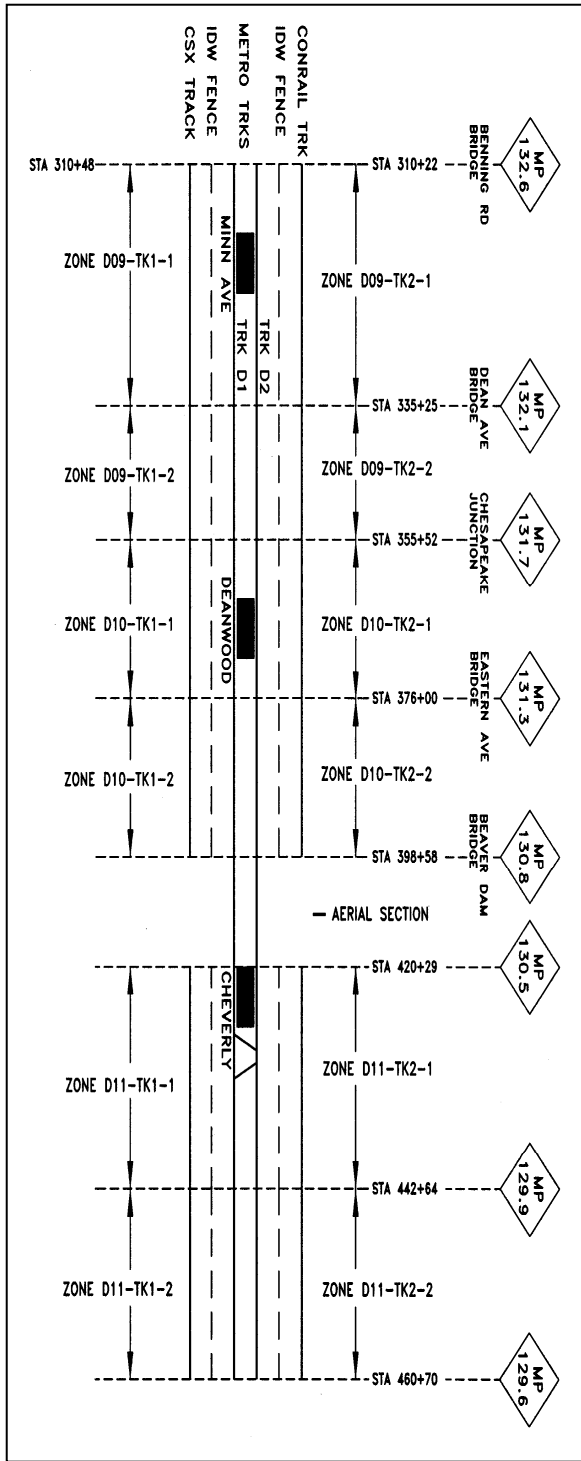


Figure 9: Minnesota Avenue, Deanwood, Cheverly

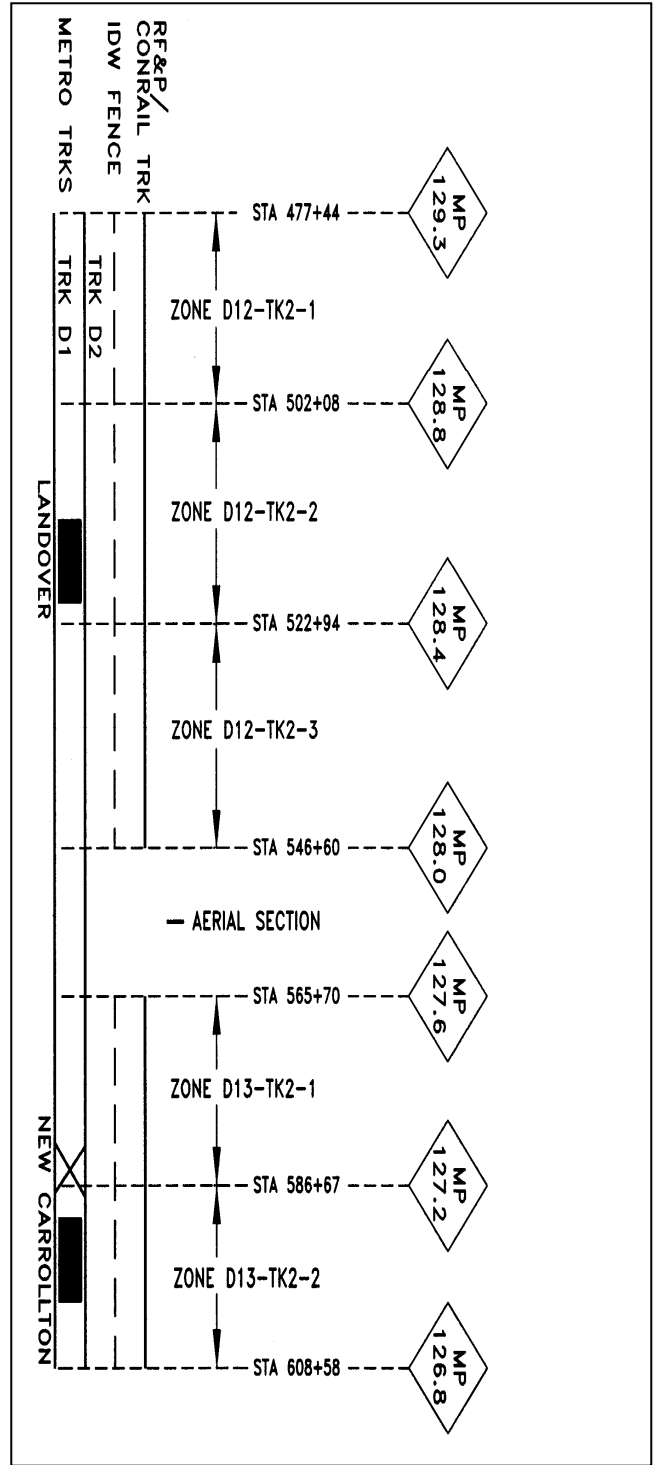


Figure 10: Landover, New Carrollton



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

K-Route; East Falls Church and West Falls Church Stations (Figure 11).

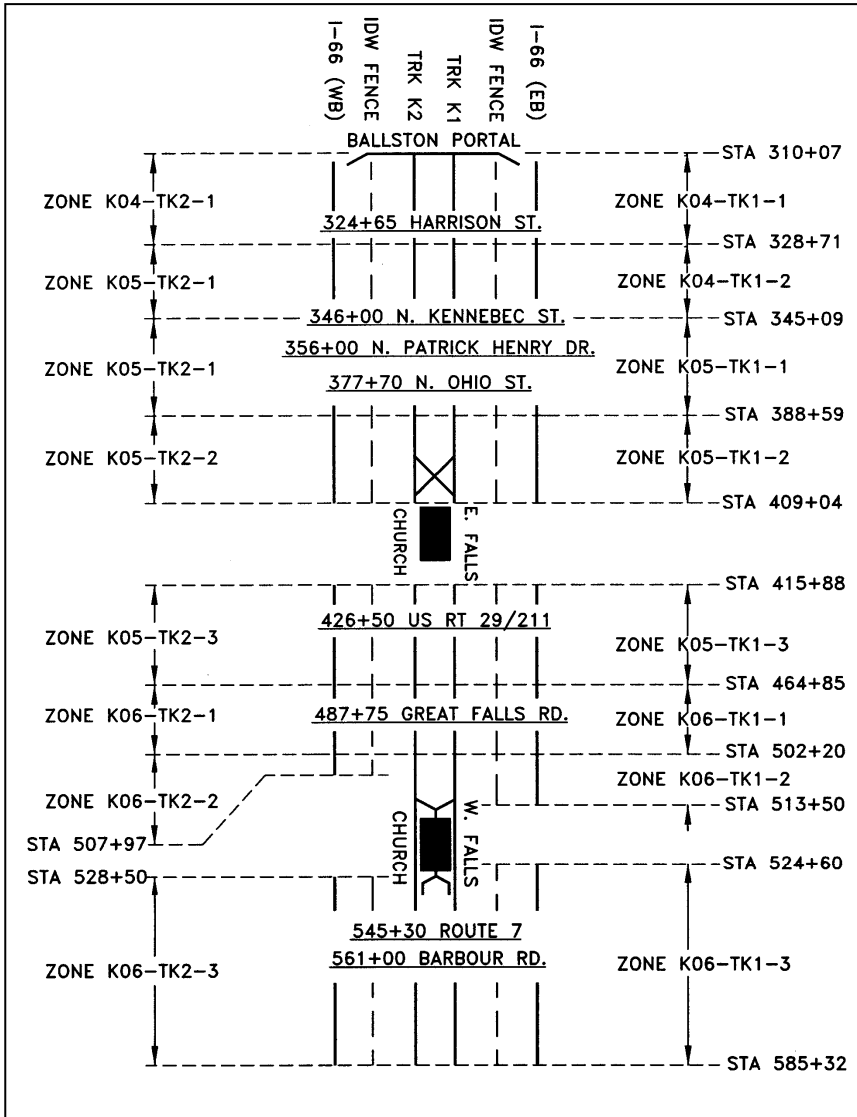


Figure 11: East Falls Church, West Falls Church



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

K-Route; Dunn Loring and Vienna Stations (Figure 12).

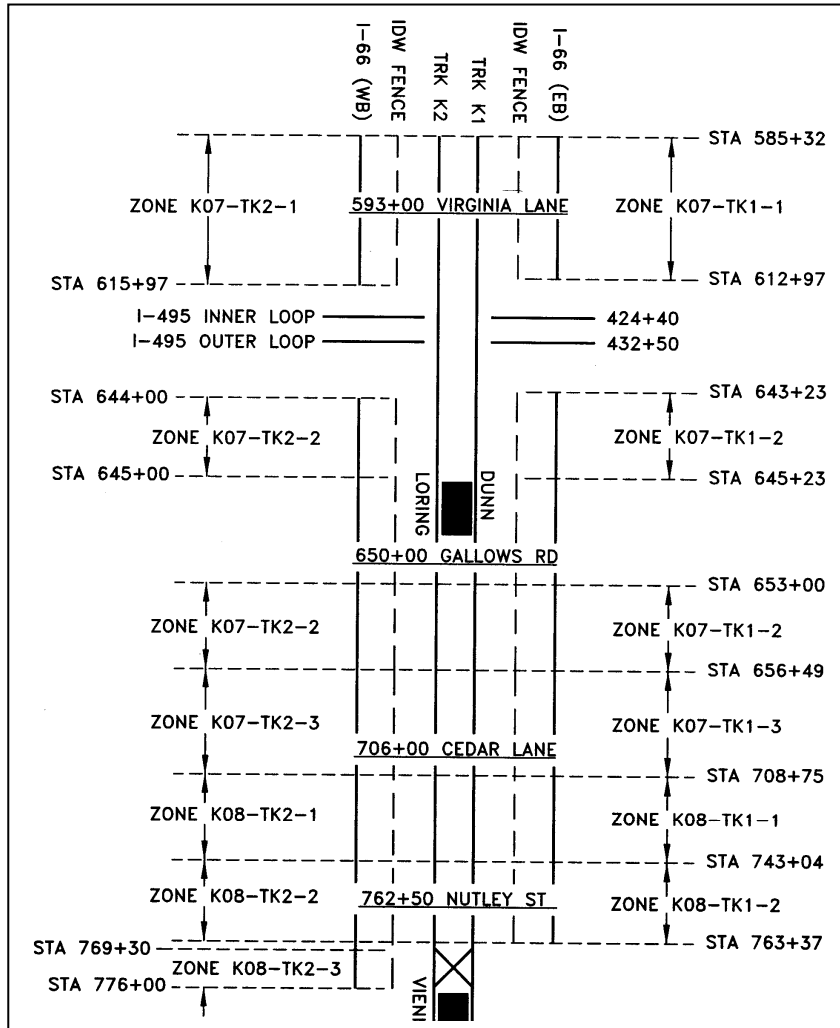


Figure 12: Dunn Loring, Vienna





# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

E-Route; College Park and Greenbelt Stations (Figure 13).

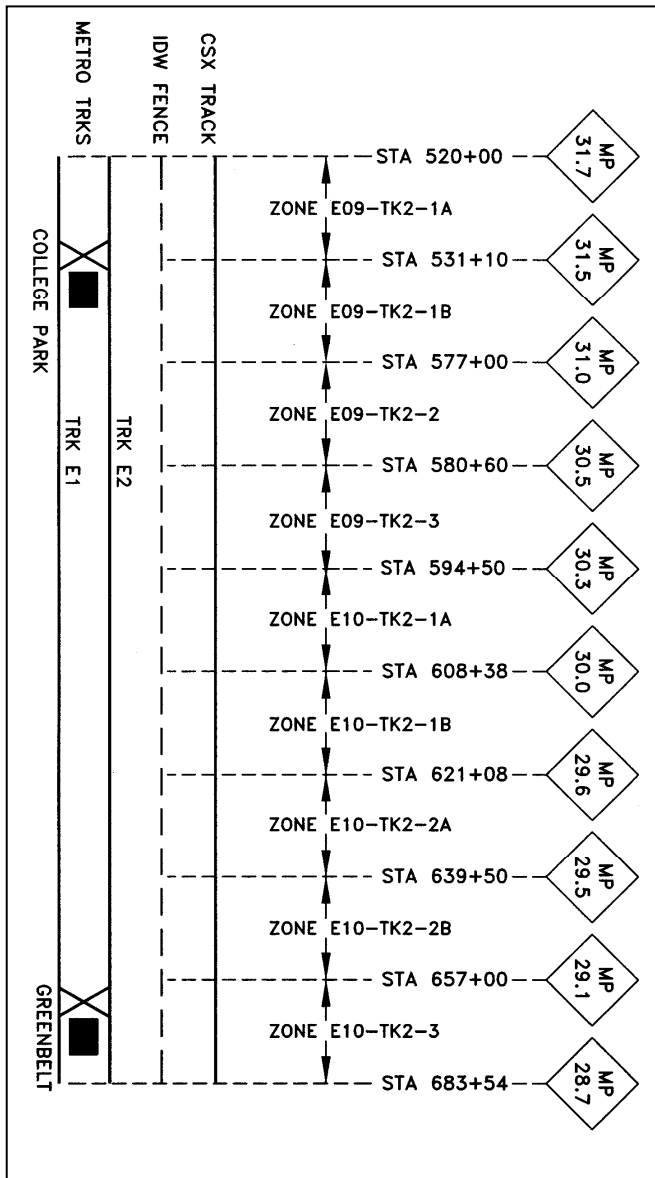


Figure 13: College Park, Greenbelt



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 31.5.1.3 Employees having knowledge of or observing an emergency (*fire; intrusion by WMATA equipment, railroad equipment, or road vehicle; derailment; or other event*), in a common corridor, shall notify the ROCC immediately and furnish details to the ROCC Supervisor. The ROCC Supervisor shall attempt to determine: the exact location of the incident; any condition that would prevent safe passage by Metrorail trains, railroad trains or road vehicles; and/or the involvement of hazardous materials.
- 31.5.1.4 When the ROCC receives an IDW System alarm on the Train Alarm CRT indicating an intrusion, or a dragging equipment alarm from a Route Sharer, or when the ROCC is notified of a common corridor emergency, the ROCC Supervisor shall:
- 31.5.1.4.1 Stop Metrorail train movement on all tracks in approach of or within the emergency area until sufficient information is available to assess the situation, and it has been determined that it is safe to make train movements or that train movement is necessary to evacuate passengers.
  - 31.5.1.4.2 Immediately notify the appropriate common corridor sharer(s) by way of the dedicated telephone line(s)\*, furnishing all known details of the emergency, and requesting that movement of trains or road vehicles be stopped or restricted if such movement would be dangerous, would cause additional accidents, or prevent fire or rescue personnel from accessing the area. Request information on the involvement of any hazardous materials.
  - 31.5.1.4.3 Immediately notify the Fire Department Communications Center(s) and Transit Police.
  - 31.5.1.4.4 Immediately notify the Maintenance Operation Center (MOC) to dispatch SMNT ATC personnel to the local train control room(s).
  - 31.5.1.4.5 Immediately dispatch Rail Operations Supervisors to the scene to assist in the investigation, and establishment of absolute blocks, if required.
  - 31.5.1.4.6 Initiate an immediate investigation and inspection by WMATA personnel and CST, Conrail, Amtrak, and or RF&P personnel as appropriate to determine if an intrusion has occurred or if a false activation has been experienced.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 31.5.1.4.7 If details of the emergency are not known, an immediate investigation shall be initiated. The investigation shall be performed by Authority Personnel, railroad personnel and/or the local jurisdiction's emergency services to determine if hazardous materials are involved in the intrusion. When the intrusion is a vehicle for which Authority Personnel and/or the emergency services cannot readily determine the contents, the local jurisdictional emergency services must confirm whether hazardous materials are present before train operations can resume. The use of a train to inspect the area must only be done as a last resort and can only be done after all customers have been unloaded and shall not be used if hazardous materials are suspected to be present. The train shall be operated in Mode 2, Level 1 at a restricted speed (15 mph or as directed by ROCC).
- 31.5.1.4.8 Follow the appropriate Metrorail Standard Operating Procedure instructions for handling the emergency (fire, derailment or other event) and coordinate these with the appropriate Common Corridor Sharer(s), Fire and Rescue Personnel, and Authority Personnel as required.
- 31.5.2 False Activation Procedures:
- 31.5.2.1 The IDW System provides immediate notification and warning to ROCC if an intrusion occurs from a penetration of WMATA's fence. ROCC will receive an audible alarm and a visual alarm when an intrusion occurs. The visual alarm will appear on the ROCC Train Alarm CRT, which will display the time of the alarm, the Station designation, the hazard, the IDW zone, and the WMATA track where the intrusion occurred.
- 31.5.2.1.1 After the complete track inspection has determined that no intrusion has occurred, the ROCC shall reset the IDW.
- 31.5.2.1.2 If the reset does not clear the alarm, the ROCC and the MOC shall direct the ATC personnel in the Train Control Room(s) to put the zone alarm(s) in bypass. ATC personnel must immediately investigate and correct the cause of the false activation.
- 31.5.2.1.3 Until the speed commands are restored, the ROCC shall authorize trains to proceed through the zone with zero speed commands in Mode 2, below 15 mph.
- 31.5.2.1.4 If required to conform to existing revenue train headways, the ROCC shall establish temporary absolute blocks in accordance with SOP # 15 to control train movements through the zone until speed commands are restored.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 31.5.3 Testing:

31.5.3.1 A test shall be conducted by ROCC on each shift to ensure proper operation of the dedicated telephone lines by calling each common corridor sharer three times daily; at 11:30 AM, 7:30 PM, and at 3:30 AM. Completion of each call shall be noted in the ROCC log. If difficulties are encountered during these tests, the Maintenance Operations Center shall be requested to effect immediate repairs.

31.5.3.2 When test(s) or maintenance of the IDW Control Panels require that they be put in the access (off line) mode, System Maintenance personnel must notify ROCC of the IDW Zones affected. After test(s) or maintenance completion, System Maintenance personnel must notify ROCC that the IDW System has been taken out of the access mode and is back in service.

31.5.3.3 Once a month, on the first Thursday of the month, a check of all backup telephones shall be conducted by ROCC to ensure that they are operational and their numbers have not been changed. This shall be done at 1100 Hours and noted in the ROCC log. If difficulties are encountered, the appropriate route Common Corridor sharer(s) is to be notified.

## 31.6 REFERENCES

None



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**

**SOP # 37 HAZARDOUS MATERIAL (HAZMAT) INCIDENT**

**37.1 PURPOSE**

The purpose of this SOP is to provide clear and concise instructions as it relates to a hazardous material (HAZMAT) incident.

**37.2 SCOPE**

37.2.1 This SOP is applicable to the mainline Rail System.

37.2.2 This SOP affects Rail Operations Control Center (ROCC) Supervisors, Customer Communication Specialists, Metropolitan Transit Police Department (MTPD), Maintenance Operation Center (MOC), Station Managers, Train Operators, On-Scene Commanders, Incident Commanders and support personnel dispatched to resolve the incident.

**37.3 DEFINITIONS**

37.3.1 Biological Weapons of Mass Destruction (BW): Weapons capable of being released to produce incapacitating or lethal disease. The effects of Biological Weapons may not be discovered for hours after their release.

37.3.2 Chemical Weapons of Mass Destruction (CW): Liquid, aerosol or vapor chemical agent weapons which, if absorbed through the skin or lungs are capable of injuring, incapacitating or killing humans in large numbers.

37.3.3 Environmental System: A rail vehicle or station heating, ventilation and air conditioning system.

37.3.4 Hot Zone: An area or suspected area that is contaminated by nuclear, biological or chemical agents and should NOT be entered by personnel unless they are fully protected, trained and equipped.

37.3.5 Nuclear Weapons of Mass Destruction: Weapons capable of nuclear detonation or release of radioactive isotopes to create a contaminated scene.

37.3.6 Safe Zone: An area that has been determined to be free of secondary devices and out of the hazardous zone, clear of any station entrances, escalators, elevators, vent shafts, emergency exits where dangerous fumes may escape to the atmosphere. If practical, a Safe Zone should be up-wind at 1,500 feet from any point of danger.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

37.3.7 Weapons of Mass Destruction (WMD): Nuclear, biological and chemical weapons that were developed to kill, incapacitate or injure personnel, animals and/or plant life in a military application.

### **37.4 RESPONSIBILITIES**

#### 37.4.1 ROCC Supervisor Responsibility:

ROCC Supervisors shall be responsible for notification of internal and external respondents, regulation of ventilation systems in the affected areas, instructions to Train Operators, establishment of restricted areas and appointment of On-Scene Commanders.

#### 37.4.2 RAIL Communications Responsibility:

Customer Communication Specialists shall be responsible for notification of the incident to Station Managers, WMATA Emergency Call List personnel and public address announcements.

#### 37.4.3 Metro Transit Police Department (MTPD) Responsibility:

Transit Police shall be responsible for adherence to General Order 368.

#### 37.4.4 Maintenance Operation Center (MOC) Responsibility:

MOC shall be responsible for communication with all maintenance personnel to ensure the safety and location of personnel throughout the system.

#### 37.4.5 Station Managers Responsibility:

Station Managers shall be responsible for the safe evacuation of affected stations and informing the On Scene Commander or Transit Police of station and passenger conditions.

#### 37.4.6 On-Scene Commander (OSC) Responsibility:

On-Scene Commanders shall be responsible for the coordination of all efforts in the affected area(s) for the safe and timely resolution of hazardous material incidents within the Metrorail system.



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**

37.4.7 Train Operator Responsibility:

Train Operators shall be responsible for immediate notification to ROCC of hazardous material or release on trains and adherence to ROCC instructions for situations regarding hazardous material incidents.

37.4.8 Incident Commander (IC) Responsibility:

The Incident Commander shall be responsible for overseeing the resolution of the entire incident and represent the Authority in responding to inquiries.

**37.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
37.5.1	Upon Receiving a Report of a HAZMAT Incident
37.5.2	Customer Communication Specialists
37.5.3	Transit Police
37.5.4	Maintenance Operations Center (MOC)
37.5.5	Station Managers of Affected Station(s)
37.5.6	On-Scene Commanders (OSC)
37.5.7	Hazardous Material on Train
37.5.8	Hazardous Material on the Roadway
37.5.9	Decontamination

37.5.1 Upon Receiving a Report of a HAZMAT Incident:

ROCC Supervisors shall:

37.5.1.1 Notify jurisdictional Fire and Rescue Services, Maintenance Operations Center (MOC) and Bus Operations Control Center (BOCC).

Calls to the Fire Department shall be clear and concise. The emergency shall be referred to as **HAZMAT Incident**.

37.5.1.2 Immediately shut down all ventilation fans and notify personnel to close all air vents affected in underground station(s).

37.5.1.3 Instruct Train Operators reference to 37.4.8, 37.4.9, and 37.5.





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 37.5.1.4 Establish an initial hot zone of 1500 feet in all directions and ensure that WMATA personnel are in a safe location(s).
- 37.5.1.5 WMATA personnel outside the 1500 foot zone shall be ordered to keep out of the zone.
- 37.5.1.6 Appoint an interim On-Scene Commander and direct him/her to remain in the “Safe Zone” established by MTPD.
- 37.5.1.7 Only personnel properly trained and equipped to handle HAZMAT situations will be allowed to enter the scene as authorized by the Incident Commander.



**Notice:** Ordinary industrial protective equipment will NOT protect its user from HAZMAT situations.

- 37.5.1.8 Advise the On-Scene Commander to ensure 37.4.6.
- 37.5.2 Customer Communication Specialists:
  - 37.5.2.1 Notify the Station Manager(s).
  - 37.5.2.2 Initiate passenger and employee evacuation announcements for the incident and adjacent affected station(s).
  - 37.5.2.3 Contact personnel on WMATA Emergency Call List.
- 37.5.3 Transit Police:
  - Shall adhere to General Order 368.
- 37.5.4 Maintenance Operations Center (MOC):
  - 37.5.4.1 Instruct field personnel, not in hazard zone, to remain in a safe zone.
  - 37.5.4.2 Account for all personnel working in wayside locations in or near the affected area.



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**

37.5.5 Station Managers of Affected Station(s):

37.5.5.1 Simultaneously, begin the orderly evacuation of stations and shall also move to safe zones.

37.5.5.2 Evacuate the station by verbally warning those in the station by PA system and PIDS to evacuate.

37.5.5.3 Open station fare gates, place elevators into override and turn off all entrance down escalators.

37.5.5.4 Evacuate passengers at least 1500 feet away from the station entrance(s), vent shafts, fan shafts and emergency exits.

37.5.5.5 Report to the On-Scene Commander or MTPD the approximate number of people still in the incident station if known, and their condition.

37.5.5.6 Inform passengers not to leave scene until cleared by Incident Commander (IC) and stay immediately outside the 1500 feet safe parameter.

37.5.6 On-Scene Commanders (OSC):

37.5.6.1 Shall be designated from the ranks of MTPD.

37.5.6.2 MTPD is designated as the lead WMATA department for coordinating the mitigation of any Chem/Bio incident. If no MTPD representative is present at the initiation of a Chem/Bio incident, the first - MTPD officer to arrive will assume On-Scene Command duties immediately upon arrival at the incident scene.

37.5.7 Hazardous Material on Train:

When an incident is reported on an identified train in the tunnel or above ground, ROCC shall inform the Train Operator to:

37.5.7.1 Stop the train.

37.5.7.2 Shut down HVAC and proceed in manual at 5 mph.

37.5.7.3 Order evacuation of next station.

37.5.7.4 Stop short of next station.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 37.5.7.5 Never move an above ground incident train underground. Stop incident train in place and await emergency response personnel.
- 37.5.7.6 Enter station in manual at 5 mph when it is safe to do so.
- 37.5.7.7 Evacuate train into station, close doors and secure train.
- 37.5.7.8 Direct passengers to remain in station location other than platform.
- 37.5.7.9 ROCC shall instruct Train Operators approaching the station on the adjacent track to stop outside the station, shut down HVAC and await instructions to reverse and proceed to the previous station. If train movement is in the underground portion of the system, speeds should be no greater than 5 mph.
- 37.5.7.10 When an incident is reported on the Roadway, ROCC shall:
  - 37.5.7.10.1 Stop train traffic in both directions.
  - 37.5.7.10.2 Instruct trains to shut down environmental systems.
  - 37.5.7.10.3 Shut down tunnel ventilation.
  - 37.5.7.10.4 Ensure compliance with 37.4.6.
  - 37.5.7.10.5 Reverse trains to closest non-affected station not to exceed 5 mph and evacuate.
  - 37.5.7.10.6 Evacuate stations and direct passengers to remain until cleared by Incident Commander (IC).
- 37.5.8 Hazardous Material on the Roadway:
  - 37.5.8.1 Trains entering simultaneously with the report of a release in the station shall be ordered to proceed without a door cycle to the next station and follow instructions in 37.4.8.
  - 37.5.8.2 When a Chem/Bio agent is reported on Roadway, ROCC will order Train Operators on both tracks to stop their trains prior to reaching the affected area, disable Environmental Systems aboard trains and await further instructions. Instruct trains to shut down environmental systems.



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
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37.5.9 Decontamination:

37.5.9.1 ROCC shall notify the Interlocking Operator of a train approaching that requires isolation for decontamination. ROCC shall also notify the RTRA and CMNT superintendents of the affected division of same.

37.5.9.2 The interlocking operator shall lay up the train in the yard as far away from employees as possible. The interlocking operator shall blue flag the track on which the train was stored.

37.5.9.3 The superintendent at the CMNT and RTRA division shall post warnings to their personnel to avoid the incident train and its storage location

37.5.9.4 ROCC and Division management are to be guided by Fire Department and MTPD instructions

**37.6 REFERENCES**

SOP # 1 A



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP # 38 UNKNOWN SUBSTANCE RESPONSE PROCEDURE

### 38.1 PURPOSE

The purpose of this Standard Operating Procedure is to define responsibilities and procedures for WMATA personnel in the event of an Unknown Substance Incident.

### 38.2 SCOPE

This SOP is applicable to all WMATA personnel actively working in or riding on the Metrorail system.

### 38.3 DEFINITIONS

38.3.1 HVAC: A heating, ventilation and air conditioning system for rail vehicles and stations.

38.3.2 Safe Zone: An area that has been determined to be free of secondary devices and out of the hazardous zone, clear of any station entrances, escalators, elevators, vent shafts, emergency exits where dangerous fumes may escape to the atmosphere. If practical, a safe zone should be up-wind at 1,500 feet from any point of danger.

38.3.3 Unknown Substance: A release or spill which presents no adverse health symptoms, no smell, no perceived or obvious threat, no evidence of tampering, and not located or positioned in a manner that indicates an attempt to conceal its presence.

### 38.4 RESPONSIBILITIES

38.4.1 The ROCC Supervisor upon receiving notification of an unknown substance shall:

38.4.1.1 Notify Metropolitan Transit Police Department (MTPD), Jurisdictional Fire and Rescue Services, Maintenance Operations Center (MOC) and Bus Operations Control Center (BOCC).



**Notice:** The call to fire department should be done in plain language and addressed as an unknown substance.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

38.4.1.2 Immediately shut down all ventilation fans and notify personnel to close all air vents in affected underground stations.

38.4.2 Customer Operations shall:

38.4.2.1 Notify Station Manager(s) at affected station(s).

38.4.2.2 Contact personnel on the WMATA Emergency Call List.

38.4.2.3 The Customer Communication Specialist shall activate the Passenger Information Display System (PIDS).

38.4.3 Maintenance Operation Center (MOC) shall:

38.4.3.1 Instruct field personnel to move to a safe area.

38.4.3.2 Account for all personnel.

### 38.5 PROCEDURES

<b>Procedure #</b>	<b>Content</b>
38.5.1	When an Unknown Substance Incident is Reported on an Identified Train, ROCC Supervisor shall
38.5.2	When an Unknown Substance Incident is Reported on the Roadway, the ROCC Supervisor shall:
38.5.3	When an Unknown Substance Incident is Reported in a Station, ROCC Supervisor shall:

38.5.1 When an Unknown Substance Incident is Reported on an Identified Train, ROCC Supervisor shall:

38.5.1.1 The Train Operator to stop the train at the nearest station and off-load customers.

38.5.1.2 The Train Operator to shut down HVAC.

38.5.1.3 The Train Operator to proceed to the nearest yard.

38.5.1.4 The Train Operator to provide estimated head count to ROCC of customers on the affected train.

38.5.1.5 The Station Manager to ascertain personal information from customers who were off-loaded from the train.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

38.5.2 When an Unknown Substance Incident is Reported on the Roadway, the ROCC Supervisor shall:

38.5.2.1 Instruct Train Operators to stop train traffic in both directions.

38.5.2.2 Instruct Train Operators to shut down HVAC.

38.5.2.3 Shut down tunnel ventilation.

38.5.2.4 Single-track trains around affected area, not to exceed 5 mph.

38.5.3 When an Unknown Substance Incident is Reported in a Station, ROCC Supervisor shall:

38.5.3.1 When on the platform;

38.5.3.1.1 Discontinue service to station.

38.5.3.1.2 Continue trains through the station at 5 mph, request shuttle bus service and isolate the affected area.

38.5.3.2 When on the mezzanine:

38.5.3.2.1 Close entrance to station.

38.5.3.2.2 Continue trains through the station at 5 mph and request shuttle bus service when necessary.

### **38.6 REFERENCES**

None





**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### SOP # 42 HAZARDOUS CHEMICAL DETECTION ALARM PROCEDURES

#### 42.1 PURPOSE

The purpose of this Standard Operating Procedure is to define responsibilities and procedures for WMATA personnel in the event of a Hazardous Chemical alarm in ROCC.

#### 42.2 SCOPE

This SOP is applicable to all WMATA personnel actively working in or riding on the Metrorail system.

#### 42.3 DEFINITIONS

- 42.3.1 Biological Weapons of Mass Destruction (BW): Weapons capable of being released to produce incapacitating or lethal disease. The effects of biological weapons may not be discovered for hours after their release.
- 42.3.2 Chemical Weapons of Mass Destruction (CW): Liquid, aerosol or vapor chemical agent weapons which, if absorbed through the skin or lungs are capable of injuring, incapacitating or killing humans in large numbers.
- 42.3.3 FLASHING BLUE ALARM: One hazardous chemical detector has activated at a station.
- 42.3.4 FLASHING YELLOW ALARM: A second hazardous chemical detector has activated at the same station within 10 minutes of the original activation.
- 42.3.5 Hot Zone: An area or suspected area that is contaminated by nuclear, biological or chemical agents and should NOT be entered by personnel unless they are fully protected, trained and equipped.
- 42.3.6 HVAC: A heating, ventilation and air conditioning system for rail vehicles and stations.
- 42.3.7 Personal Protective Equipment (PPE): Equipment or gear designed for protective use in environments contaminated by WMD. Ordinary industrial protective equipment, in most cases, will NOT protect its user from personal contamination by WMD agents.
- 42.3.8 RED ALARM: A third hazardous chemical detector has activated within 10 minutes at the same station.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 42.3.9 Safe Zone: An area that has been determined to be free of secondary devices and out of the hazardous zone, clear of any station entrances, escalators, elevators, vent shafts, emergency exits where dangerous fumes may escape to the atmosphere. If practical, a safe zone should be up-wind at 1,500 feet from any point of danger.
- 42.3.10 Weapons of Mass Destruction (WMD): Nuclear, biological and chemical weapons that were developed to kill incapacitate or injure personnel, animals and/or plant life in a military application.
- 42.3.11 Description
  - 42.3.11.1 Chemical sensing devices are located in selected Metrorail stations. These devices provide notification upon detection of hazardous chemical agents.
  - 42.3.11.2 Activation of chemical sensors will transmit an alarm message to the Chemical/Biological Emergency Management Information System (CB-EMIS) in the Rail Operations Control Center (ROCC) warning that a "CHEMICAL DETECTOR" has been activated.
  - 42.3.11.3 A CHEMICAL DETECTOR ALARM will be displayed in the ROCC on the CB-EMIS computer whenever certain harmful chemical agents are detected.
  - 42.3.11.4 The CB-EMIS computer initiates a Blue Alarm when one detector has activated in the station.
  - 42.3.11.5 The CB-EMIS computer initiates a Yellow Alarm when two detectors have activated in the same station within 10 minutes of the original activation.
  - 42.3.11.6 The CB-EMIS computer initiates a Red Alarm when three or more detectors have activated in the same station within 10 minutes of the original activation.

### 42.4 RESPONSIBILITIES

- 42.4.1 All responders and employees shall be aware and follow guidelines in this SOP
- 42.4.2 ROCC Assistant Superintendents shall be familiar with CB-EMIS equipment, alarms and system use.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 42.5 PROCEDURES

Procedure #	Content
42.5.1	Declaration of a Chemical Incident
42.5.2	ROCC Supervisors Procedures for a Blue Alarm
42.5.3	ROCC Assistant Superintendent Procedures for a Blue Alarm
42.5.4	Customer Operations Procedures for a Blue Alarm
42.5.5	Maintenance Operations Center (MOC) Procedures for a Blue Alarm
42.5.6	ROCC Supervisor Procedures for a Yellow Alarm
42.5.7	ROCC Assistant Superintendent Procedures for a Yellow Alarm
42.5.8	Customer Operations Procedures for a Yellow Alarm
42.5.9	Maintenance Operations Center (MOC) Procedures for a Yellow Alarm
42.5.10	ROCC Assistant Superintendent Procedures for a Red Alarm or an Incident has been Declared as a Result of a Yellow Alarm and Employees or Customers Observed to be in Distress
42.5.11	ROCC Supervisors Procedures when a Chemical Incident has been Declared
42.5.12	ROCC Supervisor Procedures when Informed of a Chemical Incident on a Train and the Affected Train is between Stations
42.5.13	ROCC Supervisor Procedures when Informed of a Chemical Incident on a Train and the Affected Train is at a Station
42.5.14	Customer Operations Procedures when a Chemical Incident has been Declared
42.5.15	Train Operator Procedures when a Chemical Incident has been Declared
42.5.16	Station Managers/Rail Supervisor Procedures when a Chemical Incident has been Declared
42.5.17	Maintenance Operations Center (MOC) Procedures when a Chemical Incident has been Declared
42.5.18	Metro Transit Police Department (MTPD) / On-Scene Commander (OSC) Procedures when a Chemical Incident has been Declared
42.5.19	Decontamination



**Notice:** When two or more people are in distress without the presence of two or more chemical alarms refer to SOP # 37. An electronic copy of SOP # 37 is in CB-EMIS.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 42.5.1 Declaration of a Chemical Incident:

ROCC Assistant Superintendent shall declare a chemical incident when:

42.5.1.1 Two CB-EMIS alarms (Yellow Alarm) in a single station and signs of human distress either reported or observed on closed circuit television (two or more people, depending on the number of individuals in the station) with nausea, erratic behavior or who have collapsed). Also look for unusual behaviors in animals in or near the area.

42.5.1.2 Three alarms in a single station (Red Alarm).

### 42.5.2 ROCC Supervisors Procedures for a Blue Alarm:

42.5.2.1 Advise ROCC Assistant Superintendent of the situation and ask for incident determination.

42.5.2.2 Acknowledge the alarm (alarm will go to solid blue).

42.5.2.3 View the video display to determine any signs of human distress (two or more people with nausea, erratic behavior or who have collapsed). Advise the ROCC Assistant Superintendent if human distress is observed.

### 42.5.3 ROCC Assistant Superintendent Procedures for a Blue Alarm:

42.5.3.1 Monitor the CB-EMIS display to determine the chemical agent detected and its concentration.

42.5.3.2 Advise MOC and Customer Operations of the situation.

42.5.3.3 View the CB-EMIS video display to determine any signs of human distress (two or more people with nausea, erratic behavior or who have collapsed).

42.5.3.4 Attempt to contact key personnel in the affected area to determine if customers or employees are in distress. Your choice of words should not suggest that an incident has occurred.

42.5.3.5 If no reactions are observed and no additional detectors are activated within 10 minutes, allow revenue service to continue and report the incident to MOC.

### 42.5.4 Customer Operations Procedures for a Blue Alarm:



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- 42.5.4.1 Locate affected and adjacent stations. Prepare to notify Station Managers.
- 42.5.4.2 Prepare all announcements and electronic notification.
- 42.5.4.3 Prepare Emergency Call list.
- 42.5.4.4 Prepare notification to BOCC.
- 42.5.5 Maintenance Operations Center (MOC) Procedures for a Blue Alarm:
  - 42.5.5.1 Locate and prepare to evacuate all maintenance personnel in the affected area.
  - 42.5.5.2 If ROCC Assistant Superintendent does not declare a chemical incident, MOC shall:
    - 42.5.5.2.1 Report the detector problems/false alarms to appropriate WMATA departments or outside contractor.
    - 42.5.5.2.2 Place any malfunctioning detectors off-line. Request notification when repairs are complete.
    - 42.5.5.2.3 Upon receiving notification that repairs are completed and the detector is placed back on line, notify the on duty ROCC Assistant Superintendent that the detector is now back in service.
- 42.5.6 ROCC Supervisor Procedures for a Yellow Alarm:
  - 42.5.6.1 Instruct Train Operators approaching the affected station(s) to STOP prior to reaching the station to allow the turning back of trains. Trains will be subsequently rerouted back to the previous station (must have ROCC permission and absolute block). Coordinate train movement and ensure that trains are not held between affected stations. Special circumstances-Trains entering simultaneously with the activation of a yellow alarm in the station shall be ordered to shut off EV system and proceed without a door cycle to the next station.
  - 42.5.6.2 Immediately shut down all ventilation fans in the affected station and the adjacent stations.
  - 42.5.6.3 Advise the ROCC Assistant Superintendent of the situation and ask for incident determination.
  - 42.5.6.4 Acknowledge alarm (alarm will go to solid yellow).



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- 42.5.6.5 Instruct Train Operators who are in the affected station(s) to close the doors, disable car-borne HVAC in the entire consist and immediately proceed out of the station at a speed no greater than 5 MPH and be governed by ROCC instructions (Trains will be stopped two stations from the incident station or first above ground station). Trains will be held at unaffected stations and will have their doors open until instructed by ROCC. Train operators are to be instructed to make announcements to their customers advising them of the situation.
- 42.5.6.6 If after 10 minutes the ROCC Assistant Superintendent does not declare a Chemical Incident, allow trains to continue in normal revenue operations.
- 42.5.7 ROCC Assistant Superintendent Procedures for a Yellow Alarm:
  - 42.5.7.1 Monitor the CB-EMIS display to determine the chemical agent detected and its concentration.
  - 42.5.7.2 View the CB-EMIS video display to determine any signs of human distress (two or more people with nausea, erratic behavior or who have collapsed).
  - 42.5.7.3 Attempt to contact key personnel in the affected area to determine if customers or employees are in distress. Your choice of words should not suggest that an incident has occurred.
  - 42.5.7.4 If within ten minutes customers or employees are determined to be in distress as defined above immediately declare a chemical incident and activate the CB-EMIS declare an incident option.
  - 42.5.7.5 If after 10 minutes of the original activation and no reactions are observed or no additional detectors are activated, allow revenue service to continue and report the incident to MOC.
- 42.5.8 Customer Operations Procedures for a Yellow Alarm:
  - 42.5.8.1 Contact affected station. Inform the Station Manager of a potential emergency and advise as a precaution to observe their immediate surroundings and determine if there are any signs of human distress. Direct Station Managers NOT to enter areas covered by active alarms and advise Station Managers to put on their Emergency Escape mask if they have not already done so.
  - 42.5.8.2 Prepare all announcements and electronic notifications.



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- 42.5.8.3 Initiate The Emergency Call list and advise that a second alarm is being investigated.
- 42.5.8.4 At the direction of the ROCC Assistant Superintendent and if no reactions are observed within 10 minutes advise the Station Managers that normal revenue service will continue.
- 42.5.8.5 Notify BOCC.
- 42.5.9 Maintenance Operations Center (MOC) Procedures for a Yellow Alarm:
  - 42.5.9.1 STOP WORK of all maintenance personnel in the affected area and wait for the incident declaration from ROCC.
  - 42.5.9.2 Prepare to evacuate the station.
  - 42.5.9.3 If ROCC Assistant Superintendent does not declare a chemical incident, the Maintenance Operations Center shall:
    - 42.5.9.3.1 Report the detector problems/false alarms to appropriate WMATA departments or outside contractor.
    - 42.5.9.3.2 Place any malfunctioning detectors off-line.
    - 42.5.9.3.3 Request notification when repairs are complete.
    - 42.5.9.3.4 Upon receiving notification that repairs are completed and the detector are placed back on line, notify the on duty ROCC Assistant Superintendent that the detector is now back in service.
    - 42.5.9.3.5 Advise all maintenance personnel to resume normal maintenance activities.
- 42.5.10 ROCC Assistant Superintendent Procedures for a Red Alarm or an Incident has been Declared as a Result of a Yellow Alarm and Employees or Customers Observed to be in Distress:
  - 42.5.10.1 The ROCC Assistant shall declare a Chemical Incident by activating the CB-EMIS "declare a chemical incident" option.
  - 42.5.10.2 Notify The ROCC Controllers and Customer Operations.
  - 42.5.10.3 Notify the jurisdictional Fire and Rescue Services.
  - 42.5.10.4 Notify Metro Transit Police Department (MTPD).





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 42.5.10.5 Notify Maintenance Operations Center (MOC).
- 42.5.10.6 Notify Bus Operations Control Center (BOCC).
- 42.5.10.7 Notify WMATA Senior Management.
- 42.5.10.8 The call to the Fire Department should be done in plain language and addressed as a HAZMAT incident, including the type of Agent that has been detected by the CB-EMIS computer. An Example of a call to the Fire Department - we are reporting a HAZMAT incident at Station. The CB-EMIS computer is alarming for a chemical Agent and ROCC is declaring a Chemical Incident at the Station.
- 42.5.11 ROCC Supervisors Procedures when a Chemical Incident has been Declared:
  - 42.5.11.1 Instruct Train Operators in and approaching the affected station(s) to STOP prior to reaching the station and shut down the HVAC system. Trains between stations will stop and wait for instructions from ROCC to proceed to the next station or turn back to the previous station. Coordinate train movement and ensure that all trains are on a station platform and no trains are moved into the affected area.
  - 42.5.11.2 Trains in the affected station that have opened their doors shall be instructed to evacuate the train to the safe zone established by the first responders and follow their directions.
  - 42.5.11.3 STOP the ventilation fans in the affected station and the adjacent stations.
  - 42.5.11.4 Maintain contact with Train Operators who are in the affected station(s).
  - 42.5.11.5 Establish a Hot Zone 1500 feet in all directions around the affected station. WMATA personnel outside the Hot Zone will be instructed not to enter it. If MTPD is not on the scene, appoint an interim On-Scene Commander and direct him/her to remain outside the Hot Zone and establish contact with the MTPD when they arrived.
- 42.5.12 ROCC Supervisor Procedures when Informed of a Chemical Incident on a Train and the Affected Train is between Stations:
  - 42.5.12.1 Instruct Train Operators to put on their Emergency Escape mask if they have not already done so.
  - 42.5.12.2 Evacuate the approaching station.



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- 42.5.12.3 Instruct the train operator to: before entering a station, to make announcement to the customers not to move between cars.
- 42.5.12.4 Stop the ventilation fans in the affected station and the adjacent stations.
- 42.5.12.5 After station is evacuated move the affected train to the platform and open all the doors.
- 42.5.12.6 Instruct the operator of the affected train to move the train to the next station as quickly as possible, with the HVAC system running.
- 42.5.12.7 At the station, open all doors and instruct all employees and customers to evacuate to street level and attempt to contact the ROCC from a safe location for further instructions.
- 42.5.12.8 Instruct customers who do not need assistance to move quickly away from station entrance(s).
- 42.5.12.9 Trains in vicinity - shut down HVAC on trains.
- 42.5.12.10 All customers and employees should report to the emergency personnel regardless of symptoms. Some harmful chemicals do not act quickly.
- 42.5.12.11 Ensure that customers who need assistance seek help from emergency personnel at street level.
- 42.5.13 ROCC Supervisor Procedures when Informed of a Chemical Incident on a Train and the Affected Train is at a Station:
  - 42.5.13.1 Instruct the Train Operator and Station Manager to evacuate the affected train and station area.
  - 42.5.13.2 All customers and employees should report to the emergency personnel regardless of symptoms. Some harmful chemicals do not act quickly.
  - 42.5.13.3 Instruct customers who do not need assistance to move quickly away from station entrance(s).
  - 42.5.13.4 Ensure that customers who need assistance seek help from emergency personnel at street level.
- 42.5.14 Customer Operations Procedures when a Chemical Incident has been Declared:
  - 42.5.14.1 Notify the affected Station Manager and Station Managers at the adjacent stations.



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- 42.5.14.2 Notify Bus OCC.
- 42.5.14.3 Initiate passenger and employee evacuation announcements for the affected adjacent underground station(s). The announcement to be made is: Attention Customers: There is a potentially hazardous material released in the system. Rail service in the direction of has been suspended. For your safety, please exit the station and proceed towards the street level in a safe and orderly manner.
- 42.5.14.4 Contact personnel on WMATA Emergency Call List.
- 42.5.14.5 Put information on the Passenger Information Display System (PIDS) that a HAZMAT incident has occurred and advise customers to evacuate the affected station(s) and adjacent underground station(s). Locate affected and adjacent stations.
- 42.5.15 Train Operator Procedures when a Chemical Incident has been Declared:
  - 42.5.15.1 Stop train and await further instructions from ROCC.
  - 42.5.15.2 If in the affected station or adjacent underground station(s), put on Emergency Escape Mask and do not remove the Emergency Escape Mask until instructed to by fire department emergency responders.
  - 42.5.15.3 Shut down rail car HVAC unless it is the affected train.
  - 42.5.15.4 Follow ROCC's instructions before moving to the next station or turning back to the previous station.
  - 42.5.15.5 If evacuation at the station is ordered, assist in moving customers from the train and evacuate the station to the safe zone as determined by the first responders.
  - 42.5.15.6 Keep customers informed of the actions being taken.
- 42.5.16 Station Managers/Rail Supervisor Procedures when a Chemical Incident has been Declared:
  - 42.5.16.1 Put on Emergency Escape Mask and do not remove the Emergency Escape Mask until instructed to by fire department emergency responders.
  - 42.5.16.2 At the affected station and adjacent underground stations Station Managers will begin the orderly evacuation of the station and evacuate everyone to the safe zone as determined by the first responders.



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- 42.5.16.3 Open all the station faregates.
- 42.5.16.4 Put the elevator in override at the street level. Ensure that no one is trapped on the elevator.
- 42.5.16.5 Turn OFF all down escalators from the street level.
- 42.5.16.6 Lead people to a Safe Zone away from the station entrance(s), vent shafts, fan shafts and emergency exits or as directed by the first responders.
- 42.5.16.7 Report to the On-Scene Commander or MTPD the approximate number of people still in the incident station, if known, and their condition.
- 42.5.16.8 Inform customers not to leave scene until cleared by Incident Command and to stay outside 1500 feet Hot Zone.
- 42.5.16.9 Do not reenter the affected area (Hot Zone) area. Follow the instructions from the first responders.
- 42.5.17 Maintenance Operations Center (MOC) Procedures when a Chemical Incident has been Declared:
  - 42.5.17.1 After being notified by MOC, maintenance officers will account for their employees.
  - 42.5.17.2 Advise personnel to put on their Emergency Escape mask if they have not already done so.
  - 42.5.17.3 Inform personnel to evacuate the affected station and adjacent station and to move up wind at least 1500 feet away from the station entrances, vent shafts, fan shafts and emergency exits.
  - 42.5.17.4 Inform personnel not to leave scene until cleared by Incident Command and stay in the Safe Zone outside of the 1500 feet Hot Zone.
  - 42.5.17.5 Instruct field personnel, not in hot zone, to remain in the safe zone.



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### 42.5.18 Metro Transit Police Department (MTPD) / On-Scene Commander (OSC) Procedures when a Chemical Incident has been Declared:

Refer to General Order # 368, an electronic copy of General Order# 368 is in CB-EMIS. MTPD is designated as the lead WMATA department for coordinating the mitigation of any Chemical/Biological incident. If no MTPD representative is present at the initiation of the incident, the first MTPD officer to arrive will assume on-scene commander duties immediately upon arrival at the incident scene. RAIL supervisors/personnel reporting to the OSC will become part of the Unified Command System as they will have valuable institutional memory of the incident from its beginning. All WMATA individuals reporting to the scene will advise the OSC of their presence and await further instructions. All responders will also be guided by SOP # 1A.

### 42.5.19 Decontamination:

42.5.19.1 ROCC shall notify the Interlocking Operator of a train approaching that requires isolation for decontamination. ROCC shall also notify the RTRA and CMNT superintendents of the affected division of same.

42.5.19.2 The interlocking operator shall lay up the train in the yard as far away from employees as possible. The interlocking operator shall blue flag the track on which the train was stored.

42.5.19.3 The superintendent at the CMNT and RTRA division shall post warnings to their personnel to avoid the incident train and its storage location.

42.5.19.4 ROCC and Division management are to be guided by Fire Department and MTPD instructions.

## 42.6 REFERENCES

SOP # 1A

# **SOP – Customer Assistance / Emergency Procedure SOPs**

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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## **SOP # 4      CUSTOMER EVACUATION FROM TRAIN**

### **4.1      PURPOSE**

The purpose of this Standard Operating Procedure (SOP) is to provide for evacuation of customers from a disabled train.

### **4.2      SCOPE**

This SOP is applicable to all rail personnel involved in evacuating customers from a disabled train.

### **4.3      DEFINITIONS**

None

### **4.4      RESPONSIBILITIES**

4.4.1 All personnel who are involved in evacuation of customers from a disabled train are to comply with the procedures outlined in this SOP.

4.4.2 Rail Operation Control Center (ROCC) Supervisor is responsible for determining which method will be used to evacuate customers from a disabled train. The ROCC supervisor shall notify all concerned departments of the customer evacuation.

4.4.3 Rail Operations Supervisor shall be responsible for coordinating all activities at the scene and assist the Incident Commander.

4.4.4 Train Operators shall be responsible for ensuring the safety of customers aboard the disabled train, make appropriate announcements to their customers, and act as the On Scene Commander until relieved.



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**4.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
4.5.1	Notification
4.5.2	Train Movement Against the Established Directions of Traffic
4.5.3	Rescue Train Evacuation
4.5.4	Closed-In Evacuation from Train Stopped Behind a Disabled Train
4.5.5	Evacuation to the Roadway
4.5.6	Rescue Train on the Adjacent Track
4.5.7	Third Rail Power Restoration
4.5.8	Disposition of Customers and Car Units after Evacuation

4.5.1 Notification:

- 4.5.1.1 When an evacuation of customers from a train is requested and ordered by the ROCC supervisor, all concerned departments shall be notified by the ROCC supervisor.
- 4.5.1.2 The ROCC supervisor shall determine which method to use to rescue customers from a train.

4.5.2 Train Movement Against the Established Directions of Traffic:

Before initiating train movement against the established direction of traffic, ROCC shall:

- 4.5.2.1 Established an absolute block for the distance the train will travel against the direction of traffic.
- 4.5.2.2 Determine that no trains are within the designated limits of the absolute block.
- 4.5.2.3 If an opposing interlocking signal is located at the distance end of the absolute block, the ROCC supervisor shall ensure that it is placed in the stop position.





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- 4.5.2.4 If the distant end of the absolute block is not an interlocking signal location, the ROCC supervisor shall ensure that the Train Operator of an approaching train is instructed to stop and stay outside of the distance limit of the absolute block and has reported that the train has stopped and the position reported to the Operation Control Center.
  - 4.5.2.4.1 ROCC supervisor shall instruct the Train Operator making the reverse move to:
    - 4.5.2.4.1.1 Change to mode 2.
    - 4.5.2.4.1.2 Sound train horn throughout the move.
    - 4.5.2.4.1.3 Proceed at restricted speed (15 mph or as directed by ROCC) or be flagged to the distance end of the absolute block and stop.
  - 4.5.2.5 If the train is to be routed to the adjacent track the route shall be established after the train has stopped at the interlocking signal and the adjacent track is clear. The Train Operator shall return to mode 1 operation after the next stop unless ROCC Supervisor instructs otherwise.
  - 4.5.2.6 When it is necessary for the train making the reverse move to pass through a track switch section where the interlocking signal cannot be cleared because traffic direction cannot be established, ROCC Supervisor shall implement the following:
    - 4.5.2.6.1 The switches must be cranked and blocked in the correct alignment for the intended move.
    - 4.5.2.6.2 The blocking and alignment must be rechecked for safe train movement.
- 4.5.3 Rescue Train Evacuation:

This method is used to evacuate customers by having an empty train dispatched to a disabled train stopped between stations.

  - 4.5.3.1 The ROCC Supervisor shall establish an absolute block to permit the rescue train to operate in both directions.
  - 4.5.3.2 The Train Operator of the rescue train shall operate the train in mode 2 at restricted speed (15 mph) sounding the train horn in frequent intervals.



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- 4.5.3.3 The train operator of the rescue train shall stop the train as near to the disabled train as possible without coupling, making required safety stops. In situations where the rescue train is above and travelling downhill to the disabled train, the rescue train operator shall place one wheel chock under the train wheel of the front axle of the rescue train (the wheel closet to the disabled train) to prevent the rescue train from rolling back and coupling to the disabled train (after rescue operation complete). After the rescue train has moved, the train operator of the disabled train shall remove the chocks from the running rail (safety critical step).



**Notice:** Chocks are in the seat well of the B car.

- 4.5.3.4 ROCC shall verify the wheel chock has been removed from the running rail.
- 4.5.3.5 The Train Operator of the rescue train shall secure the train, unlock and open the end doors of both trains and assist customers from the disabled train into the rescue train.
- 4.5.3.6 When all customers have been transferred to the rescue train, the end door of the rescue train shall be closed and locked.
- 4.5.3.7 The Train Operator of the rescue train shall change operating ends upon instructions from the ROCC Supervisor or the Operations Supervisor in charge and operate the train to a designated customer station.
- 4.5.4 Closed-In Evacuation from Train Stopped Behind a Disabled Train:
- 4.5.4.1 This method is used to evacuate customers to a station platform through another train stopped in a station.
- 4.5.4.1.1 When train service is interrupted for any reason preventing trains from proceeding through an area, the Train Operator nearest a station shall operate the train in Mode 2 into the station. Customers shall be discharged and the doors of the train shall be left open.
- 4.5.4.1.2 The Train Operator behind the train in the station shall operate the train in Mode 2 at a restricted speed (15 mph) to close - in to the train in the station as near as possible without coupling, making required safety stops.



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- 4.5.4.1.3 Before beginning customer evacuation, the Train Operator of the train closing in must inform the Train Operator of the train in the station to secure the train.
- 4.5.4.1.4 The train operator of the train closing in shall secure the train, unlock and open the end doors of both trains and assist customers through the train into the station.
- 4.5.4.1.5 After all customers have been evacuated, Train Operators shall report to the ROCC Supervisor and be governed by ROCC's instructions.
- 4.5.4.1.6 Succeeding Train Operators in the area shall be instructed to follow the same procedure.
- 4.5.5 Evacuation to the Roadway:
  - 4.5.5.1 This procedure shall be used as a last resort to evacuate customer from a disabled train.
  - 4.5.5.2 Before evacuating customers from a train to the Roadway, the ROCC Supervisor shall be certain that all Authority departments have been notified and the following directives have been issued and implemented:
    - 4.5.5.2.1 A Rail Operations Supervisor is at the scene to coordinate all activities and to cooperate with other public assistance agencies.
    - 4.5.5.2.2 Metro Transit Police Department (MTPD) and local Fire Department personnel are at the scene.
    - 4.5.5.2.3 Power personnel are available at the involved substation and the tie breaker station to rack out and tag the circuit breakers that are tripped when third rail traction power is removed by supervisory control.
    - 4.5.5.2.4 Sufficient personnel are available at the evacuation location to assist and guide the customers.
    - 4.5.5.2.5 Third rail traction power has been removed from the required power section of both tracks for the area through which the customers will walk in accordance with SOP # 2 "Extended Emergency".
  - 4.5.5.3 An emergency ladder stored in the end car, shall be securely position between the end door of the car and the roadbed.
  - 4.5.5.4 The customers shall be assisted down the ladder and guided to the nearest station or emergency exit.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

4.5.5.5 The Train Operator shall supply sufficient hand brakes prior to evacuating customers from the train. After all customers have been evacuated from the disabled train the operator shall apply all hand brakes on the train or as directed by ROCC.

4.5.5.6 The ROCC Supervisor shall activate the ventilation system based on conditions at the scene.

4.5.6 Rescue Train on the Adjacent Track:

Evacuation of the customers from a disabled train to a rescue train on the adjacent track may be attempted provided there are no obstructions to hinder the customers walking from one track to the other. If this method of evacuation is feasible, prepare for the evacuation as prescribed in procedures 4.5.5.1 - 4.5.5.6.

4.5.7 Third Rail Traction Power Restoration:

4.5.7.1 Third rail power shall be restored on verification from the Rail Operation Supervisor:

4.5.7.1.1 All customers have been evacuated and are off the Roadway.

4.5.7.1.2 The Senior Fire Department official has cleared the scene of Fire Department personnel and authorized the Rail Operations Supervisor to place the system back in operation.

4.5.7.1.3 All other public assistance agency personnel have left the Roadway.

4.5.7.1.4 All remaining personnel are standing clear and aware of the restoration.

4.5.7.2 When all the above conditions are met the ROCC Supervisor shall restore third rail power in accordance with SOP # 2 – EMERGENCY REMOVAL AND RESTORATION OF THIRD RAIL POWER MAINLINE.

4.5.8 Disposition of Customers and Car Units after Evacuation:

The ROCC Supervisor shall issue instructions to Station Managers, Train Operators, and all concerned departments for appropriate actions to be taken on disposition of customers and train after an evacuation.



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**4.6 REFERENCES**

4.6.1 SOP # 2

4.6.2 SOP # 15



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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP # 4A CUSTOMER SELF - EVACUATION FROM TRAINS

### 4A.1 PURPOSE

- 4A.1.1 The purpose of this Standard Operating Procedure is to establish guidelines for actions to be taken by employees when the possibility of customer self - evacuation exists.
- 4A.1.2 Every effort should be made to keep trains moving, especially in tunnel areas, because activation of a side door mechanism will prevent a train from moving and may result in an unnecessary evacuation. However, when trains are required to stop between stations, total and effective communications between ROCC and the Train Operators and between the Train Operators and their customers are imperative. ROCC must keep Train Operators informed of delays and their estimated duration. In turn, Train Operators must keep their customers updated with the information provided by ROCC and repeat these messages every few minutes. Consistent and frequent announcements aboard the train should ease customer stress and reduce and/or eliminate unnecessary use of self-evacuation doors.

### 4A.2 SCOPE

This SOP is applicable to all WMATA personnel.

### 4A.3 DEFINITIONS

None

### 4A.4 RESPONSIBILITIES

- 4A.4.1 All WMATA personnel are responsible for being familiar with this (SOP) and if presents during such an occurrence, for helping the Train Operator to maintain order and calm customers.
- 4A.4.2 The Operations Control Center (ROCC) is responsible for maintaining adequate communications with Train Operators and for coordinating and directing the activities prescribed in this procedure.
- 4A.4.3 Train Operators are responsible for maintaining adequate communications with their customers and for complying with this procedure.
- 4A.4.4 The Metro Transit Police Department (MTPD) Dispatchers are responsible for coordinating Metro Transit Police Department (MTPD) activities with ROCC in compliance with this procedure.



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**4A.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
4A.5.1	ROCC Procedures
4A.5.2	Train Operator Procedures
4A.5.3	MTPD Procedures

4A.5.1 ROCC Procedures:

4A.5.1.1 When notified that an emergency door has been opened and persons have exited the train:

4A.5.1.1.1 Dispatch Rail Operations Supervisors to the scene and notify MTPD;

4A.5.1.1.2 Remove power after allowing any nearby trains to move into stations at restricted speed (15 mph) while making a track inspection;

4A.5.1.1.3 If customer(s) is(are) brought back on board, advise the MTPD Dispatcher to make a radio announcement that ROCC is about to restore power. After the MTPD Dispatcher has confirmed that the announcement has been made with no negative response, restore power in compliance with SOP # 2, and instruct the operator to operate in MODE 2 to the next station while making a track inspection. Instruct the next train on each track to make track inspections at restricted speed (15 mph) through the affected area.

4A.5.1.1.4 If customer(s) is(are) not brought back on board, request MTPD and instruct the Rail Operations Supervisors to proceed to the scene, secure train, and make necessary track inspections. When it is confirmed that tracks are clear, request the MTPD Dispatcher to make a radio announcement that ROCC is about to restore power. After the MTPD Dispatcher has confirmed that the announcement has been made with no negative response, restore power in compliance with SOP # 2 and resume operations; and,

4A.5.1.1.5 If it is an emergency (e.g., fire or smoke), notify Fire Department(s); initiate ventilation procedures; instruct Train Operator to evacuate customers to the safety walk side of the train and direct operator to the nearest station and, proceed in compliance with existing procedures.

4A.5.1.2 When notified that an emergency door has been opened and it is undetermined if persons have exited the train:

4A.5.1.2.1 Dispatch Rail Operations Supervisors to the scene and notify MTPD;





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- 4A.5.1.2.2 Remove power after allowing any nearby trains to move into stations at restricted speed (15 mph) while making a track inspection;
- 4A.5.1.2.3 If it is determined that persons have not exited the train, advise the MTPD Dispatcher to make a radio announcement that ROCC is about to restore power; after the MTPD Dispatcher has confirmed that the announcement has been made with no negative response, restore power, and instruct the operator to operate in MODE 2 to next station while making a track inspection. Instruct the next train on each track to make track inspections at restricted speed (15 mph) through the affected area.
- 4A.5.1.3 If it is determined that persons have exited the train:
  - 4A.5.1.3.1 Instruct operator(s) and Rail Operations Supervisors and request MTPD to go to the scene, secure the train, and make necessary track inspections. When it is confirmed that tracks are clear, advise the MTPD Dispatcher to make a radio announcement that ROCC is about to restore power, after the MTPD Dispatcher has confirmed that the announcement has been made with no negative response; restore power in compliance with SOP # 2 and resume operations; and,
  - 4A.5.1.3.2 If it is an emergency (e.g., fire or smoke), notify Fire Department(s); initiate ventilation procedure; instruct the Train Operator to evacuate customers to the safety walk side of the train and direct operator to the nearest station; and proceed in compliance with existing procedures.
- 4A.5.2 Train Operator Procedures:
  - 4A.5.2.1 When an emergency door has been opened and persons have exited the train:
    - 4A.5.2.1.1 Notify ROCC;
    - 4A.5.2.1.2 Use the public address system to inform customers not to use emergency exits. Request that customers remain aboard and advise them that the problem will be corrected shortly;
    - 4A.5.2.1.3 Secure the train and, if possible, attempt to get customer(s) back on board. If customer(s) get back on board, secure the door and after getting permission from ROCC, resume movement when third rail power is restored;



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- 4A.5.2.1.4 If above actions are not possible, secure the door and get guidance from ROCC. Encourage customers to stay on board until assistance arrives provided no emergency exists that threatens customers; and,
- 4A.5.2.1.5 If it is an emergency (e.g., fire or smoke), inform ROCC of the location of the fire or smoke and the action(s) that the operator has taken. Get guidance from ROCC on the evacuation, and instruct customers to evacuate in compliance with ROCC's instructions.
- 4A.5.2.2 When an emergency door has been opened and it is undetermined if persons have exited the train:
  - 4A.5.2.2.1 Notify ROCC;
  - 4A.5.2.2.2 Go to the car involved and question customer(s) to determine if anyone has left the train;
  - 4A.5.2.2.3 If the response is negative, close the door. Notify ROCC and, when instructed, resume operations;
  - 4A.5.2.3 If response is positive:
    - 4A.5.2.3.1 Use public address announcements to inform customers not to use emergency exits. Request that customers please stay on board and advise them that the problem will be corrected shortly;
    - 4A.5.2.3.2 Secure the train and, if possible, attempt to get customer(s) back on board. If customer(s) get back on board, secure the door and after getting permission from ROCC, resume movement when 3rd rail power is restored;
    - 4A.5.2.3.3 If the above actions are not possible, secure door and get guidance from the ROCC. Encourage customers to stay on board until assistance arrives, provided no emergency exists that threatens customers; and,
    - 4A.5.2.3.4 If it is an emergency (e.g., fire or smoke), inform ROCC of the location of the fire or smoke and the actions taken by the operator. Get guidance from ROCC on the evacuation and instruct customers to evacuate in compliance with ROCC instructions.



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### 4A.5.3 MTPD Procedures:

The MTPD Dispatcher shall:

- 4A.5.3.1 Dispatch MTPD personnel at the request of ROCC;
- 4A.5.3.2 Notify ROCC of the number of personnel dispatched and the point from where they were dispatched;
- 4A.5.3.3 After all personnel and equipment have cleared the track, at the request of ROCC:
  - 4A.5.3.3.1 Make a radio announcement to all MTPD personnel that: "THIRD RAIL POWER IS ABOUT TO BE RESTORED AND TRAIN MOVEMENT RESUMED ON TRACK(S) NUMBER\_\_\_\_ FROM\_\_\_\_ TO\_\_\_\_. IF THERE IS ANY RESPONSE FROM THE FIELD, PLEASE DO SO NOW."
  - 4A.5.3.3.2 After waiting one (1) minute, notify ROCC that MTPD personnel have been notified;
  - 4A.5.3.4 If it is an emergency (e.g., fire or smoke), instruct MTPD personnel to act in compliance with established procedures.

### 4A.6 REFERENCES

SOP # 2



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## SOP # 5 CROWD CONTROL AT STATIONS

### 5.1 PURPOSE

The purpose of this SOP is to provide clear and concise instructions for handling large crowds, unusual occurrences, or police situations in the station area that have the potential to create an overcrowded condition.

### 5.2 SCOPE

5.2.1 This SOP is applicable to the mainline Rail System during revenue service.

5.2.2 This SOP affects Station Managers assigned to stations, Train Operators, Rail Operations Control Center (ROCC), Metropolitan Transit Police Department (MTPD), and support personnel dispatched to assist in controlling the flow of customers safely throughout the Metrorail System.

### 5.3 DEFINITIONS

None

### 5.4 RESPONSIBILITIES

5.4.1 Rail Operations Control Center (ROCC) Responsibility:

The ROCC shall notify station, Train and MTPD personnel of situations that may lead to overcrowding and direct or coordinate activities to maintain the safety of the system.

5.4.2 Station Manager Responsibility:

The Station Manager shall contact ROCC immediately and report any abnormal customer movement or overcrowded conditions that has the potential to create a hazardous situation for customers and take appropriate action to minimize the hazards.

5.4.3 Train Operator Responsibility:

Train Operators shall notify ROCC of overcrowded conditions and take appropriate actions to minimize the dangers to customers and employees associated with overcrowding.



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### 5.4.4 Metropolitan Transit Police Department (MTPD) Responsibility:

Assist with crowd control.

## 5.5 PROCEDURES

Procedure #	Content
5.5.1	Notification of Overcrowding
5.5.2	Station Management
5.5.3	Train Movement
5.5.4	Resumption of Normal Service

### 5.5.1 Notification of Overcrowding:

5.5.1.1 ROCC shall notify Station Managers of situations (train delays, offloads, or escalator outages) that may cause overcrowding in their stations and to be alert for platform overcrowding.

5.5.1.2 Train Operators, Station Managers, MTPD, or other employees shall immediately notify ROCC of overcrowded conditions.

5.5.1.3 Station Managers shall go directly to ROCC via handheld radio to notify ROCC of overcrowding when necessary to respond rapidly to a dangerous condition.

5.5.1.4 Front line employees shall keep ROCC updated on overcrowding conditions and request support to manage the situation.

### 5.5.2 Station Management:

5.5.2.1 Station Managers shall minimize the safety impact of the overcrowding by doing any of the following, in order of importance:

5.5.2.1.1 Stopping all customer entry to the station.

5.5.2.1.2 Stopping all incoming customer flow with employees or turning off escalators to the mezzanine and to the station platform.

5.5.2.1.3 Stopping all elevators at the station platform level.



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5.5.2.1.4 Make appropriate announcements to customers using available means, including wireless microphones, if station is so equipped.

### 5.5.3 Train Movement:

5.5.3.1 ROCC shall instruct Train Operators to operate their trains in Mode 2 at a restricted speed (15 mph) and to sound their horns prior to entering the station.

5.5.3.2 ROCC shall instruct Train Operators to operate at a restricted speed (15 mph) when exiting the station, if platforms remain crowded after servicing a station.

5.5.3.3 If conditions require additional train service to reduce the station congestion, ROCC may order a Train Operator of a train proceeding in the opposite direction to discharge customers at a station near an emergency crossover. This Train Operator shall change ends at the turn back location and proceed in Mode 2 at a restricted speed (15 mph) or as directed by ROCC without customers to the overcrowded station, make a station stop to pick up customers and operate the train in revenue service in Mode 1.

5.5.3.4 Train Operators shall notify ROCC of overcrowded conditions and take appropriate actions to minimize the dangers to customers and employees associated with overcrowding.

### 5.5.4 Resumption of Normal Service:

5.5.4.1 When the condition is cleared, ROCC shall:

5.5.4.1.1 Instruct Station Managers to discontinue announcements, permit customer movement to the platform and normalize the station.

5.5.4.1.2 Remove Mode 2 and speed restrictions instruction to Train Operators.

5.5.4.1.3 Notify all concerned departments that the condition is clear and normal operation has resumed.

## 5.6 REFERENCES

None



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### SOP # 18 LOST AND FOUND

#### 18.1 PURPOSE

The purpose of this SOP is to delineate responsibilities and procedures for handling lost and found property and to establish a chain of custody for the disposition of lost and found property throughout the Metrorail system on a daily basis.

#### 18.2 SCOPE

- 18.2.1 This SOP affects Station Managers, Train Operators, RTRA Supervisory Personnel, Station Runners, Depot Clerks and Metropolitan Transit Police Department (MTPD).
- 18.2.2 The Lost and Found Office (202-962-1195) is located 6505 Belcrest Drive Hyattsville, Maryland, Monday - Friday, **Walk-in hours** 11:00 AM to 6:00 PM, except holidays and **Phone Hours** Tuesday – Friday 11:00 AM to 5:00 PM.
- 18.2.3 All WMATA employees finding or receiving lost and found articles.

#### 18.3 DEFINITIONS

None

#### 18.4 RESPONSIBILITIES

- 18.4.1 Station Manager Responsibility:
  - 18.4.1.1 Station Managers shall be responsible for the acceptance log in, safekeeping and disposition of all lost and found property found or received by them from parties in the Metrorail system.
  - 18.4.1.2 Station Managers shall maintain all lost and found articles in locked “trap bags.”
  - 18.4.1.3 Station Managers shall provide customers with Lost and Found Brochures and maintain a supply of brochures in kiosks at all times.
- 18.4.2 Train Operators Responsibility:
  - 18.4.2.1 Train Operators shall be responsible for the disposition of lost and found property turned into them by customers to their supervisor or nearest lost and found location.



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### 18.4.3 Other Personnel Responsibilities:

18.4.3.1 RTRA Supervisory Personnel, Station Supply Runners, Depot Clerks and MTPD personnel shall be responsible for the appropriate disposition of lost and found property as stated in this SOP.

18.4.3.2 All on/off duty employees shall be responsible for turning in all lost and found property to the nearest lost and found location for proper disposition.

## 18.5 PROCEDURES

Procedure #	Content
18.5.1	Equipment and Forms
18.5.2	Description and Use of Lost and Found Property Identification Tag
18.5.3	Customer Refusal to Turn in Lost Property
18.5.4	Disposable Articles
18.5.5	Firearms, Controlled Substances, or Other Contraband
18.5.6	Money and Valuable Property
18.5.7	Larger Objects
18.5.8	Locked Property
18.5.9	Lost Property Claim
18.5.10	Chain of Custody

### 18.5.1 Equipment and Forms:

18.5.1.1 A “trap” bag, “Lost and Found Property Identification Tags” and a Log Book will be available at Metrorail Kiosks.

18.5.1.2 “WMATA Lost and Found Article Log” sheets will be available at division offices.

### 18.5.2 Description and Use of Lost and Found Property Identification Tag:

18.5.2.1 The “Lost and Found Property Identification Tag” is numbered in sequence. Entries shall be made in the following areas:



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- 18.5.2.1.1 Lined blank section to describe property for an accurate listing of items.
- 18.5.2.1.2 Location where property found.
- 18.5.2.1.3 Date and time.
- 18.5.2.1.4 Name and payroll number of employee receiving lost property from finder.
- 18.5.2.1.5 Name, address, telephone number of the person turning in lost property, and, if applicable, employee payroll number.
- 18.5.2.1.6 Signature, address and telephone numbers for properly identified person claiming lost item(s).
- 18.5.2.1.7 Station Supply Runner Pick-Up disposition section.
- 18.5.2.1.8 MTPD Pick-Up disposition section.
- 18.5.2.2 The “Lost and Found Property Identification Tag” shall be attached to the Lost and Found property and the coinciding sequence number of the tags shall be recorded in the Log Book.
- 18.5.3 Customer Refusal to Turn in Lost Property:
  - 18.5.3.1 When an employee observes a customer finding lost property, they shall present identification and explain the procedure for turning in lost property.
  - 18.5.3.2 If a customer refuses to release the property, and theft is suspected, the employee shall notify MTPD through ROCC. If possible, the employee shall get the names and addresses of several witnesses to the incident, and a description of the article. A written report of the incident shall be submitted to the employee’s supervisor and the incident shall be reported to the Lost and Found Office.
- 18.5.4 Disposable Articles:
  - 18.5.4.1 Employees at Lost and Found locations shall retain articles of questionable value, perishable foods and alcoholic beverages for a reasonable time. If they are not claimed, they shall be disposed of.



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18.5.4.2 Employees shall note the action taken regarding the disposable articles in the Log Book. An entry of the action shall be recorded on “Lost and Found Property Identification Tag” and sent to the Lost and Found Office.

18.5.5 Firearms, Controlled Substances, or Other Contraband:

When firearms, controlled substances or other contraband is found, employees shall notify ROCC. ROCC will request MTPD to dispatch an officer to take custody of the property.

18.5.6 Money and Valuable Property:

18.5.6.1 When money, negotiable instruments or valuable properties are found, employees shall itemize and record the time in the presence of the finder.

18.5.6.2 When the actual or estimated value of an item exceeds \$100, Station Managers shall notify ROCC. ROCC shall notify the Sector Supervisor to pick up the item(s).

18.5.6.3 The Sector Supervisor shall sign the Log Book and take the tagged property directly to the Lost and Found Office during normal office hours. During non-business hours, the property shall be retained by the Division or MTPD for safekeeping.

18.5.6.4 When the money or valuable property is suspected of being evidentiary in nature, the employee shall notify MTPD through ROCC. MTPD will take custody of the item if, in his/her opinion, the item is of evidentiary value or the interest of the owner and/or WMATA might better be served when the situation is handled by MTPD.

18.5.6.5 Employees shall note the action taken regarding the money or valuable property on the “Lost and Found Property Identification Tag.” An entry of the action shall be recorded in the Log Book.

18.5.7 Larger Objects:

18.5.7.1 Property, which is too large to fit into the “Trap” bag or kiosk storage cabinet, shall be reported to ROCC.

18.5.7.2 A Station Supply Runner or designated employee messenger will be dispatched to take the property to the Lost and Found Office.



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### 18.5.8 Locked Property:

18.5.8.1 Luggage or other property secured by a lock shall be reported to MTPD through ROCC, immediately.

18.5.8.2 MTPD shall respond and make a determination regarding the disposition of the locked property and document the action taken in the Log Book.

18.5.8.3 Station Managers shall complete a “Lost and Found Property Identification Tag” to accompany the item(s) and document the disposition of the property in the Log Book.

### 18.5.9 Lost Property Claim:

18.5.9.1 Employees shall not divulge information as to the contents or the description of articles found.

18.5.9.2 When persons claim lost property before it is forwarded to the Lost and Found Office, the property may be released upon:

18.5.9.2.1 Proper identification of the claimant.

18.5.9.2.2 Proper identification of the property and the contents.

18.5.9.2.3 The claimant’s name, address, telephone numbers, type of personal identification, and a statement that the property is intact shall be printed on the back of the “Lost and Found Property Identification Tag” and in the Log Book. The claimant will print and sign his/her name on the tag and in the Log Book upon accepting the item(s).

18.5.9.2.4 When a claimant cannot provide proper identification, cannot properly identify the property and its contents, or claims some portion of the property is missing, the property shall not be surrendered. The claimant shall be instructed to make a claim for the property at the Lost and Found Office.

### 18.5.10 Chain of Custody:

18.5.10.1 When an employee assigned to a Lost and Found location relieves another employee, both employees shall examine the Log Book, “Lost and Found Property Identification Tags” and property to ensure that all the property is available and accounted for. The relieving employee shall sign the Log Book if in concurrence.



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- 18.5.10.2 If a relieving employee is not in concurrence with the “Lost and Found Property Identification Tags” and property, the relieving employee shall contact his/her immediate supervisor in the presence of his/her fellow employee.
- 18.5.10.3 Station Supply Runners and employees making “trap” bag runs are responsible for bringing in all lost and found property daily to the appropriate division. Employees picking up lost articles shall verify that the lost and found property is accounted for and sign/date the “Lost and Found Property Identification Tag” and Log Book before taking possession. Any discrepancies shall be reported immediately to his/her supervisor.
- 18.5.10.4 Depot Clerks receiving lost and found property shall reconcile the articles with the “Lost and Found Property Identification Tags” and complete a “WMATA Lost and Found Article Log” sheet(s) listing all items in detail.
- 18.5.10.5 If discrepancies are found, the Depot Clerks shall contact the Superintendent or Chief Operations Supervisor and document all discrepancies on the “WMATA Lost and Found Article Log” sheet(s).
- 18.5.10.6 The Superintendent or Chief Operations Supervisor shall contact MTPD regarding any discrepancies.
- 18.5.10.7 The Depot Clerk shall fax all “WMATA Lost and Found Article Log” sheets to the Authority’s Lost and Found Office and give the lost and found articles to the Authority’s Mail Runner for delivery to the Lost and Found Office.
- 18.5.10.8 Station Supply Runner shall transport large and bulky lost and found articles to the Authority’s Lost and Found Office.
- 18.5.10.9 All bicycles shall be transported to the Open Material Storage Warehouse at 3360 Pennsy Drive. Bicycles will only be accepted by scheduling an appointment. Prior to delivery, call 202-962-5506

### 18.6 REFERENCES

None



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LOST AND FOUND IDENTIFICATION TAG						
Description of Article Including Contents					Depot Clerk's Time Stamp	 Article Stub
Found on	Line	Vehicle Number	Date			
	Time					
Turned in by	Employee Name		Payroll #			
Found by	Name	Address	Telephone #	Tag ID #	Tag ID #	

Name of Person Claiming Item (PLEASE PRINT)			For Official Use Only	Call Metro Lost & Found at 202-962-1195  11:00A.M. - 6:00P.M.  Tuesday through Friday, except holidays  
I hereby acknowledge receipt of articles and contents described on reverse side.				
Signature of Person Claiming (Please Use Ink)		Date		
		Time		
Address of Person Claiming		Home #		
		Work #		
Station Supply Runner Pick-Up	Were all items listed on the front present? <input type="checkbox"/> Yes <input type="checkbox"/> No (If not, contact your Supervisor immediately)			
Transit Police Pick-Up	Initial/Badge #	Disposition of Item		

Figure 1. Lost and Found Tag (Front and Back)



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**SOP # 24 SICK CUSTOMER ON A TRAIN**

**24.1 PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the handling of a sick customer on a train.

**24.2 SCOPE**

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in connection with a sick customer on a train.

**24.3 DEFINITIONS**

None

**24.4 RESPONSIBILITIES**

24.4.1 The ROCC Supervisors shall be responsible for supervising and coordinating the implementation of this SOP.

24.4.2 The ROCC Supervisor shall ensure that all notifications are made as required by this SOP.

24.4.3 All WMATA Employees shall ensure that all procedures in SOP 1A are followed.

24.4.4 Train Operators and Station Managers shall be responsible for following all sections of this SOP.

**24.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
24.5.1	Train Operator Procedures When Notified of a Sick Customer on the Train.
24.5.2	The ROCC Supervisor Procedure for Notification.
24.5.3	Procedure for Offering Medical Assistance to the Customer
24.5.4	The ROCC Supervisor Procedure for Requesting Medical Assistance to an Unresponsive/Unconscious Person
24.5.5	The ROCC Supervisor Procedure for Escorting Medical Personnel.



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### 24.5.1 Train Operator Procedures when Notified of a Sick Customer on the Train:

When notified that a customer aboard a train is sick, the Train Operator shall investigate at the next station stop. After making the station stop, the Train Operator shall:

24.5.1.1 Open the doors of the train and keep them open;

24.5.1.2 Notify the ROCC Supervisor;

24.5.1.3 Secure the operating console and cab, and;

24.5.1.4 Go to the car where the customer is reported to be, and ask the sick customer if medical assistance is needed.

### 24.5.2 The ROCC Supervisor Procedure for Notification:

The ROCC Supervisor will notify all concerned departments and dispatch the nearest Rail Operations Supervisor to the scene.

### 24.5.3 Procedure for Offering Medical Assistance to the Customer:

24.5.3.1 When a customer does not want medical assistance, the Train Operator shall advise the ROCC Supervisor and be governed by their instructions.

24.5.3.2 When a customer accepts the offer of medical assistance and is ambulatory, the Train Operator shall escort the Customer to a platform bench or to the Station Manager's kiosk.

24.5.3.2.1 If a MTPD Officer is in the station the customer shall be left in the officer's care.

24.5.3.2.2 After the customer has been left in another employee's care, the Train Operator shall notify the ROCC Supervisor and continue in revenue service.

24.5.3.3 When a sick customer is immobile, the Train Operator shall:

24.5.3.3.1 The Train Operator shall notify the ROCC Supervisor immediately and be governed by their instructions.

24.5.3.3.2 Attempt to get information from the sick customer as to how the condition came about, to determine what should be done.



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- 24.5.3.3.3 If the Customer is unable to speak, the Train Operator shall attempt to get information from any other customer who may know how the condition came about.
- 24.5.3.3.4 The Train Operator shall request the assistance of other employees on the scene or able bodied customers and move the person to the station platform if it is determined that the Customer can be moved.
- 24.5.3.3.5 The Train Operator shall leave the customer in another employee's care, notify the ROCC Supervisor and continue in revenue service.
- 24.5.3.4 When it is determined that the customer cannot be moved because it may cause further complications, the Train Operator shall notify ROCC Supervisor immediately and be governed by their instructions.
- 24.5.3.5 Train Operators shall submit a report of the incident sometime before the end of their workday. The following information shall be included:
- 24.5.3.5.1 Customer's name, address and telephone number.
- 24.5.3.5.2 Number of the car the customer was on.
- 24.5.3.5.3 Station name.
- 24.5.3.5.4 Name of the employee that the customer was left with.
- 24.5.3.5.5 What medical assistance was required, if any.
- 24.5.3.5.6 Time of day.
- 24.5.4 The ROCC Supervisor Procedure for Requesting Medical Assistance to an Unresponsive/Unconscious Person:
- Whenever a person is reported unconscious or unresponsive on a train, the ROCC Supervisor shall:
- Hold the train at the station or stop the train at the next station if the train is not in a station;
  - Request medical assistance to be sent to the location of the sick person, and;
  - Hold the train until medical assistance arrives or the person's condition changes to allow them to be removed from the train.



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24.5.5 The ROCC Supervisor Procedure for Escorting Medical Personnel:

The ROCC Supervisor will instruct the Rail Operations Supervisor at the scene to arrange an escort for directing medical personnel to the scene.

**24.6 REFERENCES**

None



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**SOP # 25 PERSON FALLING TO TRACK**

**25.1 PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the handling of persons falling to the track.

**25.2 SCOPE**

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in connection with a person falling to the track.

**25.3 DEFINITIONS**

None

**25.4 RESPONSIBILITIES**

25.4.1 The ROCC Supervisors shall be responsible for supervising and coordinating the implementation of this SOP.

25.4.2 The ROCC Supervisor shall ensure that all notifications are made as required in this SOP.

25.4.3 All WMATA Employees shall ensure that procedures in SOP 1A are followed.

25.4.4 Station Managers shall be responsible for following all sections of this SOP.



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**25.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
25.5.1	Notification
25.5.2	Procedures for the Rail Operations Supervisor at the Scene
25.5.3	Station Manager Procedure to Stop Trains
25.5.4	Station Manager Procedure Before Going to Tracks
25.5.5	Station Manager Procedure to Assist a Person on the Tracks
25.5.6	ROCC Supervisor Procedure When Notified of a Person Falling to the Tracks
25.5.7	The ROCC Supervisor Procedure to Restore Normal Service

25.5.1 Notification:

25.5.1.1 Station Managers, observing or being notified of a person falling to the track, shall notify the ROCC immediately, by dialing zero on the telephone in the kiosk or by radio, and request the removal of third rail power on the affected track.

25.5.1.2 The Station Manager shall give the ROCC the following information:

25.5.1.2.1 Involved track number.

25.5.1.2.2 Name of station.

25.5.1.2.3 Caller's identification.

25.5.1.3 The ROCC Supervisor shall instruct all Train Operators approaching the area to stop their trains.

25.5.1.4 The ROCC Supervisor shall notify MTPD and all concerned departments and Station Managers on the affected line.

25.5.2 Procedures for the Rail Operations Supervisor at the Scene:

The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the scene.

25.5.2.1 The Rail Operations Supervisor shall establish communications with the ROCC Supervisor.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

25.5.2.2 The Rail Operations Supervisor shall be responsible for coordinating all Authority activities at the scene.

25.5.3 Station Manager Procedure to Stop Trains:

The Station Manager shall go immediately to the end of the platform where a train would enter the station on the track involved, and be prepared to flag any trains approaching to a stop.

25.5.4 Station Manager Procedure Before Going to Tracks:

Before going on the tracks to assist the person, the Station Manager shall contact the ROCC Supervisor and ascertain that it is safe to go on the tracks, by using the telephone in the emergency trip station or by radio.

25.5.5 Station Manager Procedure to Assist a Person on the Tracks:

When the ROCC Supervisor verifies that third rail power has been removed and it is safe to go on the tracks, the Station Manager shall take one of the following actions to assist the person:

25.5.5.1 If the person is ambulatory, the person shall be directed or assisted to the platform via the steps at the end of the platform.

25.5.5.2 If the person is injured and can be moved, request the assistance of other employees on the scene, or able bodied customers, and move the person to the station platform.

25.5.5.3 When a person is injured and cannot be moved, the Station Manager shall notify the ROCC Supervisor and request medical assistance.

25.5.5.4 The Station Manager shall notify the ROCC Supervisor when the person is off the tracks and the tracks are clear. When necessary, medical assistance shall be requested through the ROCC Supervisor.

25.5.5.5 The Station Manager shall obtain all necessary information concerning the accident from the injured person and witnesses and include it in the accident report.



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### 25.5.6 ROCC Supervisor Procedure When Notified of a Person Falling to the Tracks:

The ROCC Supervisor when notified of a person falling to the tracks shall do the following immediately:

25.5.6.1 Instruct Train Operators on all trains approaching the affected station to stop and verify their locations.

25.5.6.2 Remove third rail power from the affected track.

25.5.6.3 Instruct Train Operators on the adjacent track to change their trains to Mode 2 and operate into the station with caution.

25.5.6.4 Initiate operating procedures to ease train congestion by initiating single track operation, turning trains and requesting Metrobus shuttle service.

25.5.6.5 Institute terminal schedule adjustments to ease train congestion.

25.5.6.6 The ROCC Supervisor shall request the Customer Service Specialist to make prescribed public address announcements to customers in stations.

25.5.6.7 The ROCC Supervisor may request the assistance of Transit Police for crowd control and for providing travel information and assistance to customers.

### 25.5.7 The ROCC Supervisor Procedure to Restore Normal Service:

When the Rail Operations Supervisor in charge notifies the ROCC Supervisor that all personnel and equipment are in the clear, the ROCC Supervisor shall order a restoration of third rail power, in accordance with SOP # 2.

25.5.7.1 After the Rail Operations Supervisor in charge has ascertained that it is safe to resume train operations, the ROCC Supervisor shall be advised.

25.5.7.2 The ROCC Supervisor shall restore train service and notify all concerned departments.





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**25.6 REFERENCES**

25.6.1 SOP # 1A

25.6.2 SOP # 2



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**SOP # 26 PERSON HIT BY A TRAIN**

**26.1 PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the handling of persons hit by a train.

**26.2 SCOPE**

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in connection with a person who has been hit by a train.

**26.3 DEFINITIONS**

None

**26.4 RESPONSIBILITIES**

26.4.1 The ROCC Supervisors shall be responsible for supervising and coordinating the implementation of this SOP.

26.4.2 The ROCC Supervisor shall ensure that all notifications are made as required in this SOP.

26.4.3 All WMATA Employees shall ensure that all procedures in SOP # 1A are followed.

26.4.4 Train Operators shall be responsible for following all sections of this SOP.



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**26.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
26.5.1	Train Operator Actions when Unprotected Person is Observed on Tracks
26.5.2	Train Operator Responsibilities
26.5.3	ROCC Supervisor Responsibilities
26.5.4	On Scene Commander Responsibilities
26.5.5	Station Manager Responsibilities.
26.5.6	Victim Shows Signs of Life/Not Deceased
26.5.7	Rescue of Victim to be Done by Fire Department
26.5.8	Victim Deceased
26.5.9	WMATA COUN Instructions
26.5.10	PLNT Clean-Up of Incident Location
26.5.11	Third Rail Power Restoration Procedure
26.5.12	Dispatching Incident Train to Nearest Rail Yard
26.5.13	Procedure for Restoring Normal Service
26.5.14	ROCC Supervisor Procedure for Notification to All Departments.

**26.5.1 Train Operator Actions when Unprotected Person is Observed on Tracks:**

Whenever a Train Operator observes an unprotected person on the tracks ahead of a train, every effort shall be made to avoid hitting the person, including applying brakes, pushing the "emergency stop button", and sounding the train horn. The remainder of this SOP is to be followed if efforts to avoid hitting the person are unsuccessful.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 26.5.2 Train Operator Responsibilities:

Train Operators involved in a Person Struck by train incident shall:

- 26.5.2.1 Notify the ROCC Supervisor of the incident by radio immediately. Should attempts at radio contact be unsuccessful, the telephone in the nearest Blue Light (ETS) Box is to be used to contact ROCC Supervisor.
- 26.5.2.2 Furnish the ROCC Supervisor with the train identification, track number and the train location in relation to a station.
- 26.5.2.3 Request the ROCC Supervisor to remove third rail power and confirm removal. If necessary, the Train Operator can go to the nearest Blue Light box and use the Emergency Trip Switch to remove third rail power.
- 26.5.2.4 Secure the train by setting handbrakes.
- 26.5.2.5 Leave the train and ascertain the location and condition of the person.
- 26.5.2.6 Notify the ROCC Supervisor of the person's condition and if possible, assist the person until medical assistance arrives.
- 26.5.2.7 If any part of the train is in a station, discharge passengers through the doors that are in the station.
- 26.5.2.8 If the incident occurred between stations, passengers will be evacuated in accordance with SOP # 4, and at the direction of the On Scene Commander.
- 26.5.2.9 Attempt to obtain the names and addresses of any witnesses to the incident.
- 26.5.2.10 Assist the public emergency service personnel who respond to the incident wherever possible.
- 26.5.2.11 Prepare and submit a report of the incident, using the appropriate forms.

### 26.5.3 ROCC Supervisor Responsibilities:

During a Person Struck by train incident the ROCC Supervisor shall:

- 26.5.3.1 Remove third rail power and verify the removal to the Train Operator.
- 26.5.3.2 Notify the appropriate jurisdictional Fire Department of the incident, via the direct telephone line, and request assistance.



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- 26.5.3.2.1 Provide them with as specific information as possible (i.e., nature of the emergency, location, nearest points of entry, conditions as known at that time).
- 26.5.3.2.2 As additional information is received from the scene, the Fire Department is to be updated.
- 26.5.3.3 Notify the following WMATA disciplines:
  - 26.5.3.3.1 MTPD
  - 26.5.3.3.2 Rail Operations Supervisors
  - 26.5.3.3.3 Station Manager
  - 26.5.3.3.4 Car Maintenance
  - 26.5.3.3.5 Maintenance Operations Center (MOC)
  - 26.5.3.3.6 Office of Safety
  - 26.5.3.3.7 Emergency Call List - only notify those not already contacted above.
- 26.5.3.4 Dispatch the nearest Rail Operations Supervisor to scene of the incident.
- 26.5.3.5 If the incident occurs on a line adjacent to a railroad, advise that railroad in accordance with SOP # 31.
  - 26.5.3.5.1 If information from the scene indicates that either Authority or fire service personnel must enter railroad property, the railroad shall be so advised.
  - 26.5.3.5.2 Also, be advised by the ROCC Supervisor at the completion of the incident.
- 26.5.3.6 Initiate action to close the affected station to passengers, and unauthorized personnel, with assistance from the Station Manager and MTPD.
- 26.5.3.7 Alert Train Operators approaching the area.
- 26.5.3.8 Initiate operating procedures to ease train congestion by mining trains, single track operations, terminal schedule adjustments, or Metro bus service.
- 26.5.3.9 Make prescribed public address announcements to passengers on trains and in stations.



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26.5.3.10 Request assistance from the MTPD for crowd control and to provide travel information and assistance to passengers as required.

26.5.4 On Scene Commander Responsibilities:

The On Scene Commander shall be governed by SOP # 1A.

26.5.5 Station Manager Responsibilities:

During a Person Struck by train incident the Station Manager shall:

26.5.5.1 Attempt to obtain names and addresses of all witnesses to the incident and provide same to MTPD.

26.5.5.2 Be prepared to evacuate all passengers from the station and close the entrance gates to prevent entry by other than authorized personnel if directed to do so by the On Scene Commander or the ROCC Supervisor.

26.5.5.3 Provide assistance as needed or requested.

26.5.6 Victim Shows Signs of Life/Not Deceased:

Should the victim show signs of life or not be obviously deceased, personnel at the scene shall provide whatever assistance that is within their capabilities.

26.5.7 Rescue of Victim to be Done by Fire Department:

Actual rescue of victims is the responsibility of the local Fire Department.

26.5.7.1 On occasion, however, they may require assistance from Authority personnel or equipment.

26.5.7.1.1 This assistance shall be provided as requested or needed.

26.5.7.1.2 It is recognized that certain operations, such as the jacking of train cars to remove a pinned victim, require specialized equipment and skills, and should not be performed by Fire Department personnel.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

26.5.7.1.3 Effective liaison between the Fire Department Officer in charge and the On Scene Commander is vital to avoid any situation which may further endanger personnel or result in excessive damage to equipment.

### 26.5.8 Victim Deceased:

Incidents where the victim is obviously deceased are the primary responsibility of the police (MTPD or local police), and may be the result of a crime. With this in mind, Authority personnel should disturb the scene as little as possible until the arrival of the police, and should try to identify and detain witnesses if possible.

Since the laws covering this type of incident vary greatly between jurisdictions, personnel at the scene should be guided by the directions from the police official in charge.

### 26.5.9 WMATA COUN Instructions:

In general, WMATA COUN advises that the Authority has the following legal responsibilities should they not be performed by outside agencies.

26.5.9.1 Notify the appropriate police and Fire Departments.

26.5.9.2 Collect all parts of the body.

26.5.9.3 Avoid publishing photographs or releasing victim's name.

26.5.9.4 Remove the body from the tracks as soon as possible.

26.5.9.5 Notify the next of kin, if not done by the local police.

26.5.9.6 If parts of the body are found after the incident, the next of kin must be notified.

### 26.5.10 PLNT Clean-Up of Incident Location:

After the person on the track has been removed, the ROCC Supervisor shall instruct PLNT to clean up any unpleasant residue which remains; if the accident occurred in a station.





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES



**Notice:** This activity must be performed in accordance with the WMATA Blood Borne Pathogen Exposure.

### 26.5.11 Third Rail Power Restoration Procedure:

When all personnel and equipment are in the clear, and permission is given by the Fire Department officer in charge, the On Scene Commander shall notify ROCC. The ROCC Supervisor will then order a restoration of third rail power in accordance with SOP #2.

### 26.5.12 Dispatching Incident Train to Nearest Rail Yard:

The train involved in the accident will be sent to the nearest yard when instructed by the ROCC Supervisor, after a preliminary inspection by Car Maintenance personnel.



**Notice:** Inspection by the police agency that is conducting the investigation may be required.

### 26.5.13 Procedure for Restoring Normal Service:

After the On Scene Commander has ascertained that it is safe to resume train operations, and permission has been granted by the Fire Department officer in charge, the ROCC Supervisor shall be advised.

### 26.5.14 ROCC Supervisor Procedure for Notification to All Departments:

The ROCC Supervisor will restore service and notify all concerned departments.

## 26.6 REFERENCES

26.6.1 SOP # 1A

26.6.2 SOP # 2

26.6.3 SOP # 4

26.6.4 MTPD Responsibilities of Personnel during “Person Stuck by Train” Incidents



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
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# **SOP – Roadway Worker Protection (RWP) SOPs**

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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP # 3 TRACTION POWER FAULTS

### 3.1 PURPOSE

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for handling traction power faults.

### 3.2 SCOPE

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations.

### 3.3 DEFINITIONS

**Traction Power Fault:** A condition that occurs when a metallic object bridges the third rail and a running rail. It will also occur in cases of a grounded shoe beam, a broken or grounded third rail insulator or a third rail feeder cable fire.

### 3.4 RESPONSIBILITIES

3.4.1 ROCC Supervisors are responsible for coordinating and implementing the requirements of this SOP.

3.4.2 Qualified Personnel are responsible for investigating areas affected by Traction Power Faults.

3.4.3 Power personnel are responsible for securing and returning the affected areas to normal operation.

### 3.5 PROCEDURES

Procedure #	Content
3.5.1	Notification
3.5.2	Operations/ ROCC Supervisor
3.5.3	Fire Department
3.5.4	Train Operator's Instructions
3.5.5	Customer Announcements
3.5.6	Customer Evacuation
3.5.7	Crowd Control
3.5.8	Train Movement
3.5.9	Traction Power Restoration and Service Resumption



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 3.5.1 Notification:

3.5.1.1 Any employee having knowledge of or observing a cause of a traction power fault shall notify the Rail Operations Control Center (ROCC).

3.5.1.2 The employee shall furnish the ROCC Supervisor with the following information:

3.5.1.2.1 Name and identification of the caller.

3.5.1.2.2 Cause of the fault.

3.5.1.2.3 Track number.

3.5.1.2.4 Line identification.

3.5.1.2.5 Location of the cause of the power fault.

3.5.1.2.6 Presence of fire or smoke.

### 3.5.2 Operations/ROCC Supervisor:

3.5.2.1 The ROCC Supervisor shall immediately command breakers OPEN via remote control that have tripped in an emergency situation to prevent automatic re-closure (For closing of breakers opened in an emergency refer to 3.5.9).

3.5.2.2 If a fire occurs as a result of a power fault, the ROCC Supervisor shall instruct the employee calling to attempt to extinguish it using an available wayside fire extinguisher if possible, and if it is safe to do so.

3.5.2.3 The ROCC Supervisor shall instruct Train Operators of trains approaching the affected sections to stop their trains in stations and report their positions. They shall be advised of the traction power outage and the cause, if known.

3.5.2.4 The ROCC Supervisor shall notify MOC and advise them of the problem and the location.

3.5.2.5 The ROCC Supervisor shall notify MTPD and all other concerned authority departments, the Fire Department communications center and Station Managers on the affected lines.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 3.5.2.6 The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the location where the cause of the traction power fault is known to be. If the specific location of the cause of the traction power fault is not known, the Rail Operations Supervisor shall be instructed to walk the length of the affected power sections in an attempt to locate the cause.
- 3.5.2.7 If the problem is in a traction power substation or tiebreaker station the Supervisor shall not interfere with the system personnel but render all assistance possible.
- 3.5.2.8 The Rail Operations Supervisor shall maintain communications with the Rail Operations Control Center (ROCC).
- 3.5.2.9 The Rail Operations Supervisor shall be responsible for coordinating Authority activities and cooperating with the Incident Commander (IC) or the On Scene Commander (OSC) if present.
- 3.5.3 Fire Department:
- 3.5.3.1 The ROCC Supervisor shall notify the Fire Department communication center and alert them to the problem and its location. They shall be advised that when more pertinent information is available they will be notified immediately.
- 3.5.3.2 When a more informative report is received from the scene of the traction power fault, the ROCC Supervisor shall contact the Fire Department communication center and notify them if their assistance is needed for:
- Fire
  - Customer evacuation
  - Medical assistance.
- 3.5.3.3 The ROCC Supervisor shall keep the Fire Department communication center informed with updated information during situations that require their involvement.
- 3.5.4 Train Operator's Instructions:
- 3.5.4.1 Train Operators, of trains stopped in the affected sections in stations, shall be instructed by the ROCC Supervisor to:
- 3.5.4.1.1 Secure their trains with handbrakes.
- 3.5.4.1.2 Keep car doors open and advise customers of the problem.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

3.5.4.1.3 Place all circuit breakers on the operator's circuit breaker panel in the off position, except those with orange guards and the 37V breakers on all cars.

3.5.4.2 Train Operators of trains still on third rail power but stopped in the station, shall be instructed to initiate close-in procedure in accordance with SOP # 4 to evacuate customers to a station platform through another train.

3.5.5 Customer Announcements:

The ROCC Supervisor shall arrange for appropriate public address announcements to be made to customers on trains and in stations.

3.5.6 Customer Evacuation:

3.5.6.1 When a train is stalled between stations because of the traction power fault and the fault is estimated to last more than 30 minutes, the ROCC Supervisor shall direct the Train Operator of the stalled train to initiate customer evacuation procedures in accordance with SOP # 4.

3.5.6.2 If the power fault did not affect the ventilation system, it should be operated base on condition on the scene.

3.5.7 Crowd Control:

The ROCC Supervisor shall request the assistance of the MTPD for crowd control at critical stations.

3.5.8 Train Movement:

The ROCC Supervisor shall institute terminal schedule adjustment to relieve train congestion in addition to single track operation, turning trains and requesting Metrobus shuttle service.

3.5.9 Traction Power Restoration and Service Resumption:

3.5.9.1 When the ROCC Supervisor is notified that the fault has been corrected, third rail power shall be restored only after:

3.5.9.1.1 Customer evacuation from train to trackbed has been stopped and all customers that were evacuated are clear of the trackbed;

3.5.9.1.2 The OSC at the scene has cleared the scene of Fire Department personnel and authorized the system to be placed back in operation;



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

3.5.9.1.3 All remaining personnel have been alerted to the power restoration.



**Notice:** Personnel shall not enter / re-enter the Roadway without requesting access from ROCC or the interlocking operator.

3.5.9.2 On the advice of the Rail Operations Supervisor at the scene, the ROCC Supervisor shall restore third rail power in accordance with SOP # 2.

3.5.9.3 The ROCC Supervisor shall instruct Train Operators of trains stalled in the faulted power sections to operate their trains in Mode 2 at restricted speed (15 mph or as directed by ROCC), after power is restored to prevent a power overload. The Train Operators shall return to Mode 1 after the next station stop unless otherwise instructed.

3.5.9.4 If necessary, the ROCC Supervisor shall govern the movement of each train in the area to minimize power consumption.

### 3.6 REFERENCES

3.6.1 SOP # 1A

3.6.2 SOP # 2

3.6.3 SOP # 4





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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP #19 MAINTENANCE AND TESTING ON RAIL FACILITIES

### 19.1 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to ensure consistency and provide guidance for all personnel desiring the use of the revenue railroad, yards and Rail facilities for all maintenance and testing.

### 19.2 SCOPE

This SOP is applicable to WMATA employees, contractors, consultants, and all other personnel desiring access to the revenue railroad or other WMATA Rail facilities for maintenance or testing.

### 19.3 DEFINITIONS

19.3.1 Access Rights: Permission to enter the Roadway.

19.3.2 Exclusive Rights: A section of the track that is restricted for use by one group.

19.3.3 General Orders and Track Rights System (GOTRS): A mainframe computer program that is used by WMATA employees only to enter track rights request in accordance with OAP 100-9.

19.3.4 Piggybacking: An independent work gang under the supervision of a gang leader. This gang is working within the authorized working limits of a RWIC. The gang leader is under the authority of the RWIC.

19.3.5 Rail Service Adjustment (RSA): A temporary adjustment to the Metrorail operating schedule in order to accommodate maintenance or construction activities on the Metrorail main line during revenue service.

19.3.6 Routine Maintenance: Preventive or corrective maintenance actions that have an approved written procedure and can be performed without effecting revenue service.

19.3.7 Site Specific Work Plan (SSWP): Describes the construction and/or installation and associated schedule of work to be performed at specific locations where track usage or other interface with the operating rail road is required.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.4 RESPONSIBILITIES

- 19.4.1 The Managing Director of OPER RTRA is responsible for approval of the operational plan or Site Specific Work Plan (SSWP) for all tests to be performed on the revenue railroad, yards or in WMATA Rail facilities.
- 19.4.2 The Manager of Track Access for Maintenance and Construction (TAMC) subject to the approval of Superintendent of ROCC is responsible for issuance, and implementation of the General Orders. The General Orders are used to define track sections for maintenance, testing and construction activities. The General Orders will remain in effect until fulfilled, superseded or canceled by the Superintendent of ROCC or one of his/her designee's.
- 19.4.3 WMATA offices, contractors, and consultants are responsible for scheduling all activities in accordance with this SOP.
- 19.4.4 Superintendents assigned to OPER are responsible for providing support services when requested, and subsequently approved in accordance with this SOP.
- 19.4.5 Maintenance Managers and Project Managers are responsible for providing approved Site Specific Work Plans (SSWP) as outlined in Operations Administrative Procedure (OAP) 200-33.
- 19.4.6 Personnel requiring access rights are responsible for advising ROCC of their work areas and after approval by ROCC, monitoring the appropriate radio frequencies during access.

### 19.5 PROCEDURES

Procedure #	Content
19.5.1	Piggy Backing
19.5.2	Exclusive Rights
19.5.3	Access Rights
19.5.4	General Orders Procedures
19.5.5	General Orders Format and Content
19.5.6	Suspension of a General Order
19.5.7	Modification of a General Order
19.5.8	Construction and Conducting Test



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.5.1 Piggy Backing:

- 19.5.1.1 When a maintenance organization desires to work in an area controlled by rights of another maintenance organization (Piggy Back), they must request permission from the primary rights holder through the GOTRS system. Approval will be granted by the primary track rights holder through the GOTRS system.
- 19.5.1.2 The first junior piggy back rights holder shall become the primary rights holder when the primary rights holder cancels.
- 19.5.1.3 The on-site maintenance supervisor, crew leader or escort of the crew who holds the track rights is responsible for all activities within the work area, to include but not be limited to: all communication and coordination with ROCC; coordination of movement of work vehicles within the work area with notification to ROCC; verification of third rail power and placement of safety equipment; monitoring of the activities of all crews within the work area; and, ensuring that all personnel and equipment of all crews in the work area are clear and that the entire area is safe for train movement prior to turning the work area back over to ROCC.
- 19.5.1.4 The on-site maintenance supervisor, crew leader or escort of the piggyback area is responsible to ensure site specific activities in the piggyback zone conform to all rules and procedures.
- 19.5.1.5 In instances where the requestor requires track rights in an area adjacent to an area in which personnel are working in the TPSS or Tiebreaker room (see possible exceptions in TBS and TPSS diagrams), refer to SOP # 39.
- 19.5.1.6 In instances where the requestor requires track rights to the same area, refer to SOP # 39.

### 19.5.2 Exclusive Rights:

- 19.5.2.1 All requests to obtain exclusive use of a section of a yard track (Yard Contact Rails) must be submitted to and approved by the Superintendent of Rail Transportation in charge of the specified yard. Joint approval with Director of ROCC is required if yard work has potential of impacting revenue service.
- 19.5.2.2 All request to obtain exclusive use of a section of mainline track must be submitted to TAMC (thru GOTRS) and be approved by the Director of ROCC and appear on the General Orders.



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### 19.5.3 Access Rights:

19.5.3.1 All requests to obtain access rights must be coordinated with and be approved by ROCC prior to entering the Roadway. ROCC must also be notified when personnel have completed their tasks and are clear of the Roadway.

19.5.3.2 Requests for track access with red tag power outages must contact MOC and ROCC for coordination, execution and issuance.

### 19.5.4 General Orders Procedures:

19.5.4.1 All requests for track rights must be submitted via the General Orders and Track Rights System (GOTRS) to ROCC/TAMC by 0600 hours on the Monday four weeks preceding the scheduled week of work, unless adjusted or approved by the AGM-TIES on a case-by-case basis as needed.

19.5.4.2 Only the Director of ROCC may approve the issuance of the General Orders for request after track allocations have been scheduled.

19.5.4.3 When red tags or supervisory outages are issued an early clearing time may be required. Any deviation from scheduled times must be approved by the on duty Assistant Superintendents of ROCC and MOC.

19.5.4.4 All requests must include the following information:

19.5.4.4.1 Department requesting rights.

19.5.4.4.2 Date and hours of the request.

19.5.4.4.3 Line, track and Chainage.

19.5.4.4.4 Contact rail status (type of outage).

19.5.4.4.5 Equipment to be utilized.

19.5.4.4.6 Individual/Department making the request.

19.5.4.4.7 Purpose of the request.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.5.5 General Orders Format and Content:

19.5.5.1 General Orders heading will be identified by bold type reading “General Orders”. The heading will include the date of the order, the number of the general order and to whom the order is addressed. The General Orders numbers will be continuous on a yearly basis.

19.5.5.2 The General Orders will identify for each approved area:

19.5.5.2.1 The work to be performed and type of rights requested.

19.5.5.2.2 The contractor and/or WMATA Department involved.

19.5.5.2.3 The date and hours.

19.5.5.2.4 The identification and location of the work area involved.

19.5.5.2.5 The contact rail status (type of outage) when necessary.

19.5.5.2.6 Instructions for flagging when necessary.

### 19.5.6 Suspension of a General Order:

19.5.6.1 ROCC Managers have the Authority to suspend or cancel a portion, or all of the General Orders when conditions require it.

19.5.6.2 When a general order is canceled ROCC will immediately notify all concerned parties and document all actions taken.

### 19.5.7 Modification of a General Order:

19.5.7.1 After publication of a General Order, modification will not be allowed except for emergencies or cancellation of rights. All cancellation will be documented by ROCC identifying the rationale for the cancellation.

19.5.7.2 Emergency modifications of the General Orders will be allowed only when conditions exist which will cause a portion of the mainline to be taken out of service during revenue hours.



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### 19.5.8 Construction and Conducting Test:

19.5.8.1 Personnel requiring access to the revenue railroad or WMATA Rail facilities for testing or construction must provide a Site Specific Work Plan as directed in OAP 200-33 to TAMC no later than (60) days prior to the date of the maintenance, construction or testing procedure, unless adjusted or approved by the AGM-TIES on a case-by-case basis as needed.

19.5.8.2 The requestor shall be responsible for obtaining a “Covenant not to Sue” from all non WMATA personnel involved in maintenance procedures.

19.5.8.3 After approval of the SSWP by TAMC, the appropriate Superintendent shall provide the necessary support as identified in the SSWP. Also a single point of contact shall be provided for the requestor. This individual will be responsible for the safety of Operations personnel and equipment while the maintenance procedure is performed. Any modification to the operational scenario will be coordinated through the individual designated as the single point of contact.

## 19.6 REFERENCES

19.6.1 OPA 200-33

19.6.2 SOP # 23

19.6.3 SOP # 28

19.6.4 SOP # 39



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP #23 CLASS II VEHICLE (Work Trains) OPERATIONS

### 23.1 PURPOSE

The purpose of this SOP is to describe in detail the procedures for the operations of Class II Vehicles.

### 23.2 SCOPE

This SOP applies to employees in Track and Structures Systems Maintenance (TSSM), Car Maintenance (CMNT), Technical Training and Document Control (TTDC) and Rail Operations Control Center (ROCC) during the operation and movement of Class II Vehicles throughout the Rail System.

### 23.3 DEFINITIONS

23.3.1 Foul Time (FT): A method of Roadway protection in which all trains and/or track equipment are STOPPED. The RWIC requests ROCC to stop all traffic until the RWIC reports clear of the track. This is used only for short time periods (approximately 3 minutes or less) in specific segments of track such as work areas, blind spots and no clearance zones.

23.3.2 Roadway Flag Person: A qualified employee designated by the RWIC to direct or restrict the movement of trains. Roadway Flag Persons shall be equipped to properly provide proper warnings. Their SOLE duty is to look out for approaching trains and/or track equipment. From a place of safety, Roadway Flag Persons shall signal trains to **STOP** before entering the working limits. Roadway Flag Persons will not permit the movement of trains and/or track equipment into the working limits unless authorized by the RWIC.

23.3.3 Roadway Worker in Charge (RWIC): A qualified employee responsible for the Roadway safety for all workers and work gangs within their working limits.

The RWIC shall:

Conduct an on-track job safety briefing before any worker fouls a track,

- Communicate with ROCC,
- Designate the working limits,
- Identify the type of On-Track protection to be used,
- Assign and position the Flag person and/or Watchman/Lookout.

23.3.4 Vehicle Flag Person (VFP): A qualified employee who is assigned to flag a rail vehicle.





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 23.4 RESPONSIBILITIES

23.4.1 TSSM and TTDC are responsible for establishing approved inspection procedures to comply with the rules of Class II Vehicles and Operation.

23.4.2 The Class II Vehicle Operator is responsible for ensuring the daily vehicle inspection has been accomplished by qualified personnel before operating the vehicle.

23.4.3 Employees assigned the flagging responsibilities shall use a radio and/or one of the following means of communication:

23.4.3.1 Radio headset

23.4.3.2 Flashlight

23.4.3.3 Hand signals (in the open during daylight hours)

23.4.4 The Operator and assigned Flag person are responsible for securing the Class II Vehicles.

23.4.5 The ROCC Responsibilities are as follows:

23.4.5.1 Review the General Orders for special instructions;

23.4.5.2 Enforce proper absolute block procedure for Class II Vehicles;

23.4.5.3 Activate/de-activate fans as required;

23.4.5.4 Coordinate all work with TSSM concerning speed couplers;

23.4.5.5 Enforce speed restrictions for revenue trains passing the work areas;

23.4.5.6 Ensure yards dispatch TSSM equipment expeditiously as governed by general orders;

23.4.5.7 Grant track rights for supervisory outages as areas become available, and;

23.4.5.8 Single track when applicable.



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**23.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
23.5.1	Compatibility of Work Motor and Cars
23.5.2	Work Train Inspection
23.5.3	Diesel Work Train Operation
23.5.4	Flagging Protection for Work Trains
23.5.5	Movement Procedures
23.5.6	Restrictions
23.5.7	Use of Booms and Cranes
23.5.8	Work Cars Coupled to Revenue Cars

23.5.1 Compatibility of Work Motors and Cars:

23.5.1.1 Diesel engines are the approved work motors for Metrorail.

23.5.1.2 The coupling apparatus of some work cars is not compatible with diesel engines. An adapter is required for compatibility.

23.5.1.3 In an emergency when an adapter is used for compatibility between work cars, it will be necessary to cut out brakes on all work cars and move at restricted speed.

23.5.2 Work Train Inspection:

A daily inspection shall be made of the condition of work trains and flatcar(s) including brakes, loading of flatcars, standby hoses, and brake dump valve(s) on flatcar(s). This inspection, completed before equipment put into service, shall ensure that all safety systems are functioning properly.

23.5.3 Diesel Work Train Operation:

23.5.3.1 Work cars with diesel engine power can be made up in any consist. The diesel engine may be centered between work cars or coupled on one end to either push or pull.

23.5.3.2 When one or more work cars are cut away from the work train at the work site, they shall be secured with handbrakes and chocks or stops.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

23.5.3.3 Work Train Operators shall secure work trains while they are stopped within the work area. When the work train is left unattended, it shall be secured with handbrakes and chocks or stops at all times. When stopped on a low grade, sufficient handbrakes shall be applied at a low grade to be certain the work train is secured.

23.5.3.4 Before re-coupling to any cars that have been away from the work train, the operator shall check and ensure that handbrakes on the car are set, wheels are chocked or stops are in place. After coupling is made and the train is charged up, the stops or chocks shall be removed and the handbrakes released.

23.5.3.5 When a work train is ordered out of a work area, the operator shall release the handbrakes, make certain the track ahead is clear, and sound the horn to alert personnel on the Roadway, prior to moving.

23.5.3.6 The person flagging shall assist the Operator in securing the work train at the work site by placing wheel chock or stops and setting handbrakes.

23.5.4 Flagging Protection for Work Trains:

23.5.4.1 An employee shall be assigned to flag work trains.

23.5.4.2 When flat cars are coupled to the diesel unit the person flagging shall:

23.5.4.2.1 Place two white lights on the lead flat car and two red lights on the rear flat car, if it is being pulled.

23.5.4.2.2 Ride the head of the lead flat car to advise the Operator of interlocking signals aspects and track conditions.

23.5.4.2.3 Have a clear path to the brake dump valve so that the brake can be applied in an emergency.

23.5.4.2.4 Monitor tools and materials loaded onto the flat car.

23.5.4.2.5 When flat cars are behind the diesel unit, the person flagging shall:

Place two red lights on the rear flat car.



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### 23.5.5 Movement Procedures:

23.5.5.1 TSSM shall provide the line up to ROCC by 2300 hours or earlier if necessary.

23.5.5.2 Radio checks are to be conducted prior to moving vehicle from storage track.

23.5.5.3 Class II Operators shall sound horns through stations.

23.5.5.4 Class II Operators shall not exceed 30 mph between stations and 15 mph through the stations.

23.5.5.5 Operator shall obtain permission from person in charge prior to work equipment being moved within work area and then proceed with caution.

### 23.5.6 Restrictions:

23.5.6.1 No movement of hand carts past red signals without ROCC's authorization.

23.5.6.2 No movement or use of oxygen/acetylene tanks from the flatcars until after the last non-revenue train has passed the work area.

23.5.6.3 Buggies designed to carry rail shall only be coupled to a prime mover or locomotive. Work train consists with rail buggies shall have a spine rail securely attached to all buggies in the consist prior to any movement on mainline tracks. When rail lengths are offloaded, the spine rail must remain if further movement on mainline tracks is necessary.

### 23.5.7 Use of Booms and Cranes:

23.5.7.1 When TSSM or contractor vehicles are used during revenue hours, the use of cranes, booms, or any other equipment that could encroach on the dynamic outline of a passing train is prohibited unless the following procedure is in effect:

23.5.7.1.1 A Work Crew Flag person shall be assigned to each side of the work area to signal trains to stop and/or flag trains as required. Flagging points must be at locations that allow the monitoring of work crew activities and can be adjacent stations, signals in approach to the work area, or any other highly visible location where train operators can easily see the Flag person and be able to stop their trains.



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- 23.5.7.1.2 An additional TSSM person, equipped with a handheld radio must be exclusively assigned to monitor all crane operations. The Crane Operation Monitor must remain in contact with the Crane Operator and not be absent from duty without first directing the Crane Operator to stop movement and notify ROCC.
- 23.5.7.1.3 Work Crew Flag person shall maintain communication with the crane operator, crew supervisor, crew leader, or escort. Work Crew Flag persons shall also coordinate with ROCC as required, e.g., for setting of approaching wayside signals.
- 23.5.7.1.4 Prior to any crane operation that could encroach on the dynamic outline of a passing train, the Crane Operator Monitor shall request via radio that ROCC stop all train movement on the affected track(s) and give the expected duration to complete crane activity. ROCC may only grant permission for the crane to execute the requested move after directing and confirming (by ID) that all trains in the affected area are stopped. ROCC may grant permission for affected trains to continue, once the Crane Operation Monitor has confirmed that the requested crane operation is completed and the track(s) is clear.
- 23.5.7.1.5 If a train approaches the work area at a time when the train has been granted exclusive rights, then the Work Crew Flag person must give a stop signal with a red flag or a lantern, and also communicate a stop command by radio to the train operator. During crane or boom operation that will encroach the Roadway signals in approach to the work area shall be set to stop.
- 23.5.7.1.6 After the train stops, the Flag person shall contact ROCC, report the incident and be governed by ROCC instructions.
- 23.5.7.1.7 When the Work Crew Flag person receives permission from ROCC to release the train:
  - 23.5.7.1.7.1 The red flag/red lantern shall be removed from sight;
  - 23.5.7.1.7.2 The wayside signal set to proceed;
  - 23.5.7.1.7.3 Then a proceed signal and verbal command shall be given to the train operator.
- 23.5.7.1.8 Train operators shall be given advance notice regarding the location of flagging operations and shall be given advance periodic reminders by ROCC over the radio in accordance with established procedures.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

23.5.7.1.9 Work Crew Flag persons shall ensure that they are flagging from safe and clear location in the event that the train does not stop when signaled to do so.

23.5.7.1.10 Work Crew Flag person may require that a speed restriction be established in advance of their position to ensure the safety of the Flag person and/or to establish a safe stopping distance in advance of the flagging position.

23.5.8 Work Cars Coupled to Revenue Cars:

Follow SOP # 15 when it is necessary to move work cars with revenue cars on the mainline.

### **23.6 REFERENCES**

23.6.1 SOP # 15 - ABSOLUTE BLOCK/PERMISSIVE BLOCK

23.6.2 SOP # 28 - ESTABLISHMENT OF THIRD RAIL POWER OUTAGES AND WORK AREAS ON THE ROADWAY.



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**SOP # 28 PROTECTION FOR ROADWAY WORKERS AND ESTABLISHMENT OF  
THIRD RAIL POWER OUTAGES AND WORK AREAS ON THE  
ROADWAY**

**28.1 PURPOSE**

The purpose of this Standard Operating Procedure (SOP) is to describe, in detail, the responsibilities and procedures for the removal and restoration of third rail power and the establishment of work areas.

**28.2 SCOPE**

This SOP is applicable to all WMATA and non-WMATA personnel who perform, supervise, or manage work on the mainline and yard Roadway.

**28.3 DEFINITIONS**

28.3.1 Foul Time (FT): A method of Roadway protection in which all trains and/or track equipment are STOPPED. The RWIC requests ROCC to stop all traffic until the RWIC reports clear of the track. This is used only for short time periods (approximately 3 minutes or less) in specific segments of track such as work areas, blind spots and no clearance zones.

28.3.2 Fouling A Track: The placement of an individual or equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment.

28.3.3 Inaccessible Track (IT): A section of track where a physical barrier has been placed to prevent trains and/or track equipment from entering the work area. (i.e. derailleurs, barricade, rail out, etc.).

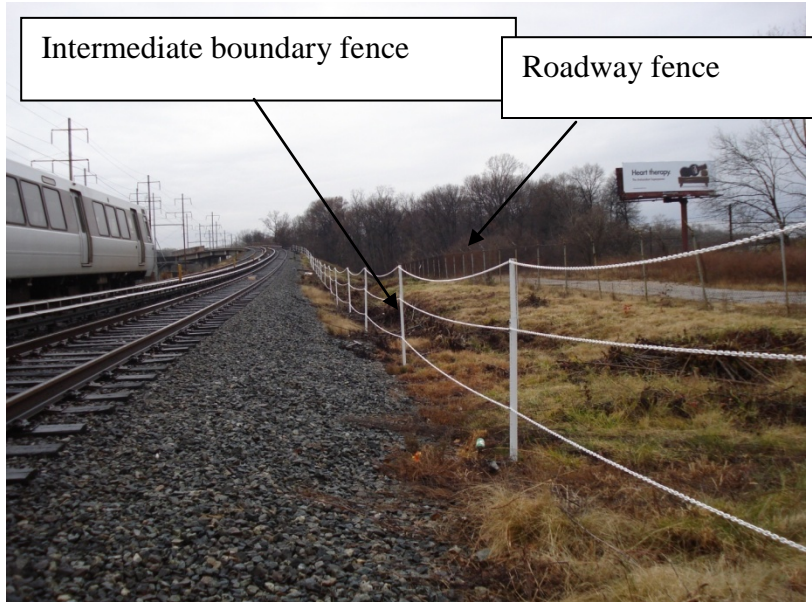
28.3.4 Individual Train Detection (ITD): A method where an individual provides for their own protection. The individual detects approaching trains and moves to a place of safety before the train arrives. For Lone Workers, this method of detection may ONLY be used under circumstances strictly defined in the RWPM.

28.3.5 Intermediate boundary fence: A five (5) foot high, plastic chain fence which is positioned ten (10) feet from the end of the cross ties along sections of Metrorail above ground roadway. Where constructed, it separates Metro property into roadway and NON-roadway territory. Individuals on the track side of the Intermediate boundary fence are considered "on" the roadway; individuals on the non-track side of the Intermediate boundary fence are considered "off" the roadway. (Pictures 1 and 2).

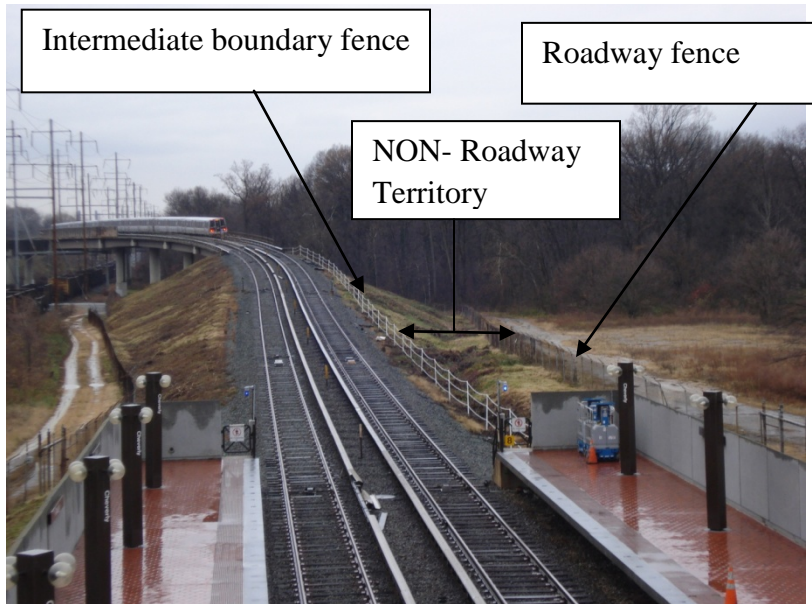




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Picture 1



Picture 2

28.3.6 Lone Worker: A RWIC qualified single Roadway worker who provides for their own protection. This individual is not a member of a work crew. A lone worker is not engaged in a common task with another Roadway worker.



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- 28.3.7 Qualified Person: The worker has successfully completed training and demonstrated the knowledge and ability to perform their duties. WMATA will maintain the appropriate standards and records. Roadway workers shall be required to re-qualify.
- 28.3.8 Roadway: Any location where roadway worker protection is required:
- 28.3.8.1 On at-grade track, it is all areas between the roadway fences, except where an intermediate boundary fence exists.
  - 28.3.8.2 On aerial structures, it is all areas between hand railings to include all safety walks.
  - 28.3.8.3 In tunnel areas, it is all areas between tunnel walls to include all safety walk areas and open shafts and ancillary areas.
  - 28.3.8.4 In transition areas, it includes fence to fence, wall to wall, railing to railing, fence to wall, fence to railing, and wall to railing.
  - 28.3.8.5 In yards, it includes all ballasted areas and areas with embedded track including maintenance of way tracks. Embedded tracks within maintenance facilities are not considered part of the roadway; however, carwash tracks are included. Station platforms are not considered part of the roadway, nor are the walkways beyond the station platform endgates protected by handrails. However, any maintenance or construction, the use of tools, ladders, scaffolds or lifts that have the potential for **fouling the track** requires a RWIC to use Roadway worker protection in accordance with the RWPM, even if performed behind the hand rails. Individuals are considered off the roadway if they are on the non-track side of the intermediate boundary fence.
  - 28.3.8.6 For WMATA employees, walkways protected by handrails beyond the station platform endgates are not considered part of the WMATA Roadway. All non-WMATA employees must be escorted and be granted permission by ROCC to go beyond endgates (pictured below). All personnel shall put on safety vests before going beyond the station endgates.



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Roadway begins at end of handrail



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- 28.3.9 Roadway Flag Person: A qualified employee designated by the RWIC to direct or restrict the movement of trains. Roadway Flag Persons shall be equipped to properly provide proper warnings. Their **SOLE** duty is to look out for approaching trains and/or track equipment. From a place of safety, Roadway Flag Persons shall signal trains to **STOP** before entering the working limits. Roadway Flag Persons will not permit the movement of trains and/or track equipment into the working limits unless authorized by the RWIC.
- 28.3.10 Roadway Worker: Any employee or contractor whose duties could potentially cause them to foul the Roadway.
- 28.3.11 Roadway Worker in Charge (RWIC): A qualified employee responsible for the Roadway safety for all workers and work gangs within their working limits.
- 28.3.12 Roadway Worker Protection (RWP) Manual: .
- 28.3.13 Train coordination: A method of establishing working limits on track upon which a train holds exclusive authority to move whereby the train yields that authority to a Roadway Worker in Charge (RWIC).
- 28.3.14 Vehicle Flag Person (VFP): A qualified employee who is assigned to flag a rail vehicle.
- 28.3.15 Watchmen/Lookout: A qualified employee who provides warning to Roadway workers of approaching trains and/or track equipment. A Watchmen/Lookout's sole duty is to warn workers to move to, and remain in, a place of safety for an ample amount of time before the arrival of trains or rail vehicles.
- 28.3.16 Work Crew/Gang: Two or more railroad workers organized to work together on a common task; including the RWIC.
- 28.3.17 Work Zone: A segment of track within working limits that is being occupied for maintenance or repair.
- 28.3.18 Work Zone Authorization: The written authorization designed to convey rights to obstruct or use a designated section of track between specified points and for a specified period of time with or without the removal of third rail power or signal power.



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**28.4 RESPONSIBILITIES**

- 28.4.1 All personnel who perform or supervise work on the Roadway are responsible for ensuring that their actions, work areas and third rail power outages conform to the requirements of this SOP and the RWP Manual.
- 28.4.2 All personnel shall be trained and qualified in Roadway safety, according to their role and function, prior to entering WMATA's Roadway.
- 28.4.3 MOC and ROCC personnel are responsible for ensuring that field personnel are conforming to this SOP when work is being performed on the Roadway.
- 28.4.4 Supervisors and managers of personnel working on the Roadway are responsible for ensuring that their assigned personnel are properly and fully trained on the content of this SOP and the Roadway Worker Protection Manual and are working in full compliance with both documents at all times. The Roadway Worker in Charge (RWIC) shall focus on rules/compliance/oversight and the safety of their work crews. The RWIC shall not engage in any other job site work activities.



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28.5 PROCEDURES

Procedure #	Content
28.5.1	Guidelines for the Removal of Third Rail Power for WMATA Employees
28.5.2	Guidelines for the Removal of Third Rail Power for Non-WMATA Personnel
28.5.3	Special Requirements for Non-WMATA Personnel
28.5.4	Removal of Third Rail Power and Establishment of a Work Area Under a Red Tag Outage
28.5.5	Restoration of Third Rail Power and Clearing of a Work Area Under a Red Tag Outage
28.5.6	Removal of Third Rail Power and Establishment of a Work Area Under a Supervisory Outage
28.5.7	Restoration of Third Rail Power and Clearing of a Work Area Under a Supervisory Outage
28.5.8	Additional Requirements when more than One Crew is Working in a Single Work Area (Piggybacking)
28.5.9	Additional Protection Requirements when Single-Tracking
28.5.10	Establishment of a Work Area without a Power Outage
28.5.11	Clearing of a Work Area
28.5.12	Working on Roadway without a Work Area Established
28.5.13	Use of Derailers
28.5.14	Personnel Responding to Incident on Roadway
28.5.15	Working on WMATA Property Outside the Roadway (beyond the Intermediate Boundary Fence)
28.5.16	Establishment of Work Area in the Yard Car Wash Facility (except Branch Ave.)
28.5.17	Removal of Third Rail Power and Establishment of a Work Area under a <u>Remote</u> Red Tag Outage for Branch Avenue Yard Carwash Facility <u>only</u> .
28.5.18	Restoration of Third Rail Power and Establishment of a Work Area under a <u>Remote</u> Red Tag Outage for Branch Avenue Yard Carwash Facility <u>only</u> .



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28.5.19	Roadway Clarifications: D&G Platform, Alexandria Yard Platform, Shady Grove Yard Lead, Brentwood Yard
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### 28.5.1 Guidelines for the Removal of Third Rail Power for WMATA Employees:

28.5.1.1 A red tag power outage is required for all activities that require contact with the third rail or items connected to the third rail.

28.5.1.2 A supervisory power outage is required for all activities on the Roadway not covered by Section 28.5.1.1 of this procedure. When incidental contact with the third rail is possible, Safety Department approved rubber mats shall be used to protect affected employees.



**Warning:** The third rail shall always be considered energized during supervisory outages.

28.5.1.3 Exceptions to 28.5.1.2 are made for employees performing certain routine inspection and maintenance activities that do not require third rail power outages. These exceptions require the approval of the Chief Safety Officer and the Assistant General Manager of Rail Operations Delivery and are listed in Appendix A of this SOP.

28.5.1.4 When a power outage is required, it need cover only the entire actual work area and does not have to cover the adjacent safety zones. Protected work areas outside of the actual work area do not require a power outage.

### 28.5.2 Guidelines for the Removal of Third Rail Power for Non-WMATA Personnel:

28.5.2.1 A red tag power outage is required for all activities that require contact with the third rail or items connected to the third rail or when incidental contact is possible.

28.5.2.2 A supervisory power outage is required for all activities on the Roadway not covered by Section 28.5.2.1 of this procedure.



**Warning:** The third rail shall always be considered energized during supervisory outages.





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- 28.5.2.3 When a power outage is required, it must cover the entire actual work area, but does not have to cover the adjacent safety zone.
- 28.5.3 Special Requirements for Non-WMATA Personnel:
- 28.5.3.1 Non-WMATA personnel cannot enter the Roadway while the third rail is energized, except for those referenced in 28.5.3.7 and in appendix A.
- 28.5.3.2 The point of entry and exit onto the Roadway for non-WMATA personnel must be within the actual work area limits. However, when this is not possible, a qualified RWIC may ask permission from ROCC to remove third rail power and stop all Class 1 and Class 2 equipment movement to allow the non-WMATA personnel into the actual work area limits.
- 28.5.3.3 Non-WMATA personnel cannot enter the Roadway without a trained and certified WMATA RWIC.
- 28.5.3.4 Non-WMATA personnel must possess a valid orange WMATA contractor ID with a Roadway training endorsement before entering the Roadway. This ID shall be displayed on an outer garment at all times while on WMATA property.
- 28.5.3.5 Non-WMATA personnel who will be performing work on the rail system, prior to performing that work, must successfully complete an approved WMATA course on the rail system, procedures, restrictions and any other pertinent information as applicable.
- 28.5.3.6 WMATA RWICs shall ensure the Non-WMATA personnel have a valid orange contractor ID that is not expired and is stamped with the Roadway Trained endorsement, prior to allowing those personnel onto the Roadway.
- 28.5.3.7 Representatives from the Tri-State Oversight Committee and the National Transit Safety Board shall have access to energized operational tracks with an assigned WMATA RWIC for the purposes of observing tests and performing inspections. Protection provided these personnel shall be consistent with the Metrorail Safety Rules and Procedures Handbook.



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- 28.5.4 Removal of Third Rail Power and Establishment of a Work Area Under a Red Tag Outage.
- 28.5.4.1 The WMATA maintenance personnel that require the outage shall submit the request via GOTRS (General Orders – Track Rights System).
- 28.5.4.2 Prior to the start of work, the RWIC shall, contact the MOC to verify that the red tag has been activated and obtain the red tag number.
- 28.5.4.3 After receiving the red tag number from MOC and prior to beginning work, the RWIC shall contact ROCC by radio advising them of the red tag number and request permission to enter the track bed to test the third rail and protect the work area. The RWIC shall establish the appropriate protection and verify the necessary protection elements for the type of protection required with ROCC as defined in Appendix B.
- 28.5.4.4 Once verification between ROCC and the RWIC is complete according to Appendix B, control of the work area is passed from ROCC to the RWIC.
- 28.5.4.5 Prior to starting work, the RWIC shall brief the personnel of the work crew on applicable WMATA safety rules/procedures, track(s) involved, work area limits, the means of protection, safe areas in which to clear, red tag number and any restrictions on the work, and document meeting on department issued safety briefing form (see Appendix C of this SOP for example).
- 28.5.4.6 In the event the work continues through an MOC or ROCC shift change, it shall be the responsibility of the initial MOC or ROCC Supervisor to advise the relief person of the details involving the work taking place, including the name of the Red Tag Holder and/or the RWIC. ROCC Controllers shall contact and be briefed by the RWIC on the protection required / type of protection for work zones on their lines when changing shifts.
- 28.5.4.7 If the Red Tag Holder is to be relieved, both the original Red Tag Holder and the new Red Tag Holder must contact MOC and ROCC advising them of the change prior to making the change.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 28.5.5 Restoration of Third Rail Power and Clearing of a Work Area Under a Red Tag Outage:

28.5.5.1 The RWIC shall contact MOC advising them that the work area has been inspected for re-energization, all personnel/equipment are clear and the red tag can be cleared identifying it by number.

28.5.5.2 After contacting MOC, the RWIC shall contact ROCC advising them that all personnel/equipment are clear of the work area and that the red tag has been cleared through MOC.

28.5.5.3 Prior to allowing personnel to leave the area, ROCC shall verify removal of the shunt straps when the work has been completed, time period has ended or when requiring the personnel to clear.

28.5.5.4 ROCC shall ensure that the times the shunt straps are applied and removed are recorded on the ROCC radio tape and/or in writing.

28.5.5.5 ROCC shall remove prohibit exit commands only after the person holding the red tag has reported personnel and equipment clear of the track.

28.5.5.6 When the red tag is cleared, MOC shall in coordination with ROCC, direct power crews to remove block tags, rack in and place in remote the appropriate circuit breakers at the involved substations.

28.5.5.7 MOC shall advise ROCC that the breakers for each outage area are positioned to be re-energized.

28.5.5.8 MOC and ROCC shall cause announcements to be made on MOC and ROCC radio nets that power is being restored and allow at least one minute for a response to the announcement before closing breakers.

28.5.5.9 ROCC shall restore power by supervisory control as described in SOP 2.5.6 and notify MOC of any circuit breakers that do not close.



**Notice:** Personnel are not to enter/re-enter the Roadway, unless authorized by the ROCC Supervisor.

### 28.5.6 Removal of Third Rail Power and Establishment of a Work Area Under a Supervisory Outage:



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- 28.5.6.1 The WMATA maintenance personnel requiring the outage shall submit the request via General Orders Track Rights System (GOTRS).
- 28.5.6.2 Prior to allowing work to begin, the RWIC shall contact ROCC by radio and request that the supervisory outage be initiated.
- 28.5.6.3 ROCC shall initiate the outage recording the date/time that power removal was completed, the breaker number(s) involved, and the name of the person in charge of the work crew in the request log.
- 28.5.6.4 ROCC shall then contact the RWIC. The RWIC shall establish the appropriate protection and verify the necessary protection elements for the type of protection required with ROCC as defined in Appendix B.
- 28.5.6.5 Once verification between ROCC and the RWIC is complete according to Appendix B, control of the work area is passed from ROCC to the RWIC.
- 28.5.6.6 Prior to allowing the crew to begin work, the RWIC shall brief personnel of the work crew that the third rail is to be considered energized at all times and not to make contact with it or its connected equipment. In addition, personnel will be advised of any applicable rules, procedures or restrictions, the track(s) involved, work area limits, the means of protection and safe areas in which to clear, and document meeting on department issued safety briefing form (see Appendix C of this SOP for example).
- 28.5.6.7 The RWIC must maintain contact with ROCC during the work in the event ROCC would have to clear the work area and restore power in response to an emergency. In addition, the RWIC shall periodically check the third rail to confirm it is still de-energized.
- 28.5.6.8 In the event that the work continues through an ROCC shift change, it shall be the responsibility of the initial ROCC Supervisor to advise the relief person of the outage and the name of the RWIC. ROCC Controllers shall contact and be briefed by the RWIC on the protection required / type of protection for work zones on their lines when changing shifts.
- 28.5.6.9 In the event that the work continues through the work crew's shift change, it will be the responsibility of the initial RWIC to advise ROCC of the name of the person in charge of the relief crew. At all times, ROCC must be kept informed as to who is the RWIC and responsible for clearing the work area.



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### 28.5.7 Restoration of Third Rail Power and Clearing of a Work Area Under a Supervisory Outage:

28.5.7.1 Upon completion of the inspection, the RWIC shall contact ROCC advising them that the work area has been inspected for re-energization, all personnel/equipment are clear of the track(s) and give ROCC clearance to re-energize the third rail in the area.

28.5.7.2 When ROCC receives the clearance from the RWIC and no other crews are holding the same third rail area out of service, ROCC shall ensure that announcements are made on their radio net and the MOC net that third rail power is being restored in the work area and allow at least one minute for a response to the announcement before closing breakers.

28.5.7.3 After announcements have been made, ROCC shall re-energize the third rail in the cleared work area. ROCC shall record the request to re-energize in the power outage or restoration request log and also the time the restoration was completed.



**Notice:** Personnel are not to enter/re-enter the Roadway, unless authorized by the ROCC Supervisor.

### 28.5.8 Additional Requirements when more than One Crew is Working in a Single Work Area (Piggybacking):

28.5.8.1 The RWIC who holds the track rights is responsible for all activities within the work area, to include but not be limited to:

28.5.8.1.1 All communication and coordination with ROCC;

28.5.8.1.2 Verification of third rail power and placement of safety equipment;

28.5.8.1.3 Monitoring of the activities of all crews within the work area, and;

28.5.8.1.4 Ensuring that all personnel and equipment of all work crews in the work area are clear and that the entire area is safe for train movement prior to turning the work area back to ROCC.

28.5.8.2 The person in charge of the piggybacking crew must contact the RWIC for permission to enter the RWIC's work area and notify ROCC.

28.5.8.3 The on-site maintenance supervisor, crew leader or escort of piggyback area is responsible to ensure site specific activities in the piggyback zone conform to all rules and procedures.



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28.5.8.4 If a rail vehicle is being used by one of the crews, a pair of red lights or flags is to be placed between the crews to limit the movement of the rail vehicle.

The supervisor shall coordinate with the supervisor of adjacent crews if work equipment is required to move past red lights.

28.5.8.5 If additional PPE, such as respirators, is required for the work of one of the crews, all personnel within the work area shall be required to wear the additional PPE.

28.5.9 Additional Protection Requirements when Single-Tracking:

If no SSRM approved physical barrier exists between the affected tracks, a restriction of 35 MPH shall be placed immediately adjacent to the actual work area on the operational track(s). The length of this restriction shall be equal to or greater than the length of the actual work area and shall parallel the entire length of the actual work area.

28.5.10 Establishment of a Work Area without a Power Outage:

28.5.10.1 The WMATA maintenance personnel requiring the work area shall submit the request via General Orders Track Rights System (GOTRS).

28.5.10.2 Prior to allowing work to begin, RWIC shall contact ROCC by radio and request permission to enter the Roadway to establish the work area. The RWIC shall establish the appropriate protection and verify the necessary protection elements for the type of protection required with ROCC as defined in Appendix B.

28.5.10.3 Once verification between ROCC and the RWIC is complete according to Appendix B, control of the work area is passed from ROCC to the RWIC.

28.5.10.4 Prior to allowing the crew to begin work, the RWIC shall brief personnel of the work crew that the third rail is energized and that entry onto the Roadway is prohibited. In addition, personnel will be advised of any applicable rules, procedures or restrictions, the track(s) involved, work area limits, the means of protection, and safe areas in which to clear, and document meeting on department issued safety briefing form (see Appendix C of this SOP for example).

28.5.10.5 The RWIC must maintain contact with ROCC during the work in the event ROCC would have to clear the work area in response to an emergency.



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- 28.5.10.6 In the event that the work continues through an ROCC shift change, it shall be the responsibility of the initial ROCC Supervisor to advise the relief person of the work area and the name of the RWIC. ROCC Controllers shall contact and be briefed by the RWIC on the protection required / type of protection for work zones on their lines when changed shifts.
- 28.5.10.7 In the event that the work continues through the work crew's shift change, it will be the responsibility of the initial RWIC to advise ROCC of the name of the person in charge of the relief crew. At all times, ROCC must be kept informed as to who is the RWIC and responsible for clearing the work area.
- 28.5.11 Clearing of a Work Area:
- Upon completion of the inspection, the RWIC shall contact MOC and ROCC advising them that the work area has been inspected all work crews and equipment are clear of the track(s) and give ROCC clearance to establish normal operations in the area.
- 28.5.12 Working on Roadway without a Work Area Established:
- 28.5.12.1 When engaged in work for a period of more than 3-minutes at a stationary location on the Roadway, restrict speeds entering the work site by using one of the following methods:
- 28.5.12.1.1 Coordinate with ROCC, the application of a shunt strap on the work track in accordance with the established traffic direction. The shunt strap(s) shall be applied at a track location that will assure trains enter and travel a significant portion (at least 30%) of the work area at a restricted speed (15mph). At least one train on each track shall be allowed to operate through the affected area to observe that the desired speed has been achieved before work begins. The shunt strap must be verified by ROCC prior to the start of any wayside work and remain in place until the work is complete and all crew members have cleared to the safety walk or other known clearance area. The shunt strap shall not be placed or removed in front of a train that is visible on the affected track. ROCC shall coordinate train movement through the affected area.
- 28.5.12.1.2 Implement speed restrictions through the application of the ATP Slow speed couplers in the applicable Train Control Room(s). Work crews must be mindful that trains will operate through the affected area without communicating with ROCC.



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- 28.5.12.1.3 Insertion of switch crank(s) prior to the work being started. Removal of the switch crank shall take place only after all crew members have cleared to the safety walk or other known clearance area. ROCC shall coordinate train movement through the affected area.
- 28.5.12.1.4 Taking local control of the interlocking or dropping track circuits, forcing red aspects at all signals. Signals shall be cleared only after positive communication verifying that all crew members have cleared to the safety walk or other known clearance area is received by the person controlling the signals. ROCC shall coordinate train movement through the affected area.
- 28.5.12.1.5 Implement methods specified in 28.5.12.1.1 and 28.5.12.1.2 on the track(s) immediately adjacent to the work area when there is no physical barrier, such as a wall or SSRM approved barrier that obstructs or greatly impedes passage and the work being performed is more than 100 feet beyond the end of a center platform station.



**Notice:** Track Inspections are exempt from the restrictions sited in 28.5.13, however, when the activity transitions from inspection to hands-on work, the restriction(s) must be applied. This exemption will not preclude inspection crews from asking for and implementing speed restrictions to protect them.

- 28.5.12.1.6 When notified of an impending single track operation through their area, clear the Roadway and notify ROCC when they are totally cleared.



**Notice:** Roadway personnel may request a transport train in order to expedite clearing their work area.

- 28.5.12.1.7 ROCC shall:

28.5.12.1.7.1 Make periodic (20- minute) radio announcements to inform train operators of those locations where corrective maintenance actions are being performed within the dynamic outline of a train.

28.5.12.1.7.2 These announcements shall be made at more frequent intervals as deemed necessary by ROCC or as requested by the maintenance/wayside personnel performing the work. (Related Rule 4.180).

- 28.5.12.1.8 Prior to establishing single track operations or any train movement into mainline Connector tracks (i.e. B&E/C&A Connectors) where personnel are on the roadway:





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- 28.5.12.1.8.1 Announce the limits of the operation, the affected track and request that all personnel on the operational track clear the Roadway;
- 28.5.12.1.8.2 Upon request, use the first train entering the single track area (connector track) to pick up and clear personnel on the Roadway, and;
- 28.5.12.1.8.3 Inform Roadway personnel of the location of the transport train when it is made available.
- 28.5.12.1.9 To further protect mainline work gangs performing walking inspections,
  - 28.5.12.1.9.1 Place "prohibit exit" command on the signal that establishes a reverse route into the area where personnel are to walk and verify that a "Blocked Track" indication is on ROCS/AIM screen.
  - 28.5.12.1.9.2 Take interlocking(s) signals (that can establish a reverse route) out of automatic mode anytime track walkers or workers occupy an area governed by automatic signaling. In cases where workers are granted permission to occupy a connector track (i.e. B&E/C&A Connectors), Controllers will contact the associated controlling console to ensure:
    - 28.5.12.1.9.2.1 Signals allowing movement into the connector track on from either line, are taken out of automatic
    - 28.5.12.1.9.2.2 The block track indication is visible on the associated console, and;
    - 28.5.12.1.9.2.3 A "prohibit exit" command has been placed on signal(s) which can establish a route into the connector track.
  - 28.5.12.1.9.3 Request control of the terminal interlocking and set "prohibits and block track" commands on the track section where the personnel are requesting to walk/work when granting access to Roadway at a mainline terminal.
  - 28.5.12.1.9.4 Maintain control of the terminal interlocking until the personnel have either reported clear of the tracks or they have moved completely out of the section of track controlled by the terminal interlocking.
  - 28.5.12.1.9.5 If positive communication is not received from personnel on the Roadway, direct the next train through the area to proceed at 10 MPH sounding the horn until sighting personnel.
  - 28.5.12.1.9.6 When the crew is located, direct the Train Operator to stop and inform the personnel to clear the wayside.



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28.5.12.1.9.7 If work crew is not located, continue to operate trains through the affected area at 10 MPH until confirmation of work crews' whereabouts is obtained.

### 28.5.13 Use of Derailers:

When it is deemed necessary and appropriate to apply clamp-on derailleurs to further protect a work area, the following actions shall be taken:

28.5.13.1 Use only derailleurs that are approved by TSSM and SAFE.

28.5.13.2 The direction from which unauthorized vehicle movement is to be prevented by the use of derailleurs shall be specifically written in the approved SSWP for the work. Derailleurs can be used to prevent unauthorized vehicle entry into the Protected Work Area or to prevent unauthorized vehicle exit from the Actual Work Area.

28.5.13.3 WMATA personnel, qualified in the installation of derailleurs, must be assigned to the work area and remain in the work area until the area is cleared.

28.5.13.4 The WMATA escort, who must also be qualified in the installation and removal of derailleurs, is responsible for installing and removing the derailleurs.

28.5.13.5 The WMATA escort shall coordinate with ROCC the exact locations, by chain marker, of installation and removal of the derailleurs. Placement of the derailleurs must be within the Protected Work Area.

28.5.13.6 Contractors are not permitted to install or remove derailleurs.

28.5.13.7 After all personnel and equipment are clear of the Roadway and it is safe to operate trains through the area where the work took place, the derailleurs are to be removed and ROCC notified. Escorts are to verify the removal of the derailleurs and ROCC shall confirm with the Escort that all derailleurs installed have been removed by chain marker. A test train shall then be operated through the work area to confirm the work area is clear.

28.5.13.8 Shunt straps shall be installed within 10 feet of the derailleurs at the beginning of the protected work area.

28.5.13.9 When the use of derailleurs are required, no access to the work area shall be permitted (with the exception of rail equipment) until the entry prevention derailleurs and the associated shunt straps and all other required safety equipment are installed.



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28.5.13.10 When exit protection is required, no work with on track equipment is permitted until the exit prevention derailleurs and associated shunt straps and red flags/lanterns are installed at the ends of the Actual Work Area.

28.5.14 Personnel Responding to Incident on Roadway:

28.5.14.1 Employees responding to incidents on the Roadway (malfunctioning train, interlocking out of correspondence, fire in tunnel, etc) shall request permission from ROCC and notify ROCC the direction from which the incident is to be approached. Responders are responsible for using Individual Train Detection or Lookout/Watchman as a means of protection en-route to incident.

28.5.14.2 Employees shall approach the incident in a manner that ensures their safety in case service is restored and trains begin moving while personnel are en-route. Employees shall use catwalks or safety walks and, when responding to malfunctioning trains, approach on the track with the malfunctioning train.

28.5.14.3 Upon arriving at the scene, employees shall make positive contact with the Train Operator prior to starting work on or boarding the train.

28.5.14.4 Responders shall use Train Coordination or Foul Time to protect themselves while addressing the incident.

Train Operators shall not move train without permission of mechanic when mechanic working on Roadway near train.

28.5.15 Working on WMATA property outside the Roadway (beyond the Intermediate Boundary Fence):

28.5.15.1 Employees and contractors working on the safe, non-track side of the Intermediate boundary fence will be considered off the Roadway. Hand signaling to train operators is not required.

28.5.15.2 Employees conducting work on WMATA property and on the safe side of the Intermediate boundary fence shall notify ROCC when starting work. ROCC permission is not required.

28.5.15.3 Escorts shall accompany contractors whether working on the safe side or the track side of the Intermediate boundary fence.

28.5.15.4 Train operators shall use caution when approaching individuals on WMATA property, but will not be required to slow trains or sound horns if personnel are on the safe side of the Intermediate boundary fence.



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- 28.5.15.5 Track inspection and wayside scheduled maintenance which occurs on the track, Roadway side of the Intermediate boundary fence will be conducted primarily between 10:00 am and 3:00 pm during manual mode train operations.
- 28.5.15.6 Personnel working on the track side of the Intermediate boundary fence are considered on the Roadway and are governed by all applicable rules in the MSRPH.
- 28.5.15.7 Operators shall report any personnel on WMATA property (and on either side of the Intermediate boundary fence) who are not wearing proper PPE.
- 28.5.16 Establishment of Work Area in the Yard Car Wash Facility (except Branch Ave.):
- 28.5.16.1 Securing car wash area and car, the supervisor in charge shall:
- 28.5.16.1.1 Ensure that cars are in the proper position and that the correct car number is in the car wash.
- 28.5.16.1.2 Ensure that a handbrake has been applied on at least one railcar.
- 28.5.16.1.3 Turn off Battery Circuit Breakers and secure Battery Circuit Breaker Cover.
- 28.5.16.1.4 1000 series cars, only turn off the battery output circuit breaker.
- 28.5.16.1.5 4000 series cars, turn off battery circuit breaker.
- 28.5.16.1.6 2/3/5/6000 series cars, turn off the battery circuit breaker and the outside light indicator circuit breaker.
- 28.5.16.1.7 Via the radio, request that the tower de-energize the third rail in the car wash via red tag.
- 28.5.16.1.8 Upon being notified by the tower via the radio that the third rail has been de-energized, verify that the third rail power is down with a "HOT STICK".
- 28.5.16.1.9 Verify with the tower via the radio that you have "HOT STICKED" the third rail power in the car wash and that it is de-energized at this time.
- 28.5.16.1.10 Connect the WSAD, third rail warning system.
- 28.5.16.1.11 De-energize ground switch circuit, verify green light is on.
- 28.5.16.1.12 Install a lock on the ground switch circuit.



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- 28.5.16.1.13 Report back to your supervisor that the train in the carwash is secured.
- 28.5.16.1.14 Escort contract employees to car wash. Contract employees shall not leave car wash without escort.
- 28.5.16.1.15 The on-site supervisor or contractor escort must strictly enforce contractor's compliance with staying within boundaries of work area.
- 28.5.16.2 Preparing Train for Service, the supervisor in charge shall:
  - 28.5.16.2.1 Ensure all personnel and equipment is clear of train and third rail.
  - 28.5.16.2.2 Remove lock from ground switch circuit and energize ground switch circuit.
  - 28.5.16.2.3 Energize Battery Circuit Breakers.
  - 28.5.16.2.4 Disconnect WSAD third rail warning devise.
  - 28.5.16.2.5 Via radio, request that the tower re-energize the third rail power in the car wash.
  - 28.5.16.2.6 Upon being notified by the tower via the radio that the third rail power has been energized in the carwash, verify using a "HOT STICK" that the third rail power in the carwash is energized.
  - 28.5.16.2.7 Via radio, notify the tower that the power has been restored in the carwash and was confirmed using a "HOT STICK".
  - 28.5.16.2.8 Remove hand brake, key up the train, recharge brake pipe and check for brakes off and perform a manual door operation functional check to both cars. Follow all steps in SOP 34.4.3
  - 28.5.16.2.9 Notify tower via radio that the train is ready to be moved out of the car wash and contact your supervisor.
- 28.5.16.3 Alarm Activation Siren and Strobe Light During Car Wash Activities, the supervisor in charge shall:
  - 28.5.16.3.1 Notify Tower and immediately respond to the car wash track to ensure all personnel are safe and no injuries have been sustained. If personnel have sustained injury, notify ROCC immediately.
  - 28.5.16.3.2 Via the radio, inform the tower of your arrival and utilize a HOT STICK to verify the condition of the Third Rail.
  - 28.5.16.3.3 If the third rail is energized, immediately suspend all exterior cleaning operations and notify ROCC, Tower and MOC Power.



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- 28.5.16.3.4 If no voltage is present, ensure proper connection and operation of the WSAD device. Notify Tower that normal exterior cleaning operation will resume at this time. If the unit is found to be defective, tag it out of service and notify your supervisor immediately.
- 28.5.16.3.5 Test and verify the proper operation of a spare WSAD device and place it in operation. Notify Tower that normal Exterior Cleaning Operation will resume at this time.
- 28.5.16.4 Alarm Activation Siren Only During Car Wash Activities, the supervisor in charge shall:
- 28.5.16.4.1 Notify Tower and immediately respond to the car wash track to ensure all personnel are safe and no injuries have been sustained. If personnel have sustained injury, notify ROCC immediately.
- 28.5.16.4.2 Via the radio, inform the tower of your arrival and utilize a Hot Stick to verify the condition of the Third Rail. If the Hot Stick will not detect voltage, verify the level of voltage with a volt meter. If voltage is present, immediately suspend all exterior cleaning operations and notify ROCC, Tower and MOC Power.
- 28.5.16.4.3 If no voltage is present, ensure proper operation of the WSAD device. Notify Tower that normal Exterior Cleaning operation will resume at this time. If the unit is found to be defective, tag it out of service and notify your Supervisor immediately.
- 28.5.16.4.4 Test and verify the proper operation of a spare WSAD device and place it in operation. Notify Tower that normal exterior cleaning operation will resume at this time.
- 28.5.17 Removal of Third Rail Power and Establishment of a Work Area under a Remote Red Tag Outage for Branch Avenue Yard Carwash Facility only:
- 28.5.17.1 This remote red tag outage applies to Branch Avenue WMATA Yard Carwash Facility only; where vehicles are washed by hand.
- 28.5.17.2 This remote red tag outage does not require car maintenance personnel (CMNT) to submit red tag outage request via GOTRS (General Orders – Track Rights System).
- 28.5.17.3 The supervisor in charge shall via the radio, request that the tower de-energize the third rail in the car wash via a remote red tag.
- 28.5.17.4 Third Rail power is de-energized and recorded by Yard Interlocking Operator under this remote red tag outage.



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- 28.5.17.5 Remote indication confirms that TPSS carwash track breaker #32 is open.
- 28.5.17.6 The Yard TPSS carwash track breaker #32 is then tagged by Yard Interlocking Operator by turning and locking the tagging control switch to tag position.
- 28.5.17.7 Control power to the carwash breaker #32 is removed by the tagging relay.
- 28.5.17.8 Remote indication confirms that TPSS carwash track breaker #32 is tagged and control power to the breaker is removed.
- 28.5.17.9 Upon being notified by the tower via the radio that the third rail has been de-energized, CMNT personnel will verify with a working hot stick that the third rail power is down.
- 28.5.17.10 CMNT personnel will verify with the tower via the radio that you have “HOT STICKED” the third rail power in the carwash and that it is de-energized at this time.
- 28.5.17.11 CMNT personnel will verify that the running rail grounding green light is on.
- 28.5.17.12 CMNT personnel will manually open the ETS circuit. Disconnect switch located in carwash bldg.
- 28.5.17.13 CMNT & Contractor personnel will place lock out/Tag out device on the ETS circuit Disconnect switch box.
- 28.5.17.14 The ETS Disconnect switch is interlock with the (ETS) Emergency Trip Switch circuit to breaker E-F99-32 located in Branch Ave Traction Power Sub-Station and provides additional safety measure controlled by the carwash facility personnel.
- 28.5.17.15 CMNT personnel will connect a third rail warning device (WSAD) on the third rail in the actual work area. The rail warning device shall be tested before being connected to the third rail. The third rail warning devices shall be positioned so that every member of the work crew will be able to see and hear the alarms.
- 28.5.17.16 Report back to your supervisor that the train in the carwash is secured.



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- 28.5.18 Restoration of Third Rail Power and Establishment of a Work Area under a Remote Red Tag Outage for Branch Avenue Yard Carwash Facility only.
- 28.5.18.1 Ensure all personnel and equipment is clear of train and third rail.
- 28.5.18.2 CMNT personnel will disconnect the third rail warning device (WSAD).
- 28.5.18.3 CMNT & Contractor will remove locks from ETS circuit disconnect switch located in carwash bldg.
- 28.5.18.4 CMNT personnel will Close ETS circuit disconnect switch.
- 28.5.18.5 The supervisor in charge shall Via the radio, request that the tower re-energize the third rail in the car wash.
- 28.5.18.6 Yard Interlocking Operator unlocks the remote tagging control switch and removes the tag from the Yard TPSS carwash breaker # 32.
- 28.5.18.7 Remote indication confirms that TPSS carwash track breaker #32 is normal.
- 28.5.18.8 Yard Interlocking Operation will close breaker #32.
- 28.5.18.9 Remote indication confirms that TPSS carwash track breaker #32 is closed and third rail is energized.
- 28.5.18.10 Upon being notified by the tower via the radio that the third rail power has been energized in the carwash, verify using a “HOT STICK” that the third rail power in the carwash is energized.
- 28.5.18.11 CMNT personnel will verify that the running rail grounding green light is off.
- 28.5.18.12 Via radio, notify the tower that the power has been restored in the carwash and was confirmed using a “HOT STICK”.
- 28.5.18.13 Remove hand brake, key up the train, recharge brake pipe and check for brakes off and perform a manual door operation functional check to both cars. Follow all steps in SOP 34.4.3
- 28.5.19 Roadway Clarifications: D&G Platform, Alexandria Yard Platform, Shady Grove Yard Lead, Brentwood Yard:





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28.5.19.1 D&G Platform (Picture 3 and 4) shall be considered Roadway at all times.



Picture 3 - D & G Platform facing Benning Road portal and Minnesota Avenue aerial structure.



Picture 4 - D & G Platform, Track 1



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28.5.19.2 Alexandria Yard Platform – the walkway to the Alexandria Platform stop will be protected by an Intermediate Boundary fence. Where constructed, it separates Metro property into Roadway and Non-Roadway territory. Individuals on the track side of the Intermediate boundary fence are considered “on” the Roadway; individuals on the non-track side of the Intermediate boundary fence are considered “off” the Roadway (pictured below).



Employees shall have an approved Safety Vest and be Roadway trained in order to walk to and from the Alexandria Platform. Non-WMATA employees must be escorted with Roadway trained employee and have on a safety vest.

Employees and contractors walking on the safe, non-track side of the Intermediate boundary fence will be considered off the Roadway. Hand signaling to train operators is not required.

28.5.19.3 Shady Grove Yard Lead – Employees traveling to/from the Shady Grove facility from the Shady Grove terminal via the paved yard lead must be Roadway trained and have on a safety vest. Non-WMATA employees must be escorted with Roadway trained employee and have on a safety vest.

28.5.19.4 Brentwood Yard;

28.5.19.4.1 The inbound platform stop shall not be used by administrative personnel or Station Managers.

28.5.19.4.2 Due to the proximity to mainline and the dangers of high speed train operations, the following sections of Brentwood Yard shall be treated as mainline track:



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- 28.5.19.4.2.1 From B99-38 signal to B99-64 signal along the receiving and dispatch tracks;
- 28.5.19.4.2.2 In between the receiving and dispatch track and the inbound mainline track from B99-38 signal back towards NY Ave;
- 28.5.19.4.2.3 Signs shown in Figure 4 shall be placed every 20 feet on the Roadway in the areas of Brentwood Yard defined as mainline track.



Figure 4

- 28.5.19.4.3 Personnel going Roadway for any reason in the areas of Brentwood Yard defined as mainline track (28.5.17.4.2) shall request permission from both the Brentwood Interlocking Operator and the ROCC Supervisor and be governed by all Roadway safety rules and procedures when personnel are on the Roadway (personnel request permission and be responsible for their own safety; train operators shall slow and sound their horns when sighting personnel in areas defined in section 28.5.17.4.2).

### 28.6 REFERENCES

- 28.6.1 SOPs # 2, # 19, # 23
- 28.6.2 Operating Rule 3.87
- 28.6.3 Safety Rules 4.1, 4.2, 4.163-4.199



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Appendix A to SOP 28

The following activities are the only exceptions to supervisory third rail power outage requirement for WMATA employees described in section 28.5.1.3:

1. Verifying third rail voltage testing devices, e.g., approved hot sticks and meters.
2. Establishing work area safety zones adjacent to the actual work area.
3. Walking and/or performing inspections on the Roadway.
4. Performing ATC switch maintenance and testing.
5. Performing ATC track circuit maintenance and testing.

The following activities are the only exceptions to red tag third rail power outage requirement for non-WMATA employees described in section 28.5.2.1:

1. Site verification and field measurements of rail flaws detected by ultrasonic rail flaw detection equipment – no power outage required; protection ensured by the WMATA Roadway Worker In Charge.



**Notice:** The above are just examples. Departments should submit proposed activity exemption lists to the MSRPH Rule Book Committee for review.



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**Appendix B to SOP 28**

**ROCC Coordination with Roadway Worker In-Charge**

**For Establishment of Work Zones**

Protection Coordination	Inaccessible Track	Individual Train Detection	Exclusive Track Occupancy	Train Approach / Watchman-Lookout	Foul Time
Verify Shunt	R	NA	O	O	NA
Work Limits in GOTRS	R	NA	O	O	NA
Prohibit Exits	R	O	R	R	NA
Speed Restriction Adjacent Track	O	NA	O	O	NA
Physical Barrier (i.e. Derailers / Switches Blocked/Clamped)	R	NA	NA	NA	NA
PPE	R	R	R	R	R
WSADS	R	NA	O	NA	NA
ROCC Notification/Pre-Fouling Briefing	R	R	R	R	R
Drop Circuits	NA	NA	O	NA	NA
Drop Signals	NA	NA	O	NA	NA
Announcements	NA	NA	R	R	R
Stop Train Movement	NA	NA	NA	NA	R

R = Required

O = Optional

NA = Not Applicable



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Appendix C to SOP 28 Example of Safety Briefing Form

Date: December 10, 2008 Time: 10:00 AM Line/Division: Red Line- Shady
Work Location/Track Number(s)/Chain Markers: Shady Grove to White Flint Track #1 A1-905+50-A1-600+00
Description of Work Assignment: Track Inspection
Safety rule read pertaining to job?
Safety rule number(s) read? 4.164
Name of employee(s) providing on-track protection: Troy Lloyd
Department: Track Qualifications: Track Walker
What form of on-track protection will be used: (Check all that apply)
Track Out of Service Which Track is Out of Service? #1 #2 #3
Watchman/Flagman Shunt Strap(s) ATP Slow Speed Couplers
Insertion of Switch Crank Local Control of Interlocking
If performing Roadway maintenance work during revenue hours, is there a physical barrier such as a wall or SSRM approved barrier between you and your work area on the adjacent track(s)? If not,
How are the adjacent track(s) protected? Physical Barrier Shunt(s) ATP Slow Speed Couplers
Have you discussed a safe clearing location for the passing of trains and work equipment?
Will the use of cranes, booms or other type equipment be utilized during revenue hours that could encroach on the dynamic outline of a passing train? If so,



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Yes  No Do you have flagmen assigned to each side of the work area?

Yes  No Do you have an employee with a radio exclusively assigned to monitor crane operations?

If performing on-track inspection duties only, which track are you inspecting? #1 #2 #3

What are the location(s) that you will be inspecting? Shady Grove to White Flint, including interlockings.

(Employees should discuss their on-track safety procedures, watchman duties and proper PPE)

**What type of power outage is being utilized?**

Supervisory

Red Tag Number \_\_\_\_\_

No Power Outage

Have the negative reference cables been disconnected and temporarily reconnected?  Yes  No  N/A

**What about your on-track safety equipment?**

Yes  No Is your WSAD in place?

Yes  No Shunts and red lanterns in place?

Yes  No Work mats in place?

Yes  No Personnel have all required PPE?

If working around on track machinery and equipment, the operators must discuss the dangers of the equipment, minimum spacing between equipment and safe working speeds.

Are there other departments involved in this work assignment? If so, discuss their involvement.

Does anyone have any questions or concerns?  Yes  No

If yes, have they been addressed to everyone's satisfaction?  Yes  No

***Employees must sign the "On-Track" safety briefing sheet at the job site! (List or sign-in optional)***




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**SOP # 29 BLUE FLAG PROTECTION-STORAGE AND MAINTENANCE YARDS**

**29.1 PURPOSE**

The purpose of this SOP is to delineate responsibilities and procedures for working on or near all storage tracks and to restrict access to rail cars or other equipment.

**29.2 SCOPE**

This procedure is applicable to all employees performing maintenance on rail cars on storage tracks in storage and maintenance yards.

**29.3 DEFINITIONS**

29.3.1 Blue Flag: A flag or signaling device that is placed on a rail vehicle indicating that workers are around or under the rail vehicle. When the flag is displayed, the rail vehicle cannot be moved or coupled to.

29.3.2 Blue Flag Protection: A procedure that prevents access to a track, train, or other equipment stored in a rail yard or storage tracks.

29.3.3 Blue Lantern: A lamp that serves the same purpose as a blue flag that is used during low visibility situations.

29.3.4 Blue Tag: A tag attached to the master controller of a railcar or in the control area of equipment, to indicate that the equipment is not to be keyed up or moved.

**29.4 RESPONSIBILITIES**

The General Superintendents/Office Directors of CMNT, RTRA, and TSSM are responsible for administration of this SOP.

**29.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
29.5.1	Requirements for Storage Tracks
29.5.2	Requirements for Trains and Equipment
29.5.3	Establishing Blue Flag Protection
29.5.4	Removing Blue Flag Protection





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### 29.5.1 Requirements for Storage Tracks:

Blue flag protection shall be provided on all storage tracks in Storage and Maintenance Yards when individuals or work crews perform external work on the equipment.

29.5.1.1 Every individual or work crew assigned a specific task or tasks must establish and remove their own blue flag protection regardless of markings provided by others.

29.5.1.2 Personnel reporting to a work crew, after blue flag protection has been established by that crew, shall notify the designated individual of their presence.

29.5.1.3 Blue flags/lamps shall be displayed such that they are clearly visible from storage track entrance points and shall be adjacent or attached to the running rail opposite the third rail.

29.5.1.4 During daylight hours and good visibility conditions, blue flags only are required. During the hours of darkness or when visibility is poor, blue lamps in addition to blue flags shall be provided.

29.5.1.5 Protection need not be provided for the following:

29.5.1.5.1 Work performed inside of cars.

29.5.1.5.2 Visual inspection clear of tracks.

29.5.1.5.3 Other operations that permit staying in the clear.

### 29.5.2 Requirements for Trains and Equipment:

29.5.2.1 Blue Flag protection shall be established for trains and other equipment when access to that equipment is prohibited but access to track is required.

29.5.2.2 An *entire track* must be Blue Flag protected when individuals or work crews perform external work on the rail cars or other equipment.

29.5.2.3 Blue tags shall be displayed such that they are clearly visible in the control area of the protected equipment. The blue tags shall be attached to the master controller of all rail cars that are to be protected.

29.5.2.4 Blue flags/lamps shall be displayed ten (10) feet in front of equipment and shall be adjacent or attached to the running rail opposite the third rail.



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- 29.5.2.5 During daylight hours and good visibility conditions, blue flags only are required. During the hours of darkness or when visibility is poor, blue lamps in addition to blue flags shall be provided.
- 29.5.3 Establishing Blue Flag Protection:
- 29.5.3.1 The immediate work crew supervisor or designated work crew individual shall notify the Interlocking Operator of the intention to establish blue flag protection; giving the time, track number, equipment ID and requestor's name. The radio or telephone may be used as a means of communication unless otherwise instructed by the immediate supervisor.
- 29.5.3.2 When notified of the intent to establish Blue Flag protection, the Interlocking Operator shall:
- 29.5.3.2.1 Set the necessary switch or switches and apply approved blocking devices to the button or control lever on the interlocking board such that a route cannot be established to the track to be protected;
- 29.5.3.2.2 Make a notation, in red ink, in the log book showing the track number, equipment ID, person requesting protection or identified designee, and the time the protection was provided, and;
- 29.5.3.2.3 Notify the employee requesting protection that the track is secured.
- 29.5.3.2.4 The interlocking operator shall note, in the Rail Performance Monitor (RPM), the tracks, trains, or equipment that are under blue flag protection except for tracks with no third rail.
- 29.5.3.3 The person requesting Blue Flag protection is responsible for ensuring that blue flags/tags/lanterns are in place as required.
- 29.5.3.4 Upon notification from the Interlocking Operator that the track is secured, the requestor shall display the blue flag/lamp and notify the Interlocking Operator that work is ready to begin.
- 29.5.4 Removing Blue Flag Protection:
- 29.5.4.1 When Blue Flag protection is no longer required, the blue flags/lamps and tags, placed by the work crew, shall be removed.



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- 29.5.4.2 The person who originally requested protection or his identified designee shall notify the Interlocking Operator that protection is no longer required giving their name, track number, equipment ID and the time.

In order to transfer blue flag ownership, the originator shall contact the interlocking operator with the new owner to verify transfer.

- 29.5.4.3 The Interlocking Operator shall record the time that the Blue Flag protection was removed in the tower log book and noted in RPM. If no other protection exists on this track, the Interlocking Operator shall restore the track to normal service.

### **29.6 REFERENCES**

Operating Rule 3.129



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## SOP # 30 ESTABLISHMENT AND REMOVAL OF SPEED RESTRICTION FOR THE MAINLINE

### 30.1 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to delineate responsibilities and procedures for establishing and removing speed restrictions.

### 30.2 SCOPE

30.2.1 This SOP is applicable to the Mainline Rail System.

30.2.2 A speed restriction must be applied to ensure the safe passage of trains over a segment of track(s) where normal operating speeds are unsafe to equipment, personnel or customers.

30.2.3 A speed restriction may be established to protect personnel on the wayside.

30.2.4 Any employee can request a speed restriction or have trains stopped if an unsafe condition is found that would be hazardous for the safe passage of trains.

### 30.3 DEFINITIONS

None

### 30.4 RESPONSIBILITIES

30.4.1 The RWIC requesting a speed restriction over a segment of track that is unsafe for trains to operate at normal operating speeds is responsible for providing accurate details of the request. This RWIC is also responsible for verifying that the restriction is accurately applied.



**Notice:** ATP Speed Restrictions can reduce speeds for one or more blocks to speeds no greater than 40 mph (MEDIUM) or to 15 mph (SLOW). To achieve a restriction below 15 mph requires a (STOP) restriction and Mode 2 Level 2 operation.

30.4.2 The RWIC is responsible for requesting a speed restriction and for providing accurate details. The RWIC is also responsible for verifying that the restriction is accurately applied and for notifying ROCC promptly when personnel and equipment are clear of the Roadway and the restriction is no longer needed.



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- 30.4.3 The ROCC is responsible for implementing speed restrictions. The ROCC is also responsible for notifying train operators and terminal supervisors when speed restrictions are in affect over their line or removed on their line to protect Roadway workers.
- 30.4.4 The MOC is responsible for determining the contiguous blocks and the specific speed restrictions to be applied that will ensure that approaching trains enter and leave the requested restriction area (600 feet before to 600 feet after work zone) at or below the restriction speed. The MOC will select restricted speeds for the approach blocks that allow approaching trains to reduce their speed to the restriction speed in steps.
- 30.4.5 The MOC is responsible for dispatching and directing TSSM ATC personnel to install the speed restriction.
- 30.4.6 The MOC is responsible for opening a work order and keeping a record of the speed restriction, including the name of the person requesting the restriction and the date and time.
- 30.4.6.1 The MOC shall conduct weekly review of speed restriction records and submit changes to RTRA and TSSM Superintendents.
- 30.4.7 The Rail Operation Supervisor at the terminal is responsible for posting details of active speed restrictions for train operators.

### 30.5 PROCEDURES

Procedure #	Content
30.5.1	Establishing a Speed Restriction for Hazardous Conditions
30.5.2	Establishing a Speed Restriction to Protect Roadway Workers
30.5.3	Removing a Speed Restriction

#### 30.5.1 Establishing a Speed Restriction for Hazardous Conditions:

30.5.1.1 Personnel who discover the track or other condition(s) which require that trains be operated at lower than normal line speed shall request a restriction, notifying the ROCC of:

30.5.1.1.1 The hazardous condition that requires the speed restriction,

30.5.1.1.2 The line and location and the track numbers affected,



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- 30.5.1.1.3 The area affected (chain marker limits of the speed restriction),
- 30.5.1.1.4 And the reduced speed that should be applied through the area until the hazard is corrected.
- 30.5.1.2 The requester shall wait for confirmation from ROCC until the restriction has been established.
- 30.5.1.3 Upon approval, the ROCC Supervisor will direct the requester to contact MOC to have the speed restriction established.
- 30.5.1.4 The requester shall provide MOC with the same level of detail and wait for confirmation from ROCC until the ATP Temporary Speed Restriction has been established.
- 30.5.1.5 The MOC shall advise and ATC field personnel shall confirm which blocks require ATP Temporary Speed Restrictions to reduce the train speed to the desired speed 600 feet before the restricted area and to maintain the desired speed 600 feet beyond the requested area.
- 30.5.1.6 MOC shall dispatch ATC personnel to the Train Control Room location(s) containing the track circuit transmitters for the affected blocks.
- 30.5.1.7 ATC personnel shall install ATP Temporary Speed Restrictions as directed by MOC, coordinating with the ROCC Supervisor and making the changes on blocks behind traffic but not in front of an approaching train. ATC personnel shall Tag-out each ATP Transmitter on which a Temporary Speed Restriction has been installed.
- 30.5.1.8 When a track circuit requires two speed restrictions concurrently because of adjacent overlapping conditions, and both speed restrictions are the same, the applicable speed restriction shall be installed, and the ATP Transmitter for the overlapping track circuit shall be Tagged-out separately for each condition. If the speed requirements in the overlapping track circuit for each condition are different, the lower of the two speed restrictions shall prevail, and the ATP Transmitter for the overlapping track circuit shall be Tagged-out separately for each condition.
- 30.5.1.9 ATC personnel shall notify ROCC and MOC when the speed restriction is applied.
- 30.5.1.10 ROCC shall notify the requester that the speed restriction has been applied over the requested area.



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30.5.1.11 The RWIC or RTRA Supervisor shall verify that train speeds are correctly reduced 600 feet before the restricted area and 600 feet beyond the restricted area by boarding the first train and riding through the restricted area to verify the correct reduced speed. The limiting speed on the train console will then be verified for train speed accuracy. Notify ROCC that the speed restriction is correct or that it needs modification.

30.5.2 Establishing a Speed Restriction to Protect Roadway Workers:

30.5.2.1 The RWIC of Roadway gang must contact the ROCC to establish a speed restriction, identifying:

30.5.2.1.1 The intended work activity,

30.5.2.1.2 The working limits by line and location, its chain marker limits, and track number(s) covered by the speed restriction,

30.5.2.1.3 The time that the speed restriction should be established,

30.5.2.1.4 And an approximate time for removal.

30.5.2.2 Upon approval, the ROCC Supervisor will direct the requester to contact MOC to establish the speed restriction.

30.5.2.3 The RWIC shall provide MOC with the same level of detail and wait for confirmation from ROCC until the speed restriction has been applied.

30.5.2.4 The MOC shall advise and ATC field personnel shall confirm which blocks require ATP Temporary Speed Restrictions to reduce the train speed to 15 mph 600 feet before the requested area and to maintain the 15 mph restriction 600 feet beyond the requested area.

30.5.2.5 MOC shall dispatch ATC personnel to the Train Control Room location(s) containing the track circuit transmitters for the affected blocks.

30.5.2.6 ATC personnel shall install ATP Temporary Speed Restrictions as directed by MOC, coordinating with the ROCC Supervisor and making the changes on blocks behind traffic but not in front of an approaching train. ATC personnel shall Tag-out each ATP Transmitter on which a Temporary Speed Restriction has been installed.



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30.5.2.7 When a track circuit requires two speed restrictions concurrently because of adjacent overlapping conditions, and both speed restrictions are the same, the applicable speed restriction shall be installed, and the ATP Transmitter for the overlapping track circuit shall be Tagged-out separately for each condition. If the speed requirements in the overlapping track circuit for each condition are different, the lower of the two speed restrictions shall prevail, and the ATP Transmitter for the overlapping track circuit shall be Tagged-out separately for each condition.

30.5.2.8 ATC personnel shall notify ROCC and MOC when the speed restriction is applied.

30.5.2.9 ROCC shall notify:

30.5.2.9.1 The RWIC that the speed restriction is applied,

30.5.2.9.2 The Rail Operations Supervisors at the affected terminal stations to post the speed restriction notice.

30.5.2.9.3 And train operators that a speed restriction is being put into effect at location \_\_\_\_\_ on Track(s) \_\_\_\_\_, that they must proceed through the work area in Mode 2 Level 1 (Manual with ATP Cut in), and that they must obey all signals from the Roadway flag person.

30.5.2.10 The RWIC or RTRA Supervisor shall verify that train speeds are correctly reduced 600 feet before the restricted area and 600 feet beyond the restricted area by boarding the first train and riding through the restricted area to verify the correct reduced speed. The limiting speed on the train console will then be verified for train speed accuracy. Notify ROCC that the speed restriction is correct or that it needs modification.

30.5.3 Removing a Speed Restriction:

30.5.3.1 When the RWIC of the gang reports clear of the Roadway, the ROCC Supervisor shall verify with the RWIC that all personnel and equipment are clear and that the applied speed restriction is no longer needed.

30.5.3.2 Once the RWIC confirms with ROCC that all personnel and equipment are clear and the speed restriction is no longer needed, ROCC shall notify the MOC that the speed restriction shall be removed.

30.5.3.3 When directed by ROCC, MOC shall dispatch ATC personnel to remove the speed restriction.





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- 30.5.3.4 ATC personnel shall remove the ATP Temporary Speed Restrictions as directed by MOC, coordinating with the ROCC Supervisor and making the changes on blocks behind traffic but not in front of an approaching train.
- 30.5.3.5 When a speed restriction is to be removed from a restricted area that overlaps with an adjacent restricted area for which the restriction must continue, ATC personnel shall remove only the restriction from the track circuit(s) that do not overlap with the adjacent restricted area.
- 30.5.3.6 When a speed restriction with two Tag-outs is to be removed from a track circuit of a restricted area that overlaps with an adjacent restricted area for which the restriction must continue, ATC personnel shall remove only the Tag-out for which the restriction must be removed. The speed restriction and Tag-out for the adjacent overlapping track circuit must continue. If necessary, restore the Temporary Speed Restriction for the overlapping track circuit to the original requirements of the adjacent continuing restricted area.
- 30.5.3.7 ATC personnel shall notify MOC when the speed restriction is removed.
- 30.5.3.8 MOC shall notify the ROCC of the date and time that removal of the speed restriction was completed.
- 30.5.3.9 ROCC shall confirm with first train operator through the area that the speed restriction is removed.
- 30.5.3.10 MOC shall record the removal in the speed restriction log including the name of the person authorizing its removal and the date and time.
- 30.5.3.11 ROCC shall notify the supervisors at affected terminals when speed restrictions are removed.

### **30.6 REFERENCES**

- 30.6.1 Operations Administrative Procedure 200-2, P/P#19 (MOC rules)
- 30.6.2 Special Order 07-06
- 30.6.3 Roadway Safety Rules
- 30.6.4 OR 3.153-3.165 (Flagging)
- 30.6.5 OAP 200-33 (SSWP)



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- 30.6.6 SOP # 28 (Third Rail Power Outages and Establishment Of Work Areas on the Roadway)
- 30.6.7 Roadway Worker Protection Manual (Work Zone Speed Restrictions)
- 30.6.8 Track Standards Manual



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## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### SOP #39 LOCKOUT/TAGOUT PROCEDURE FOR TRACTION POWER SUBSTATIONS

#### 39.1 PURPOSE

The purpose of this procedure is to ensure consistency and establish guidelines for WMATA and contractor personnel to use in coordinating and executing the steps of this Lockout/Tagout (LOTO) procedure, in order to provide a safe work environment and to provide safeguards against accidental or unexpected activation of traction power substation electrical equipment, related circuits and tie breaker station.

#### 39.2 SCOPE

This document establishes requirements for the use of a Lockout/Tagout (LOTO) procedure, for all WMATA employees and contractors, desiring to perform work on the wayside in the area controlled by a traction power substation that is occupied by personnel also performing work within the substation. This document also requires the use of existing Lockout/Tagout (LOTO) procedure outlined in OAP 200-2, Policy/Procedure # 16, by personnel performing work on the high voltage traction power equipment and low voltage AC and DC equipment within the traction power substation and tie breaker room.

#### 39.3 DEFINITIONS

39.3.1 Clearance Report: A report made by the personnel participating in the LOTO, who will inform the power coordinator that all personnel and equipment are clear of the work area.

39.3.2 Contractor : A person or business entity that is hired by WMATA to perform work, but is not an employee of WMATA.

39.3.3 Inspection Report: A report resulting from the inspection of the wayside when a LOTO key holder and/or piggy backer is absent during restoration and/or a piggy backer failing to make a clearance report at the scheduled stop time. The report is made by the Power Coordinator who advises ROCC and MOC of the results of the inspections, status of personnel, equipment, and work area.

39.3.4 Lockout/Tagout Procedure: A procedure involving the practice of using tags to increase the visibility and awareness that equipment is not to be energized and using keyed security devices to prevent accidental or unexpected activation of electrical equipment.



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- 39.3.5 Piggyback: A term used to describe the procedure which allows additional work gangs to work in the work area of a person holding rights to the work area under a third rail power red tag outage, supervisory outage or no power outage.
- 39.3.6 Power Coordinator: A qualified WMATA employee responsible for executing LOTO procedures.
- 39.3.7 Roadway Worker in Charge (RWIC): A qualified employee responsible for the Roadway safety for all workers and work gangs within their working limits.
- 39.3.8 Tie Breaker Station: The facility which houses DC track feeder breakers.
- 39.3.9 Traction Power Substation (TPSS): The facility which transforms and rectifies local utility high voltage alternating current to 750 Volts Direct Current (VDC).

### **39.4 RESPONSIBILITIES**

- 39.4.1 Supervisors and managers are responsible for:
- 39.4.1.1 Familiarization and compliance with the guidelines established in OAP 200-2- P/P # 16, SOP # 28, SOP # 41, MSRPH and other applicable rules and procedures.
  - 39.4.1.2 Ensuring assigned personnel are properly trained in accordance with the requirements set forth in this procedure.
  - 39.4.1.3 Enforcement of LOTO procedure, applicable publications, policies and procedures.
  - 39.4.1.4 Maintaining current copies of this procedure and other associated policies and procedures, at work sites, field offices, reporting locations and other designated locations.
  - 39.4.1.5 Ensuring assigned personnel are adequately equipped with the tools, equipment, materials and instructions required to execute this procedure in the proper and safest manner possible.
  - 39.4.1.6 Approving and disapproving piggyback requests for scheduled and unscheduled maintenance activities.



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- 39.4.1.7 Providing WMATA and contractor personnel assigned to perform LOTO duties, with copies of approved piggyback request forms, red tag outage switching orders and track rights and support request form if required.
- 39.4.2 WMATA and contractor personnel assigned LOTO duties are responsible for:
  - 39.4.2.1 Familiarization and compliance with the guidelines established in OAP 200-2-P/P # 16, SOP # 28, SOP # 41, MSRPH and other applicable rules and procedures.
  - 39.4.2.2 Ensuring the steps of this procedure are executed in a safe and expedient manner, while keeping in compliance with all related SOPs, OAPs, and MSRPH rules associated with performing LOTO duties.
  - 39.4.2.3 Enforcement of LOTO procedure and other applicable WMATA publications, policies and procedures.
  - 39.4.2.4 Ensuring each member of the WMATA and Contractor workforces has a valid ID card, and that contractor ID cards include a Traction Power Substation Equipment Safety Training Certification Label.
  - 39.4.2.5 Red tag outage switching orders, rail support request and track rights form if required and other required documents.
  - 39.4.2.6 Providing privately owned pad locks with keys for securing the group lockbox.
  - 39.4.2.7 Not leaving the area with keys, when privately owned pad locks are installed on the LOTO group Lockbox.
  - 39.4.2.8 Ensuring all initial and alternate key holders complete the process for turning over the key holding responsibilities in the event the initial key holders must leave the area or the work continues through a shift change.
- 39.4.3 The TSSM Power Coordinator is responsible for:
  - 39.4.3.1 Completing the LOTO Clearance and Inspection Checklist and documenting all other activities resulting from the execution, implementation, and enforcement and reporting of the LOTO procedures, Piggyback procedures, red tag procedures and other related activities.
  - 39.4.3.2 Ensuring all documentation provided for tracking and logging the LOTO activities, is completed, signed, filed in the designated site binder and submitted daily to other locations as required.



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- 39.4.4 The Roadway Worker in Charge (RWIC) is responsible for:
  - 39.4.4.1 Coordination of de-energization and restoration of power with the Power Coordinator.
  - 39.4.4.2 Making three attempts, using any means of communications available, to contact an absent key holder, when he/she cannot be contacted for the removal of a privately owned pad lock for LOTO restoration procedures.
  - 39.4.4.3 Making three attempts, using any means of communications available, to contact the responsible piggybacker when a clearance report has not been provided or he/she cannot be contacted at the scheduled stop time.
  - 39.4.4.4 Inspection of the work area performed when the responsible piggybacker has not provided a clearance report or cannot be contacted at the scheduled stop time.
  - 39.4.4.5 Reporting the results of the inspection to ROCC/MOC, advising that he/she will cut the privately owned pad lock installed on the group lock box.
- 39.4.5 ROCC/MOC are responsible for:
  - 39.4.5.1 Familiarization and compliance with the guidelines set forth in this procedure.
  - 39.4.5.2 Familiarization and compliance with the guidelines established in OAP 200-2-P/P # 16, SOP # 28, SOP # 41, MSRPH and other applicable rules and procedures.
  - 39.4.5.3 Monitoring, and documenting the activities resulting from the execution, implementation, verification and reporting of the LOTO procedures, piggyback procedures, red tag procedures and other related activities.
  - 39.4.5.4 Verification of LOTO procedures through RWIC.
  - 39.4.5.5 Possessing information on track rights and request forms, red tag outage switching orders and other required documents.
  - 39.4.5.6 Providing authorization to the TSSM Power Coordinator after completion of the inspection of the work area, to complete the LOTO restoration procedure and/or restore third rail power in accordance with OAP 200-2, PP # 16, SOP # 28, when the responsible piggybacker has not provided a clearance report or cannot be contacted at the scheduled stop time.



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**39.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
39.5.1	Lockout/Tagout De-Energization Procedures
39.5.2	Lockout/Tagout Restoration Procedures

39.5.1 Lockout/Tagout De-Energization Procedures:

39.5.1.1 All WMATA and Contractor personnel involved in the LOTO procedure shall perform all steps of this procedure, in a safe manner.

39.5.1.2 The TSSM Power Coordinator shall coordinate and ensure all steps are properly and safely executed:

39.5.1.2.1 Verify proper operation of telephones and hand held radios with ROCC and MOC.

39.5.1.2.2 Obtain copies of the LOTO De-Energization Procedure Checklist, power switching orders, support request and track rights form if required and approved piggyback request form and other required documentation.

39.5.1.2.3 Verify with the piggyback crew leader that the chain markers of the work area are correct.

39.5.1.2.4 Inventory and verify that the tools and equipment required for the LOTO and red tag power outage activities are present.

39.5.1.2.5 Verify that all personnel scheduled to participate in the LOTO activities are present at the affected traction power substation.

39.5.1.2.6 Using the copy of the red tag switching orders, identify the circuit breakers to be locked out and tagged out.

39.5.1.2.7 Using the Substation drawings, locate, de-energize and tag out the circuit breaker that provides 125 or 135 VDC control power for the affected traction power circuit breakers.

39.5.1.2.8 Inspect all circuit breaker cubicles scheduled to be locked and tagged out and verify that it is safe to install the lock out devices and pad locks.

39.5.1.2.9 Install the lock out devices, pad locks and tag out tags on the breaker cubicles in a safe manner.





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- 39.5.1.2.10 Perform an inspection and verify the security of the lock out devices, pad locks and that no debris or other existing objects are in the cubicle.
- 39.5.1.2.11 Collect and place the breaker cubicle keys for the high security pad locks installed on the lock out devices, on the breaker cubicles, inside the “Key Lock Box”.
- 39.5.1.2.12 Place the Key Lock Box containing the padlock keys, into the “Group Lock Box”.
- 39.5.1.2.13 Ensure all privately owned pad locks used by the LOTO participants, are installed on the “Group Lock Box”.
- 39.5.1.2.14 Instruct RWIC to contact ROCC to request permission to go wayside to test the affected third rail sections for de-energization, in accordance with OAP 200-2, P/P #16, SOP # 28 and SOP # 41.
- 39.5.1.2.15 Instruct the RWIC to contact ROCC and confirm the affected third rail sections have been tested and confirmed de-energized and request permission to install the protective equipment if not already installed.
- 39.5.1.2.16 Instruct the RWIC to install or verify and confirm to ROCC, that protective equipment have been properly installed in the work area in accordance with the approved chain markers, SOP # 28 and SOP # 41.
- 39.5.1.2.17 Ensure that all LOTO participants, sign the LOTO log book listing their name, phone numbers, supervisor’s name, supervisor’s phone number, the number of the assigned pad lock installed on the Group Lock Box, expected time of departure, and make a check mark indicating the witnessing of the LOTO procedure.
- 39.5.1.2.18 Inform all personnel holding keys to the privately owned pad locks on the group lock box that all locks will have to be removed when the piggyback rights holder has completed the work and cleared the work area and that any key holder not present or cannot be contacted at that time, will have their locks cut and removed from the group lock box in accordance with the guidelines set forth in this procedure.



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- 39.5.1.2.19 Inform all key holders that in the event the initial key holders must leave the area or the work continue through a shift change, the group lock box key shall be given to an alternate key holder. The original key holder shall document the LOTO log listing the name of the alternate key holder and time of departure. The new key holder shall also sign the LOTO log book listing the time and name of the person from which he received the group lock box pad lock key, his/her name, phone numbers, supervisor's name, supervisor's phone number, the number of the assigned pad lock installed on the Group Lock Box and expected time of departure.
- 39.5.1.2.20 Shall notify ROCC/MOC and any other authorities, that the LOTO De-Energization procedures have been completed.
- 39.5.1.2.21 Shall complete the LOTO De-Energization procedure checklist and ensure all other related paper work has been properly documented, signed and filed in the site binder.
- 39.5.2 Lockout/Tagout Restoration Procedures:
  - 39.5.2.1 The TSSM Power Coordinator shall:
    - 39.5.2.1.1 Ensure the RWIC or designee is instructed to confirm with ROCC/MOC, following the clearance and inspection of the work area that all personnel and equipment are clear of the work area, protective equipment removed and the work area inspected for re-energization.
    - 39.5.2.1.2 Obtain copies of the LOTO Restoration Procedure Checklist, Switching orders, support request and track rights form, LOTO log book and prepare to begin the restoration procedures.
    - 39.5.2.1.3 Inventory and verify that the tools and equipment required for the LOTO and red tag power restoration activities are present.
    - 39.5.2.1.4 Verify that all personnel required are to participate in the LOTO restoration procedures are present at the affected traction power substation and tie breaker room.
    - 39.5.2.1.5 Determine if any personnel holding keys for the locks on the group lock box are absent or have not made a clearance report at the schedule stop time.



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- 39.5.2.1.6 If key holder(s) are absent, make three attempts, using any means of communications available, to contact the absent key holder(s). If no response is received, instruct RWIC to perform an inspection of the wayside in an attempt to locate missing key holder(s) and to determine the status of the work area.
- 39.5.2.1.7 Upon completion of the inspection of the work area, if absent key holder(s) still cannot be located and/or if equipment was found in the work area:
  - 39.5.2.1.7.1 Advise RWIC to clear any tools and equipment and re-inspect the work area for re-energization of third rail power.
  - 39.5.2.1.7.2 Cut and remove a privately owned pad lock from the group lock box.
  - 39.5.2.1.7.3 Complete the LOTO restoration procedure and/or;
  - 39.5.2.1.7.4 Restore third rail power in accordance with OAP 200-2, PP # 16, SOP # 28 and SOP # 41 if required.
- 39.5.2.1.8 If the absent personnel were located, contact ROCC/MOC, and;
  - 39.5.2.1.8.1 Complete the LOTO restoration procedure and/or;
  - 39.5.2.1.8.2 Restore third rail power in accordance with OAP 200-2, PP # 16, SOP # 28 and SOP # 41 if required.
- 39.5.2.1.9 When permission is granted, cut the pad lock and complete the LOTO Clearance and Inspection checklist documenting the activities resulting from the inspection.
- 39.5.2.1.10 Instruct all personnel holding keys for pad locks installed on the group lock box, to remove their pad locks and document the LOTO log book as required.
- 39.5.2.1.11 Using the copy of the switching orders, identify the correct breakers cubicles and remove the lock out devices and pad locks in a safe manner.
- 39.5.2.1.12 Upon completion of the removal of the pad locks, lock out devices and the tagout tags, perform an inspection and verify that no debris or other objects are remaining in the breaker cubicles.



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- 39.5.2.1.13 Release the red tag to ROCC/MOC for restoration of third rail power in accordance with OAP 200-2 P/P # 16 and SOP # 28.
- 39.5.2.1.14 Notify ROCC/MOC when third rail power restoration activities have been completed.
- 39.5.2.1.15 Inventory and secure all LOTO equipment.
- 39.5.2.1.16 Ensure the LOTO Restoration procedure checklist and other related paper work has been properly documented, signed and filed in the site binder.

### **39.6 REFERENCES**

- 39.6.1 OAP 200-2 – Maintenance Operation Center Policy Procedure # 16 – Electrical Power Outage/Restoration.
- 39.6.2 SOP # 28 - Removal and restoration of third rail power for work by WMATA maintenance forces mainline revenue system.
- 39.6.3 SOP # 41 – WMATA Escorts
- 39.6.4 Lockout Tagout De-energization Procedure Checklist
- 39.6.5 Lockout Tagout Restoration Procedure Checklist
- 39.6.6 Lockout/Tagout (LOTO) Procedure Log Book Form
- 39.6.7 Lockout/Tagout Clearance and Inspection Report Checklist
- 39.6.8 TRAINING AND CERTIFICATION

WMATA and Contractor management and supervisory personnel shall develop and execute training programs that will provide employees with the knowledge and skills necessary to safely and effectively perform the steps of the Lockout/Tagout Procedure. These training programs at a minimum shall include but is not limited to, conducting reading sessions, question and answering session and signing a statement of understanding of the Lockout/Tagout procedure. This training is applicable to WMATA, Contractor and other personnel required to perform LOTO duties, individuals responsible for supervising and managing such activities and personnel that request such activities.



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### 39.6.9 TOOLS AND EQUIPMENT

The tools and equipment required for performing LOTO duties may include but are not limited to:

- All required PPE
- Portable radio
- Approved third rail voltage tester (Hot Stick)
- Bolt Cutters
- Multimeter
- Flashlight
- High Security Pad Locks
- Privately Owned Pad Locks
- Circuit Breaker Cubicle Lock Out Device
- Tagout Tags
- Block Tags
- Pad lock labeling kit
- LOTO Site Binder
- LOTO De-energization Procedure Checklist
- LOTO Restoration Procedure Checklist
- Key Lock Box
- Group Lock Box



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP # 41 WMATA ESCORT PROCEDURES FOR NON-ROADWAY

### 41.1 PURPOSE

The purpose of these procedures is to ensure consistency and to establish guidelines for WMATA personnel to use in coordinating and executing escort duties in order to provide safe work areas for WMATA employees and contractors. These procedures shall be accomplished with the guidelines outlined in these procedures, in accordance with SOP 28, MSRPH, and other related rules and procedures.

### 41.2 SCOPE

41.2.1 These procedures are applicable to WMATA personnel certified and required to perform escort duties, individuals responsible for supervising and managing such activities, and personnel that request such activities while working on the revenue system in Non-Roadway work areas.

41.2.2 This SOP does not apply to personnel working in the Roadway. Procedures requiring escort into Roadway areas shall be referred to the Roadway Worker Protection Manual (RWPM).

### 41.3 DEFINITIONS

Escort: A WMATA employee responsible for the safe movement of personnel through and to Non-Roadway work areas and facilities, and must comply with all WMATA policies and procedures.

### 41.4 RESPONSIBILITIES

41.4.1 Supervisors and Managers are Responsible for:

41.4.1.1 Familiarization and compliance with the guidelines set forth in this procedure.

41.4.1.2 Familiarization and compliance with the guidelines established in SOP # 28, MSRPH, and other applicable rules and procedures.

41.4.1.3 Ensuring that assigned personnel have been properly trained and certified in accordance with Escort Training Program requirements.

41.4.1.4 Enforcement of escort procedures and applicable publications, policies and procedures.

41.4.1.5 Coordinating escort requirements.



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- 41.4.1.6 Ensuring that personnel are adequately equipped with the tools, equipment, materials and instructions required to carry out the steps of this procedure.
- 41.4.1.7 Ensuring that a Non-Roadway and Facilities Escort Information Sheet is completed, and provided to the escort, MOC, ROCC, and personnel required having knowledge of it.
- 41.4.1.8 Ensuring escort equipment is pre-positioned at scheduled work locations are made available to the escort in advance of schedule escort activities.
- 41.4.1.9 Ensuring the requirements of this procedure is executed properly and in the safest manner possible.
- 41.4.2 Personnel assigned escort duties are responsible for:
  - 41.4.2.1 Familiarization and compliance with the guidelines set forth in this procedure.
  - 41.4.2.2 Familiarization and compliance with the guidelines established in SOP # 28, MSRPH and other applicable rules and procedures.
  - 41.4.2.3 Ensure each member of the WMATA and Contractor workforce has a valid ID card.
  - 41.4.2.4 Briefing personnel of the work crew on applicable WMATA safety rules/procedures, and any restrictions on the work area as specified by the power outage or General Orders and Track Rights System (GOTRS).
  - 41.4.2.5 Remaining at the work site and advising MOC and ROCC of any change in the assigned escort.
  - 41.4.2.6 Remaining at the work site monitoring work crews to ensure safety of the work area.
  - 41.4.2.7 Preparing and submitting completed and signed copies of the Non-Roadway and Facilities Escort checklist to the supervisor, management and other personnel as directed.
  - 41.4.2.8 Ensuring the steps of this procedure is executed in a safe and expedient manner while keeping in compliance with all applicable OAPs and the MSRPH.



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41.4.2.9 If a work activity requires a System Safety Work Plan (SSWP), a copy shall be given to the escort prior to the work being performed.

### 41.5 PROCEDURES

Procedure #	Content
41.5.1	Non-Roadway and Facilities Escort Procedures

#### 41.5.1 Non-Roadway and Facilities Escort Procedures:

Escorts shall implement the following procedures for installing protective equipment, assisting with a low voltage power outage, performing safety inspections and monitoring WMATA and contractor personnel while working in facilities and/or in other Non-Roadway areas on the mainline revenue system. Escorts shall:

- 41.5.1.1 Report to the scheduled escort location not less than 1/2 hour before the scheduled work time and report presence, arrival time and purpose to MOC.
- 41.5.1.2 Give a detailed description of the work to be performed to MOC, including the facilities in which the work is scheduled to be performed and whether a low voltage power outage is scheduled for the work.
- 41.5.1.3 Inventory and test all required equipment and other items required for the escort activities in accordance with sections 5, 6 and 7.
- 41.5.1.4 Prior to the scheduled start time or at the scheduled meeting time, meet the WMATA maintenance personnel or contractor personnel at the designated meeting location. Advise the personnel of the activities that must take place before work is permitted to begin. Instruct personnel to remain clear of facilities/work areas and wait in a designated area until such time the facility/work area has been inspected and/or protected and permission to enter has been granted by ROCC and/or MOC. In addition, the briefing should include but is not limited to the following items. WMATA and contractor personnel shall:
  - 41.5.1.4.1 Comply with applicable safety rules while working in WMATA facilities and other Non-Roadway work areas.
  - 41.5.1.4.2 Wear the approved PPE at all times.
  - 41.5.1.4.3 Check with the escort before leaving the work area.





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- 41.5.1.4.4 Use the route designated by the escort when entering and leaving the Non-Roadway work area.
- 41.5.1.4.5 Only work on the equipment for which authorization has been approved. Tampering with any equipment is prohibited.
- 41.5.1.5 When preparing a work area where no power outage is required, the escort shall:
- 41.5.1.5.1 Request permission to enter the facility or work area to install safety equipment, if required, and begin work.
- 41.5.1.5.2 If required, install safety equipment in accordance with the Non-Roadway and Facilities Escort Information Sheet and or applicable procedures or instructions by MOC/ROCC. This safety equipment may include but is not limited to:
- Orange safety cones
  - Work lights
  - Orange safety netting/fencing
  - Yellow safety tape
  - Wet floor safety cones
  - Work signs (do not open; do not remove; out of service; etc...).
  - Lanterns
- 41.5.1.5.3 If required, perform visual safety inspections of tools and equipment being used. These safety inspections of equipment may include but is not limited to inspections of:
- Step ladders
  - Extension ladders
  - Scaffolds
  - Secured chains
  - Secured ropes
  - Extension cords
  - Locks
  - Mounts, brackets and other hardware
- 41.5.1.5.4 When the safety equipment installations and equipment and tool inspections have been completed, confirm to MOC/ROCC that the required safety equipment is installed and equipment inspections complete. Request permission to begin work.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 41.5.1.5.5 In the event an emergency or a requirement to clear the facility or work area occurs, WMATA and contractor personnel and equipment shall be clear of the facility and/or work area, and shall remain clear until such time that the protective equipment has been re-installed and re-entry to the facility or work area has been authorized by MOC/ROCC and the escort.
- 41.5.1.5.6 In the event the initial escort must leave the facility or work area or the work continues through a shift change, advise MOC/ROCC of the new escort name and call number in accordance with SOP # 28.
- 41.5.1.6 When preparing a work area where a power outage is required, the escort shall:
- 41.5.1.6.1 Request permission to enter the facility or work area to install safety equipment, if required, and begin work.
- 41.5.1.6.2 Request MOC to remove power according to approved switching order.
- 41.5.1.6.3 When MOC notifies the escort that power has been de-energized, verify that the affected equipment and/or circuits are de-energized with an approved multimeter in accordance with the Non-Roadway and Facilities Escort Information Sheet and/or the information contained on the low voltage power outage switching orders.
- 41.5.1.6.4 When the safety inspection and low voltage power outage verification have been completed, confirm to MOC/ROCC that the inspection has been completed and/or the affected equipment and circuits are de-energized.
- 41.5.1.6.5 If required, install safety equipment in accordance with the Non-Roadway and Facilities Escort Information Sheet and or applicable procedures or instructions by MOC/ROCC. This safety equipment may include but is not limited to:
- Orange safety cones
  - Work lights
  - Orange safety netting/fencing
  - Yellow safety tape
  - Wet floor safety cones
  - Work signs (do not open; do not remove; out of service; etc...).
  - Lanterns



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- 41.5.1.6.6 If required, perform safety inspections of tools and equipment being used. These safety inspections of equipment may include but is not limited to inspections of:
- Step ladders
  - Extension ladders
  - Scaffolds
  - Secured chains
  - Secured ropes
  - Extension cords
  - Locks
  - Mounts, brackets and other hardware
- 41.5.1.6.7 When the safety equipment installations and equipment and tool inspections have been completed, confirm to MOC/ROCC that the required safety equipment is installed and equipment inspections complete. Request permission to begin work.
- 41.5.1.6.8 In the event an emergency or a requirement to clear the facility or work area occurs, WMATA and contractor personnel and equipment shall be clear of the facility and/or work area, and shall remain clear until such time that the protective equipment has been re-installed and re-entry to the facility or work area has been authorized by MOC/ROCC and the escort.
- 41.5.1.6.9 In the event the initial escort must leave the facility or work area or the work continues through a shift change, advise MOC/ROCC of the new escort name and call number in accordance with SOP # 28.
- 41.5.1.7 When permission is granted for the new or replacement escort, perform a safety inspection of the facility/work area. The safety inspection may include but is not limited to the following checks:
- 41.5.1.7.1 Ensure door locks are operational;
  - 41.5.1.7.2 Ensure lights are operational;
  - 41.5.1.7.3 Ensure telephone is operational;
  - 41.5.1.7.4 Ensure radio is operational in facility/work area;
  - 41.5.1.7.5 Ensure floor and stairs are free of water and oil;
  - 41.5.1.7.6 Ensure loose and hanging objects are corrected;



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- 41.5.1.7.7 Ensure adequate ventilation and ensure fans and other devices that produce loud damaging noises are disabled.
- 41.5.1.8 Restoration Procedures:
  - 41.5.1.8.1 Escorts shall implement the following procedures for removing protective equipment, removing and securing safety equipment and tools, assisting with the restoration of low voltage power outages, performing safety inspections of work areas to ensure they are returned to normal or modified configurations.
  - 41.5.1.8.2 Prior to, or, at the scheduled work stop time, direct the WMATA or contractor crew member in charge of the work to remove all equipment and personnel from the facility or work area.
  - 41.5.1.8.3 Contact ROCC/MOC. Advise that the WMATA or contractor personnel and equipment are clear of the facility and/or work area, that the work area will be disassembled, the protective equipment removed and the facility /work area inspected.
  - 41.5.1.8.4 Inventory all work tools, equipment and protective equipment remaining at the work site. Ensure equipment is in their designated locations and properly and safely secured.
  - 41.5.1.8.5 Contact ROCC/MOC and advise that all protective equipment have been removed, work tools and equipment secured and the facility/work area inspected. Advise that the low voltage tag can be cleared.
  - 41.5.1.8.6 Complete the Non-Roadway and Facilities Escort Checklist and fax to immediate supervisor and other locations as directed.

### 41.6 REFERENCES

- 41.6.1 OAP 200-2, P/P # 16
- 41.6.2 SOP # 28



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# **SOP – Train Malfunction SOPs**

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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## **SOP # 9 TRAIN DERAILMENT – MAINLINE and YARD**

### **9.1 PURPOSE**

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the handling of train derailments.

### **9.2 SCOPE**

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in connection with a train derailment.

### **9.3 DEFINITIONS**

**Derailment:** The unintentional removal of one or more train wheels from the running rail(s).

### **9.4 RESPONSIBILITIES**

9.4.1 The Rail Operations Control Center (ROCC) Supervisor is responsible for:

9.4.1.1 Notifying all concern departments and outside agencies.

9.4.1.2 Dispatch the nearest Rail Operations Supervisor to the scene.

9.4.1.3 Keep Fire Department informed of conditions at the scene and update as necessary.

9.4.1.4 Coordinate through personnel at the scene to ensure safety of customers and responders while securing the incident site.

9.4.2 The Rail Interlocking Operator is responsible for:

9.4.2.1 Notifying ROCC.

9.4.2.2 Request that the nearest Rail Operations Supervisor be dispatched to the scene.

9.4.2.3 Keep ROCC informed of conditions at the scene and update as necessary.

9.4.2.4 Coordinate through personnel at the scene to ensure safety of employees and securing the incident site.



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- 9.4.3 The Rail Operations Supervisor is responsible for:
  - 9.4.3.1 Coordinating all activities at the scene and cooperate with the Fire Department Commander and WMATA Safety offices, if present.
  - 9.4.3.2 Inspect the operating controls of the derailed train.
  - 9.4.3.3 Determine, through Track and Structures and Automatic Train Control (ATC) Supervisors, if the adjacent track is safe for operations.
  - 9.4.3.4 Request for a test train on the adjacent track to ensure clearance and safety of operations.
- 9.4.4 The Train Operator is responsible for:
  - 9.4.4.1 Immediately notifying ROCC of the incident to include the presence of fire and/or smoke and injuries.
  - 9.4.4.2 Notify customers of the incident and keep them informed that help is on the way.
  - 9.4.4.3 If possible, move customers to the unaffected cars.
  - 9.4.4.4 Assist with the evacuation of customers to the Roadway, if necessary.
  - 9.4.4.5 Securing the train and apply sufficient handbrakes on all cars.
- 9.4.5 The Metropolitan Transit Police Department (MTPD) is responsible for:
  - 9.4.5.1 Securing and control of personnel at the incident site.
  - 9.4.5.2 Crowd control at affected stations.
  - 9.4.5.3 Coordination with Jurisdictional fire and police at the site.
  - 9.4.5.4 Establishing communications with ROCC and update as conditions change.





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## 9.5 PROCEDURES

Procedure #	Content
9.5.1	Train Operator Notification to ROCC
9.5.2	ROCC Procedures when Notified of a Train Derailment
9.5.3	Rail Operations Supervisor Procedures in Response to a Train Derailment
9.5.4	Train Operator Procedures for Train Derailment
9.5.5	Action to be Taken for Customers
9.5.6	Removal of Damaged Cars Procedures
9.5.7	Third Rail Power Restoration and Service Resumption Procedures
9.5.8	Train Derailment Yard Notification
9.5.9	ROCC Procedures for Derailment in the Yard
9.5.10	Rail Operations Supervisor Procedures for Derailment in the Yard
9.5.11	Requesting Medical Assistance in the Yard
9.5.12	Availability of Revenue Cars for Service
9.5.13	Restoration of Yard Service

### 9.5.1 Train Operator Notification to ROCC:

Train Operators becoming aware that their train is derailed shall stop the train immediately if not already stopped, and notify the Rail Operations Control Center (ROCC), by radio or telephone, whichever is available, and provide the following information:

#### 9.5.1.1 Caller's identification;

#### 9.5.1.2 Reason for the call, and;

#### 9.5.1.3 Location (track number, line identification and the nearest station if not already in a station).

### 9.5.2 ROCC Procedures when Notified of a Train Derailment:

#### 9.5.2.1 The ROCC Supervisor shall instruct the Train Operator to:

##### 9.5.2.1.1 Secure the train and apply handbrakes on all cars;

##### 9.5.2.1.2 Notify the customers of the problem and actions to be taken;



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- 9.5.2.1.3 Report any customer injury or the presence of fire to the Operations Control Center (ROCC) immediately; and
- 9.5.2.1.4 Investigate and report the condition.
- 9.5.2.2 The ROCC Supervisor shall immediately notify all concerned Authority departments, Safety, and Transit Police to secure the accident scene and Station Managers on the affected lines.
- 9.5.2.3 The ROCC Supervisor shall alert the Fire Department Communications Center of the derailment giving them the caller's name, title and location of the derailment. They shall be advised that more pertinent information will be forthcoming when available.
- 9.5.2.4 The ROCC Supervisor shall instruct Train Operators of trains approaching the derailment site, in both directions, to stop their trains in stations and report their positions.
- 9.5.2.5 The ROCC Supervisor shall cause the interlocking signals at adjacent intermediate interlocking locations, on both sides of the derailment site to display "stop" to prevent trains from moving into the affected area.
- 9.5.2.6 After the second and more informative report of the derailment is received at the Operations Control Center, the ROCC Supervisor shall again notify the Fire Department Communications Center and advise them, if their assistance is needed for (1) fire, (2) medical assistance or (3) customer evacuation.
- 9.5.2.7 The Fire Department Communications Center shall be kept posted with updated information which might require their involvement.
- 9.5.3 Rail Operations Supervisor Procedures in Response to a Train Derailment:
  - 9.5.3.1 The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the derailment site.
  - 9.5.3.2 The Rail Operations Supervisor shall establish communications with the Operations Control Center, be responsible for Authority activities and cooperate with the Fire Department, if present.
  - 9.5.3.3 The ROCC Supervisor shall arrange for a test train at restricted speed to operate through the area to confirm clearance and the suitability of the adjacent track for revenue operations.



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- 9.5.3.4 When the Rail Operations Supervisor determines and reports that the adjacent track is not obstructed, the ROCC Supervisor, with concurrence of Incident Commander, shall instruct Train Operators of trains stopped on the adjacent track to discharge customers, if train is in a station and proceed as a test train in Mode 2, and, after the appropriate interlocking signals are cleared in the adjacent intermediate interlocking locations, proceed at restricted speed (15 mph or as directed by ROCC) through the affected area. Train Operators shall return to Mode 1 after the next station stop, clear of the affected area, unless otherwise instructed.
- 9.5.3.5 The Rail Operations Supervisor shall inspect the operating cab of the derailed train and note any irregularities on the cab displays or train operating controls without disturbing any controls, equipment or debris.
- 9.5.3.6 The Rail Operations Supervisor shall observe the physical appearance and general behavior of the Train Operator and hold for questioning by MTPD and SAFE.
- 9.5.3.7 The Operations Supervisor shall investigate the derailment without disturbing, equipment or debris, and provide the ROCC Supervisor with an informative report containing the following:
- 9.5.3.7.1 Any irregularities found in the operating cab.
  - 9.5.3.7.2 Any abnormal behavior of the Train Operator.
  - 9.5.3.7.3 Verify the Train Operators report of the derailed trucks or cars.
  - 9.5.3.7.4 Damage to equipment, both car and wayside.
  - 9.5.3.7.5 Recommended customer evacuation procedure based on conditions at the scene.
  - 9.5.3.7.6 In conjunction with MTPD, secure the accident site pending arrival of SAFE accident investigators.
- 9.5.4 Train Operator Procedures for Train Derailment:
- 9.5.4.1 Train Operators becoming aware that their train is derailed shall stop the train immediately, if not already stopped, and notify the Operations Control Center (ROCC), by radio or telephone, whichever is available, and provide the following information:
    - 9.5.4.1.1 Caller's identification
    - 9.5.4.1.2 Reason for the call



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- 9.5.4.1.3 Location (track number, line identification and the nearest station, if not already in a station)
- 9.5.4.2 The Train Operator shall:
  - 9.5.4.2.1 Secure the train and place handbrakes on all the cars.
  - 9.5.4.2.2 Direct the customers in the damaged cars to move to the unaffected portion of the train.
  - 9.5.4.2.3 Keep the customers informed, via the train public address system, of conditions and the progress of establishing their evacuation procedure.
  - 9.5.4.2.4 If third rail power was not faulted as a result of the derailment, it should be kept on for customer safety and convenience and train movement. If there is any arcing between any part of a car and the third rail, or if the possibility of fire exists, the Train Operator shall remove the third rail power immediately in accordance with SOP #2 – Emergency Removal and Restoration of Third Rail Power Mainline.
  - 9.5.4.2.5 If fire is present, the Train Operator shall attempt to extinguish it, after third rail power has been removed, and it is safe to do so.
- 9.5.5 Action to be Taken for Customers:
  - 9.5.5.1 The ROCC Supervisor shall:
    - 9.5.5.1.1 Instruct the Rail Operations Supervisor to institute customer evacuation procedure in accordance with SOP #4 – Customer Evacuation from Trains, and conditions at the scene.
    - 9.5.5.1.2 Activate the ventilation system based on conditions at the scene.
    - 9.5.5.1.3 Arrange for public address announcements to be made to customers on trains and in stations.
    - 9.5.5.1.4 Instruct Train Operators of trains on the blocked track, stopped between stations where a train ahead is held in a station, to initiate train close-in procedure in accordance with SOP #4 – Customer Evacuation From Trains.
    - 9.5.5.1.5 Request the assistance of the MTPD for crowd control at critical stations.



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- 9.5.5.1.6 Initiate operating procedures to relieve train congestion at the derailment site by:
  - 9.5.5.1.6.1 Instituting terminal schedule adjustments.
  - 9.5.5.1.6.2 Instituting single track operation.
  - 9.5.5.1.6.3 Turning trains both sides of the derailment site.
  - 9.5.5.1.6.4 Requesting Metrobus shuttle service.
- 9.5.5.1.7 If the safety of the customers is endangered, the ROCC Supervisor shall instruct the Train Operator to secure the train with handbrakes and evacuate the customers in accordance with SOP # 4 – Customer Evacuation from Trains.
- 9.5.5.1.8 Medical assistance for customers or employees shall be requested through the Operations Control Center (ROCC). The employee requesting medical assistance shall provide an estimate of the number of people requesting assistance, if there are any customers with special needs (wheel chair, vision impaired, etc) and if possible, arrange an escort for directing the medical personnel to the derailment site.
- 9.5.5.1.9 The ROCC Supervisor shall request aid through the Fire Department Communications Center provide the station name, cross street and location of the station entrance.
- 9.5.5.1.10 The names and addresses of the people requiring medical assistance, and names of medical agencies and personnel shall be included in the accident report.
- 9.5.6 Removal of Damaged Cars Procedures:
  - 9.5.6.1 Third rail power shall be removed from the involved track in accordance with SOP # 2 – Emergency Removal and Restoration of Third Rail Power Mainline before the maintenance personnel can begin their operation.



**Notice:** Approval of the Chief Safety Officer is requested prior to initiating any action to remove rail cars from the accident scene or to repair infrastructure (ie, interlocking or track repair).



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- 9.5.6.2 The Rail Operations Supervisor shall arrange for proper flagging protection for the work group.
- 9.5.6.3 The ROCC Supervisor shall suspend train operation on the adjacent track when advised that such train movements are hazardous to the re-railing operation. The ROCC Supervisor shall institute alternative means of maintaining service for customer convenience.
- 9.5.6.4 After the damaged cars have been prepared for removal and any damage to track and wayside equipment has been repaired and approved for train movement by the Supervisors of ATC, Track and Structures, Power, Plant Maintenance and Car Maintenance, the Rail Operations Supervisor shall alert all personnel in the area that the third rail power restoration will be requested.
- 9.5.6.5 After power been restored and the damaged cars have been dispatched to the nearest siding or yard, the ROCC Supervisor shall provide a test train to be operated through the area at restricted speed (15 mph) in Mode 2.
- 9.5.7 Third Rail Power Restoration and Service Resumption Procedures:
- 9.5.7.1 When the Rail Operations Supervisor notifies the ROCC Supervisor that all personnel and equipment are clear and power can be restored, the ROCC Supervisor shall restore third rail power in accordance with SOP # 4 – Customer Evacuation From Trains.
- 9.5.7.2 After the Rail Operations Supervisor has ascertained that it is safe to resume train operation, the ROCC Supervisor shall be advised.
- 9.5.7.3 The ROCC Supervisor shall restore normal train service; notify all concerned Authority departments and Station Managers on the affected lines.
- 9.5.8 Train Derailment Yard Notification:
- When notified of a derailment in the yard, the Interlocking Operator shall:
- 9.5.8.1 Stop all train movement in the section of the yard where the derailment occurred.
- 9.5.8.2 Have the third rail power removed from the section of track involved and the adjacent tracks if necessary.
- 9.5.8.3 Notify the ROCC Supervisor.



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- 9.5.8.4 Report any employee injury.
- 9.5.8.5 Report the presence of fire.
- 9.5.8.6 Notify CMNT Supervisor in the yard.
- 9.5.8.7 Investigate the derailment and report back to the ROCC Supervisor.
- 9.5.9 ROCC Procedures for Derailment in the Yard:
  - 9.5.9.1 On receipt of the notification of the derailment from the Interlocking Operator, the ROCC Supervisor shall notify all concerned Authority departments, MTPD and the Fire Department Communication Center.
  - 9.5.9.2 The ROCC Supervisor shall alert the Fire Department Communication Center of the derailment and the location of the yard. They shall be advised that more pertinent information will be forthcoming when available.
  - 9.5.9.3 When the second and more informative report is received at the ROCC, the ROCC Supervisor shall again notify the Fire Department Communication Center and advise them if their assistance is needed for employee injury or fire.
  - 9.5.9.4 If their assistance is needed, they shall be advised of the location of the yard entrance. The Interlocking Operator shall be instructed to furnish an employee escort to direct the Fire Department personnel from the yard entrance to the derailment site.
  - 9.5.9.5 The Fire Department Communication Center shall be kept posted with updated information that might require their involvement.
- 9.5.10 Rail Operations Supervisor Procedures for Derailment in the Yard:
  - 9.5.10.1 The ROCC Supervisor shall dispatch the nearest Rail Operations Supervisor to the yard to investigate the derailment in the yard.
  - 9.5.10.2 When dispatched to the collision scene the Rail Operations Supervisor shall establish communications with the Interlocking Operator. The Rail Operations Supervisor shall be governed by SOP # 1A.



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- 9.5.10.3 After establishing communications with the Interlocking Operator, the Rail Operations Supervisor shall inspect the operating cab of the train or trains involved and note any irregularities of the cab displays, the operating controls and the Operator's Circuit Breaker Panel.
- 9.5.10.4 The Rail Operations Supervisor shall obtain a description of the train movements being made by the train or trains involved in the derailment and any operating restrictions, from the Interlocking Operator.
- 9.5.10.5 The Rail Operations Supervisor shall interview the Train Operator or Operators involved as to the cause of the derailment and at the same time observe their physical appearance and general behavior to determine their fitness to operate.
- 9.5.10.6 After investigating the derailment, the Rail Operations Supervisor shall provide the ROCC Supervisor with an informative report regarding the following:
- 9.5.10.6.1 Any irregularities found in the operating cabs.
  - 9.5.10.6.2 Braking capability of the cars being moved.
  - 9.5.10.6.3 Description of the train movement as furnished by the Interlocking Operator.
  - 9.5.10.6.4 Cause of the derailment as furnished by the Train Operators, and their fitness to operate.
  - 9.5.10.6.5 Presence and length of fresh skid marks on the running rails indicating an emergency application of the brakes.
  - 9.5.10.6.6 Rail condition wet; slick; oil covered.
  - 9.5.10.6.7 Evidence of a track switch run – through.
  - 9.5.10.6.8 Number of trucks derailed.
  - 9.5.10.6.9 Impact of derailment on train movement in the yard.
  - 9.5.10.6.10 Effect on car availability for peak hour service.
  - 9.5.10.6.11 Any other pertinent information relative to the derailment.





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9.5.11 Requesting Medical Assistance in the Yard:

9.5.11.1 Medical assistance shall be requested through the ROCC. The employee requesting medical assistance shall provide an estimate of the number of people requiring assistance. An employee escort shall be provided to escort the medical personnel from the yard entrance to the people needing their assistance.

9.5.11.2 The ROCC Supervisor shall request aid through the Fire Department Communication Center furnishing them the required information, the location of the yard and the location of the yard entrance.

9.5.11.3 The names and addresses of the people requiring medical assistance and the names of the medical agencies and personnel shall be included in the accident report.

9.5.12 Availability of Revenue Cars for Service:

9.5.12.1 If the derailment prevents the Interlocking Operator from meeting car requirements for revenue service, the ROCC Supervisor shall be notified.

9.5.12.2 The ROCC Supervisor shall arrange for excess cars to be transferred from other yards if there is sufficient time, otherwise the yard and terminal supervisors of the affected lines shall be instructed to institute terminal schedule adjustments to establish a uniform extended headway.

9.5.13 Restoration of Yard Service:

9.5.13.1 When the damaged cars are safely secured and any damage to track and other wayside equipment has been repaired and approved for safe train movement by the Supervisors of ATC, Track, Plant Maintenance and Car Maintenance, and all personnel in the area have been alerted that third rail power will be restored, the Interlocking Operator shall request the restoration of power to the tracks from which it was removed.

9.5.13.2 The Interlocking Operator shall notify the ROCC Supervisor when normal yard operation has resumed. The ROCC Supervisor shall notify all concerned Authority departments.



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**9.6 REFERENCES**

9.6.1 SOP # 1A

9.6.2 SOP # 2

9.6.3 SOP # 4



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP # 13 UNDESIREDCOUPLING OR PULL APART OF CARS IN A TRAIN

### 13.1 PURPOSE

The purpose of this Standard Operating Procedure is to delineate responsibilities and procedures for the handling of an undesired uncoupling or pull apart of cars in a train.

### 13.2 SCOPE

This SOP is applicable to all WMATA personnel working on the Rail System and to all non-WMATA personnel actively participating in emergency operations in connection with an undesired uncoupling or pull apart of cars in a train.

### 13.3 DEFINITIONS

13.3.1 Undesired uncoupling (no damage to equipment): The separation of the train at the mechanical couplers while the train is in motion or when starting up from a stopped position without any manipulation of the uncoupling controls by the Train Operator. Usually this type of uncoupling or train separation will not cause any damage to the mechanical couplers or the electric coupler heads.

13.3.2 Train pull-apart (damage to equipment): The separation of a train at the location of the mechanical couplers while the train is in motion or starting up from a stopped position without any manipulation of the uncoupling controls by the Train Operator or at the semi-permanent couplers between married car units. Usually accompanied by damage to the mechanical coupler or the semi-permanent coupler and their associated draft gear.



**Notice:** When an undesired uncoupling or train pull-apart occurs, the brakes on both sections will automatically apply in emergency. Also, the number of cars in the train identity digital readout on the operating console will change.



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### 13.4 RESPONSIBILITIES

- 13.4.1 The ROCC Supervisors shall be responsible for supervising and coordinating the implementation of this SOP.
- 13.4.2 The Interlocking Operator is responsible notifying ROCC and coordinating the implementation of this SOP for incidents that occur in the yard.
- 13.4.3 The ROCC Supervisor shall ensure that all notifications are made as required by this SOP.
- 13.4.4 Train Operators shall be responsible for following all sections of this SOP.

### 13.5 PROCEDURES

Procedure #	Content
13.5.1	Train Operators Procedure when Train's Brakes go into Emergency Uncommanded.
13.5.2	Train Operators Procedure for Undesired Uncoupling or Pull Apart of Cars.
13.5.3	Train Operators Procedure for Confirmed Pull Apart.
13.5.4	Procedure when there is no Evidence of Damage.
13.5.5	Procedure when there is no Rail Supervisor on the Scene.
13.5.6	Procedure for Pull-Apart between Stations.
13.5.7	Actions taken for Customers
13.5.8	ROCC Supervisor Procedure for Third Rail Power and Restoration of Service.

13.5.1 Train Operators Procedure when Train's Brakes go into Emergency Uncommanded:

13.5.1.1 When a train's braking system applies in emergency and it is not initiated by the Train Operator (uncommanded), the Train Operator shall:

Attempt to recharge the train's brake system.



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- 13.5.1.2 Notify the ROCC Supervisor or Interlocking Operator and provide the following information:
  - 13.5.1.2.1 The train's identity, location and track number.
  - 13.5.1.2.2 The change in the number of cars of the train consists in the train identity digital readout.
  - 13.5.1.2.3 Whether the brake system recharged.
- 13.5.1.3 If on mainline, notify the customers of the delay.
- 13.5.1.4 If the brake system fails to recharge, notify the ROCC Supervisor/Interlocking Operator you are going to investigate; secure the operating cab and proceed to investigate.
- 13.5.1.5 Report the results of the investigation to the ROCC Supervisor on mainline or Interlocking Operator in the yard.
- 13.5.1.6 If the emergency application of brakes was due to a train pull-apart, the Train Operator shall secure the rear section with handbrakes and notify the customers of the delay. If the train is disabled between stations, close and lock the end door on both cars at the location where the train parted.
- 13.5.1.7 Train Operators of trains in approach to the stalled train shall be alerted and governed by instructions from the ROCC Supervisor.
- 13.5.2 Train Operators Procedure for Undesired Uncoupling or Pull Apart of Cars:
  - 13.5.2.1 When the undesired uncoupling or train pull apart occurs the Train Operator shall:
    - 13.5.2.1.1 Notify the ROCC Supervisor.
    - 13.5.2.1.2 Secure the operating console and cab.
    - 13.5.2.1.3 If in a station, discharge the customers from both sections notifying them that there will be a delay.



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- 13.5.2.1.4 Secure both sections of the train with handbrakes.
- 13.5.2.1.5 If between stations, close and lock the doors where the uncoupling occurred and notify the customers in the rear section of the incident.
- 13.5.2.1.6 Investigate the uncoupling and report back to the ROCC Supervisor.
- 13.5.3 Train Operators Procedure for Confirmed Pull Apart:
  - 13.5.3.1 Upon confirming a train pull apart has occurred the Train Operator shall:
    - 13.5.3.1.1 Notify the ROCC Supervisor.
    - 13.5.3.1.2 If in a station, discharge the customers from both sections; notify them of the train delay.
    - 13.5.3.1.3 If between stations, notify customers on both sections of the incident.
    - 13.5.3.1.4 Close and lock the end doors were the pull apart has occurred.
    - 13.5.3.1.5 Close the train doors, and secure both sections with handbrakes.
      - 13.5.3.1.5.1 Report the damage and severity of the incident to the ROCC Supervisor.
      - 13.5.3.1.5.2 Monitor the proper radio channel for any instructions from the ROCC Supervisor.
- 13.5.4 Procedure when there is no Evidence of Damage:
  - 13.5.4.1 When the examination of the parted couplers shows no evidence of damage, the Train Operator shall attempt to re-couple after:
    - 13.5.4.1.1 Receiving authorization from the ROCC Supervisor.
    - 13.5.4.1.2 Ascertaining that the manual electric and airline rotary control handles on the cars being coupled are in the proper position for coupling.



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- 13.5.4.1.3 Releasing all handbrakes on the section of the train to be operated.
- 13.5.4.1.4 Checking the couplers for proper alignment.
- 13.5.4.1.5 If between stations, advising the customers on both sections that a coupling will be made.
- 13.5.4.1.6 The Train Operator shall make the coupling by operating the rear section in Mode 2, or if on a grade, operating the section on the low end of the grade.
- 13.5.4.1.7 If the coupling holds, the Train Operator shall:
  - 13.5.4.1.7.1 Release all remaining applied handbrakes and make a rolling brake test in Mode 2.
  - 13.5.4.1.7.2 Notify the ROCC Supervisor if the coupling still holds, proceed to the next station and discharge the customers.
  - 13.5.4.1.7.3 Proceed out of service to the nearest yard, after the customers have been discharged.
- 13.5.4.1.8 If the coupling does not hold causing the train to part again, the Train Operator shall notify the ROCC Supervisor and;
  - 13.5.4.1.8.1 Notify the customers in the section that was being operated of the delay via the train PA system secure the operating console and cab and apply handbrakes.
  - 13.5.4.1.8.2 Go to the other section of the train notify the customers in this section of the delay and apply handbrakes.
  - 13.5.4.1.8.3 Remain in a cab with the console energized so as to receive any communications and instructions from the ROCC Supervisor.
- 13.5.4.1.9 The ROCC Supervisor shall advise the Train Operator to stand by for the Rail Operations Supervisor's assistance.
  - 13.5.4.1.9.1 The ROCC Supervisor shall instruct the Rail Operations Supervisor, upon arrival at the scene, to operate the second section.



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13.5.4.1.9.2 After both the Train Operator and Rail Operations Supervisor have received their instructions from the ROCC Supervisor, they shall release the applied handbrakes and operate their respective sections to the next station in Mode 2 operation, discharge the customers and then proceed to the nearest yard.

13.5.5 Procedure when there is no Rail Supervisor on the Scene:

13.5.5.1 If there is no Rail Operations Supervisor available at the scene, the ROCC Supervisor shall instruct the Train Operator of the following train to discharge the customers.

13.5.5.2 If in a station, change to Mode 2 operation and proceed up to and couple to the stranded rear section of the train ahead.

13.5.5.3 The customers on the stranded cars and on the rescue train, if any, shall be advised before the coupling is made.

13.5.5.4 After the coupling is made and tested, the applied handbrakes on the stranded cars shall be released.

13.5.5.5 When both sections are reported ready to move, the ROCC Supervisor shall instruct the Train Operator of the first section to proceed to the station and discharge the customers.

13.5.5.5.1 After the first section has discharged its customers and is en route to the nearest yard, the Train Operator of the second section shall be instructed to enter the station and discharge the customers.

13.5.5.5.2 If the second section consists of more than eight cars, the first car of the consist shall then be positioned at the eight car stopping position in the station.

13.5.5.5.3 The appropriate door train line switch manipulated such that only the doors on the first eight cars will open and any customers discharged.

13.5.5.5.4 Customers in cars outside the platform limits shall be walked to the nearest car in the platform limits and discharged.

13.5.5.5.5 After the customers are discharged, the second section shall be dispatched to the same yard as the first section.





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13.5.6 Procedure for Pull-Apart between Stations:

13.5.6.1 When the train pull-apart occurs between stations, after notifying the ROCC Supervisor, the Train Operator shall:

13.5.6.1.1 Notify the customers of both sections of the train delay.

13.5.6.1.2 Close and lock the end doors of the cars where the pull-apart occurred.

13.5.6.1.3 Secure both sections with handbrakes and investigate the pull-apart.

13.5.6.1.4 After reporting the damage and severity of the incident, the Train Operator shall remain at an energized console to receive any communications and further instructions from the ROCC Supervisor.

13.5.6.1.5 The ROCC Supervisor shall direct the Rail Operations Supervisor at the scene of a train pull apart between stations, to initiate passenger evacuation procedures. This shall be done in accordance with SOP #4, from the sections of the train stranded between stations.

13.5.7 Actions taken for Customers:

13.5.7.1 The ROCC Supervisor shall take the following actions for the customers:

13.5.7.1.1 Arrange for appropriate public address announcements to be made to customers on trains and in stations.

13.5.7.1.2 Activate the ventilation system, if necessary, based on conditions of the scene.

13.5.7.1.3 Request the assistance of MTPD in critical stations for crowd control.

13.5.7.1.4 Implement operating procedures to relieve train congestion at the site by:

13.5.7.1.4.1 Instituting terminal schedule adjustments.

13.5.7.1.4.2 Instituting a single track operation.

13.5.7.1.4.3 Turning trains at intermediate interlocking locations on both sides of the affected train.



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- 13.5.7.1.4.4 Requesting Metrobus shuttle service, if necessary, between the stations where trains are being turned.
  
- 13.5.8 ROCC Supervisor Procedure for Third Rail Power and Restoration of Service:
  - 13.5.8.1 Third rail power shall be removed from the affected power section by the ROCC Supervisor when requested by the Rail Operations Supervisor or a Car Maintenance Supervisor. The ROCC Supervisor shall confirm the removal of power with the employee making the request before any repair work is allowed to begin on the damaged cars.
  
  - 13.5.8.2 Third rail power shall be restored by the ROCC Supervisor in accordance with SOP #2 when requested by the Rail Operations Supervisor at the scene after ascertaining that:
    - 13.5.8.2.1 The Car Maintenance Supervisor has confirmed that the repair work has been finished and all tools and Car Maintenance personnel are in the clear.
  
    - 13.5.8.2.2 All other personnel are clear.
  
    - 13.5.8.2.3 All personnel at the scene have been notified that third rail power will be restored.
  
  - 13.5.8.3 The Rail Operations Supervisor shall request through the ROCC Supervisor, revenue cars that may be requested by the Car Maintenance Supervisor, to be used to tow and/or push the damaged cars to the nearest yard or to the Main Shop.
  
  - 13.5.8.4 After the damaged cars have been moved to a yard specified by the Car Maintenance Supervisor, the Rail Operations Supervisor shall report the area clear to the ROCC Supervisor.
  
  - 13.5.8.5 The ROCC Supervisor, once notified of the all clear, shall:
    - 13.5.8.5.1 Re-establish normal revenue train service.
  
    - 13.5.8.5.2 Notify all concerned Authority departments and the Station Managers on the affected line.



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**13.6 REFERENCES**

13.6.1 SOP # 2

13.6.2 SOP # 4



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## SOP # 32 RECOVERY TRAIN OPERATIONS

### 32.1 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to provide a means by which disabled trains are removed from the mainline quickly and safely through the use of recovery trains.

### 32.2 SCOPE

32.2.1 This SOP is applicable to Rail Transportation (RTRA), Rail Car Maintenance (CMNT) and Track and Structures (TSSM) personnel.

32.2.2 This SOP shall apply to yard operations by substituting Rail Operations Control Center (ROCC) with Interlocking Operator, except that the Interlocking Operator shall notify ROCC and ROCC shall then notify concerned personnel.

### 32.3 DEFINITIONS

None

### 32.4 RESPONSIBILITY

32.4.1 It is the responsibility of all Train Operators, Rail Operations Supervisors and CMNT personnel to isolate train malfunctions as quickly as possible in order to permit the timely and safe removal of problem trains from the line.

32.4.2 ROCC Supervisors are responsible for the overall coordination and control of recovery train operations.

32.4.3 RTRA, CMNT and TSSM personnel are responsible for being knowledgeable of and complying with this procedure.



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### 32.5 PROCEDURES



**Notice:** The only time the rate line is not cut during recovery is when the disabled train has propulsion problems and the total consist (disabled and recovery) is 8 cars or less.

Procedure #	Content
32.5.1	Recovery Train Operations Restrictions
32.5.2	ROCC Procedures
32.5.3	Proceed Method Procedures
32.5.4	Recovery Train Operator Procedures, When Recovering a Train Experiencing Propulsion Problems
32.5.5	Recovery Train Operator Procedures, During Situations Other Than That Described in Part 32.5.4
32.5.6	Disabled Train Operator Procedures, When Experiencing Brake Problem
32.5.7	Disabled Train Operator Procedures, When Experiencing Propulsion Problems and the Total Consist (Disabled and Recovery Trains) Will Not Exceed Eight (8) Cars
32.5.8	Disabled Train Operator Procedures, When Experiencing Propulsion Problems and the Total Consist (Disabled and Recovery Trains) Exceeds Eight (8) Cars
32.5.9	After Recovery Operations Are Initiated Procedures
32.5.10	When the Number of Cars of the Disabled Consist Exceeds the Number of Cars of the Recovery Consist

#### 32.5.1 Recovery Train Operations Restrictions:

32.5.1.1 Recovery trains may be used with customers aboard except when one or more of the following conditions exist.

32.5.1.1.1 There is a station between the recovery train and the disabled train, or the recovery train is in a station.

32.5.1.1.2 The coupling operation is to take place on a curve.

32.5.1.1.3 There is an indication of smoke or fire on or near the disabled train.



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32.5.1.2 The following criteria shall be applied to all recovery train operations:

The recovery train shall push the disabled train upgrade or pull the disabled train downgrade to the next station for off-loading customers. This results in a recovery train always being on the low side of the grade to prevent the disabled train, with brakes cut out and customers on board, from uncoupling and rolling away.



**Notice:** Grade, for the purpose of this procedure, is the change in elevation from the location of the disabled train to the location of the station to which the disabled train's customers will be off-loaded.

- 32.5.1.2.1 The total consist (disabled and recovery trains) shall not exceed sixteen (16) cars, except when absolutely necessary.
- 32.5.1.2.2 The recovery train consist should be equal to or greater than the consist of the disabled train. When the number of cars of the disabled consist exceeds the number of cars of the recovery consist, follow procedures described in 32.5.10.
- 32.5.1.2.3 Positive communications must be established between all parties involved including, ROCC; the disabled train; the recovery train; and on site CMNT personnel. ROCC shall designate an On Scene Commander (OSC) to establish a positive single point of control at the scene. The OSC shall be the RTRA Supervisor at the scene. If no supervisor is present then the recovery Train Operator shall be appointed OSC.
- 32.5.1.2.4 The method of coupling shall be in accordance with existing rules and procedures, except that for recovery operations, longer consists may be coupled to shorter consists.
- 32.5.1.2.5 The disabled train must be keyed out during coupling, except when trains are being totally isolated.
- 32.5.1.2.6 When coupling trains within interlocking limits; following all requirements in Operating Rule 3.80.
- 32.5.1.2.7 The method of train movement shall be in accordance with existing rules and procedures including absolute/permissive block procedures.
- 32.5.1.2.8 All customers shall be off-loaded at the next available station unless it is unsafe to do so (e.g. overcrowding).



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- 32.5.1.2.9 When the total consist (including disabled and recovery trains) exceeds eight (8) cars,
- 32.5.1.2.9.1 Customers shall be off-loaded from each of the original consists, separately;
- 32.5.1.2.9.2 Trains shall not be operated at speeds greater than 25 mph.
- 32.5.1.2.10 Whenever there are loud noises, smoke, fire, associated with brakes in emergency or other equipment malfunction, ROCC shall instruct the operator of the disabled train to perform a ground walk around prior to the arrival of the recovery train. ROCC shall also instruct the operator of the recovery train to do a track inspection in approach to the disabled train.
- 32.5.2 ROCC Procedures:
- ROCC shall determine when recovery train operations are necessary, within the time criteria set forth by the AGMTIES and once the determination is made:
- 32.5.2.1 Appoint an On Scene Commander (OSC) to supervise and control the recovery activities.
- 32.5.2.2 Notify all personnel at the scene of the intended recovery operation.
- 32.5.2.3 Notify other personnel, as required.
- 32.5.2.4 Establish an absolute/permissive block for the recovery train to close-in to the disabled train.
- 32.5.2.5 Totally isolate trains before coupling unless directed otherwise by ROCC.
- 32.5.2.6 Direct the operator of the recovery train to use close-in procedures and couple to the disabled train at the direction of the OSC.
- 32.5.2.7 After the coupling is complete, request the operator of the recovery train to check the operating console's train identity to insure that it has not changed (If the console's train identity has changed, or if head/tail lights extinguished between the disabled/recovery trains, trains are not totally isolated) and to verify with the operator, by specific car number, that all brakes in the disabled train have been cut-out and verified by illuminated green brake indicator lights.





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- 32.5.2.8 Arrange for additional put-ins, as required.
- 32.5.2.9 After coupling is complete, establish an absolute/permissive block for movement into the next station for the purpose of off-loading.
- 32.5.2.10 After off-loading is complete, establish absolute/permissive blocks for removal of the train from the line and;
- 32.5.2.11 Arrange for the Automatic Train Protection (ATP) switch on the recovery train to be reset and resealed so that the train may be put back into service.

### 32.5.3 Proceed Method Procedures:

When the proceed method is used to move the combined consist, give every consideration to turning the train at the next interlocking. This will allow the recovery Train Operator to operate in Mode 2 to the end of the line. When considering this option, ROCC Supervisors should take into account the distance to be traveled in each direction, the time required to travel these distances, the effect each move would have on the operation of the line(s), and any possible difficulties which could be encountered or caused by each move. In all events, ROCC supervisors should exercise their best judgment in determining the safest and most efficient method of removing the problem train from the line.

### 32.5.4 Recovery Train Operator Procedures, When Recovering a Train Experiencing Propulsion Problems:

The recovery Train Operator, when recovering a train experiencing propulsion problems and the total consist (disabled and recovery trains) will not exceed eight (8) cars, shall:

- 32.5.4.1 Off-load customers if there is a station between your train and the disabled train or, your train is in a station.
  - 32.5.4.1.1 After receiving permission from ROCC, close-in to disabled train, operate in Mode 2, conduct a track inspection until reaching the disabled train and make appropriate safety stops and;
  - 32.5.4.1.2 Stop ten (10) feet in approach to disabled train and contact the designated OSC or the operator of the disabled train.
  - 32.5.4.1.3 Couple to the disabled train as directed by the OSC.
  - 32.5.4.1.4 Notify OSC that coupling is complete and key out.



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32.5.4.1.5 Remain in the cab while the operator of the disabled train operates from the lead cab and;

32.5.4.1.6 If a breakaway occurs:

32.5.4.1.6.1 Stop immediately.

32.5.4.1.6.2 Notify the operator of the disabled train and ROCC and;

32.5.4.1.6.3 Proceed as instructed by ROCC.

32.5.5 Recovery Train Operator Procedures, During Situations Other Than That Described in Part 32.5.4:

The recovery Train Operator, during situations other than that described in Part 32.5.4, shall:

32.5.5.1 Off-load customers if there is a station between your train and the disabled train or your train is in a station.

32.5.5.1.1 After receiving permission from ROCC close-in to disabled train, operate in Mode 2, conduct a track inspection (refer to Glossary) until reaching the disabled train and make appropriate safety stops.

32.5.5.1.2 Stop ten (10) feet in approach to disabled train and contact its operator.

32.5.5.1.3 Totally isolate trains before coupling unless directed otherwise by ROCC.

32.5.5.1.4 Couple to disabled train as directed by the OSC.

32.5.5.1.5 After receiving permission from ROCC, cut out ATP, as required and wait for notification from the operator of the disabled train that he/she is in position and ready to move.

32.5.5.1.6 After receiving permission from ROCC, proceed to the next station, operating in Mode 3 using the proceed method.

32.5.5.1.7 Use P5 to coast for all manual movements after coupling to the disabled train.

32.5.5.1.8 Position the disabled train in station and off-load.

32.5.5.1.9 Position the recovery train in station and off-load, if not already off-loaded.



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32.5.5.1.10 After off-loading is complete, proceed as instructed by ROCC and;

32.5.5.1.11 If a breakaway occurs;

32.5.5.1.11.1 Stop immediately.

32.5.5.1.11.2 Notify the operator of the disabled train and ROCC and;

32.5.5.1.11.3 Proceed as instructed by ROCC.

32.5.6 Disabled Train Operator Procedures, When Experiencing Brake Problem:

The operator of the disabled train, when experiencing a brake problem, shall:

32.5.6.1 Proceed to the cab where the coupling is to take place and assist in the coupling operation.

32.5.6.1.1 After coupling is complete, assist in cutting out all trucks as directed by the OSC, leaving the seat wells and/or door panels open on the lead pair and provide ROCC with verification, by specific car number, that all brakes in the disabled train have been cut-out and verified by illuminated green brake indicator lights.

32.5.6.1.2 Open the handbrake compartments on the lead pair.

32.5.6.1.3 Key up in lead cab and notify the operator of the recovery train that you are in position and ready to move.

32.5.6.1.4 Assume the responsibilities of the flag person, using the proceed method for train movement and;

32.5.6.1.5 If a breakaway occurs;

32.5.6.1.5.1 Cut in trucks on the lead pair.

32.5.6.1.5.2 Apply handbrake on the lead pair and;

32.5.6.1.5.3 Contact ROCC and proceed as instructed.



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32.5.7 Disabled Train Operator Procedures, When Experiencing Propulsion Problems and the Total Consist (Disabled and Recovery Trains) Will Not Exceed Eight (8) Cars:

The operator of the disabled train, when experiencing propulsion problems and the total consist (disabled and recovery trains) will not exceed eight (8) cars, shall:

32.5.7.1 Key out when notified by the OSC that he/she is ready to couple and;

32.5.7.2 Remain in the lead cab (keyed out) and wait for notification from the OSC that the coupling is complete.

32.5.7.3 After coupling is complete and after receiving permission from ROCC, operate the train to the next station and proceed as instructed by ROCC. The train may remain in service to the end of the line provided that it is being operated from the lead cab; however, upon reaching the end of the line, it shall be taken out of service.

32.5.7.3.1 If a breakaway occurs;

32.5.7.3.1.1 Stop immediately and;

32.5.7.3.1.2 Contact ROCC and proceed as instructed.

32.5.8 Disabled Train Operator Procedures, When Experiencing Propulsion Problems and the Total Consist (Disabled and Recovery Trains) Exceeds Eight (8) Cars:

The operator of the disabled train, when experiencing propulsion problems and the total consist (disabled and recovery trains) exceeds eight (8) cars, shall:

32.5.8.1 Remain in the lead cab and wait for notification from the OSC that coupling is complete.

32.5.8.2 After coupling is complete and after receiving permission from ROCC, cut out ATP and place the Master Controller in the coast position.

32.5.8.2.1 Notify the recovery Train Operator that you are ready to move.

32.5.8.2.2 Assume the responsibilities of the flag person, using the proceed method of train movement and;



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

32.5.8.2.3 If a breakaway occurs;

32.5.8.2.3.1 Apply brakes by moving the Master Controller to the B3 position;  
and;

32.5.8.2.3.2 Contact ROCC and proceed as instructed.

32.5.9 After Recovery Operations Are Initiated Procedures:

When the decision is made to utilize recovery operations, ROCC shall instruct the appointed OSC to prepare for recovery operations, and request confirmation that all personnel at the scene are aware of the intended coupling.

32.5.9.1 When instructed by ROCC to prepare the disabled train for coupling, the OSC shall:

32.5.9.1.1 Instruct all personnel at the scene to cease troubleshooting activities and to report to the cab where the coupling is to take place.

32.5.9.1.2 Advise ROCC when all personnel at the scene have confirmed their understanding of the intended coupling.

32.5.9.1.3 Ensure that the disabled train is properly secured with all consoles keyed out and brakes applied on at least 50% of the consist to include the leading and trailing cars prior to initiating the coupling procedure.

32.5.9.1.4 Enter the roadbed and prepare the trains for coupling.

32.5.9.1.5 Advise the recovery Train Operator to couple when it is safe to do so.

32.5.9.1.6 After coupling is complete, advise other personnel to cut out remaining trucks, as required, and to reassemble at the lead cab of the disabled train.

32.5.9.1.7 Ensure that ROCC is provided with verification, by specific car number, that all brakes in the disabled train have been cut-out and verified by illuminated green brake indicator lights and;

32.5.9.1.8 Advise ROCC when ready to move.



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32.5.10 When the Number of Cars of the Disabled Consist Exceeds the Number of Cars of the Recovery Consist:

32.5.10.1 When the next train in position to be used as a recovery train for a disabled 8 car train is shorter in length, after receiving permission from ROCC, the operator of the disabled 8 car train shall totally isolate in the middle of the train (between the second and third pairs).

32.5.10.2 Attempt to get a brakes-off indication (recharge if necessary). If unsuccessful, attempt to get a brakes-off indication in the other 4 car set.

32.5.10.3 If there is a brakes-off indication, cutout the trucks on the bad order pair.

32.5.10.4 Follow ROCC instructions for direction of travel and go to the appropriate operating cab.

### **32.6 REFERENCES**

32.6.1 SOP # 15

32.6.2 SOP # 16



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**SOP # 34 DEFECTIVE TRAINS**

**34.1 PURPOSE**

The purpose of this SOP is to establish guidelines for handling defective trains.

**34.2 SCOPE**

This SOP is applicable to all Rail personnel.

**34.3 DEFINITIONS**

None

**34.4 RESPONSIBILITIES**

34.4.1 ROCC is responsible for ensuring that field personnel are conforming to this SOP when handling defective trains.

34.4.2 All field personnel who operate or respond to defective trains are responsible for ensuring their actions conform to this SOP.

**34.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
34.5.1	Notification and Response to Defective Train Incident
34.5.2	Temporarily Storing/Securing Defective Trains on Mainline
34.5.3	Recovering Trains Stored on Mainline

34.5.1 Notification and Response to Defective Train Incident:

34.5.1.1 Train Operators shall:

34.5.1.1.1 Immediately notify ROCC when experiencing train malfunctions;

34.5.1.1.2 Inform customers of the cause of the delay using plain language and update them every two minutes;

34.5.1.1.3 Inform customers if operator is required to leave the cab to address the malfunction;

34.5.1.1.4 Obtain permission from ROCC prior to moving the train once personnel are responding to the incident;



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- 34.5.1.1.5 Obtain permission from ROCC prior to moving the train if troubleshooting has corrected the problem, and;
- 34.5.1.1.6 Require permission to move the train from the CMNT mechanic in charge once contact has been established and while repairs are being made, including positive understanding of when and how far the train is to be moved.
- 34.5.1.2 ROCC shall:
  - 34.5.1.2.1 Dispatch the appropriate CMNT personnel and/or Rail Operations Supervisor(s) to the scene of the defective train;
  - 34.5.1.2.2 Request from the operator the five (5) primary console indications;
  - 34.5.1.2.3 Notify the CMNT emergency desk in ROCC of the location, identity and reported problem of the defective train;
  - 34.5.1.2.4 Notify the operator of the defective train that personnel (identified by name and/or unit number) are approaching the train and that the train shall not be moved prior to the arrival and establishment of positive contact with responders, or permission from ROCC;
  - 34.5.1.2.5 Instruct responders not to respond and stay clear if the problem is corrected prior to their arrival;
  - 34.5.1.2.6 Notify the CMNT emergency desk when the problem is corrected, and;
  - 34.5.1.2.7 Confirm all responders are cleared of the train prior to authorizing train movement.
- 34.5.1.3 CMNT Mechanic in charge shall:
  - 34.5.1.3.1 Ensure all personnel are in a safe position and that they understand in advance that the train will move prior to giving permission to the operator to move the train.
  - 34.5.1.3.2 Ensure a positive understanding with the operator of when and how far the train is to be moved if necessary during repairs.





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### 34.5.2 Temporarily Storing/Securing Defective Trains on Mainline:

34.5.2.1 The train operator or RTRA supervisor shall inform ROCC on how the train was secured.

34.5.2.2 The mechanic shall chock wheels.

34.5.2.3 The CMNT emergency desk in ROCC shall document in MAXIMO the condition of the train at the time of storage that may hinder its safe movement (trucks cut/out, damaged equipment, 3rd rail power removed, wheel chocks, handbrakes, etc).

### 34.5.3 Recovering Trains Stored on Mainline:

34.5.3.1 ROCC and CMNT emergency desk shall review the condition of the car at storage as documented in MAXIMO.

34.5.3.2 CMNT personnel and / or the train operator shall confirm that the train has at least 50% braking prior to removing hand brakes and chocks.

34.5.3.3 CMNT personnel at the site shall visually inspect the stored cars and notify ROCC cars are ready to move.

34.5.3.4 CMNT personnel shall be available to provide support during transport.

34.5.3.5 ROCC grants permission to move the train.

34.5.3.6 The train operator performs normal rolling test and rolling brake test before moving train to destination.

## 34.6 REFERENCES

34.6.1 Operating Rules 3.42, 3.48, 3.126, 3.127

34.6.2 SOP # 28 – Procedures section 28.4 on responding to train or wayside equipment malfunctions on Roadway.



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# **SOP – Train Movement / Track Operation SOPs**

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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP # 15 ABSOLUTE BLOCK / PERMISSIVE BLOCK

### 15.1 PURPOSE

The purpose of this SOP is to delineate procedures and requirements for maintaining safe train separation when the Automatic Train Protection (ATP) subsystem of the Automatic Train Control (ATC) system is unable to do so.

### 15.2 SCOPE

15.2.1 This SOP applies to all mainline operations involving rail vehicle movements for which the ATP subsystem (combined wayside and carborne) is unable to provide safe train separation including mainline Class I Vehicle operations with less than seventy-five percent (75%) braking capacity.

15.2.1.1 An absolute block shall be implemented for any mainline rail vehicle movement:

15.2.1.1.1 When the wayside ATP subsystem fails or is otherwise prevented from safely providing a cleared signal or valid speed command to one or more trains; or,

15.2.1.1.2 Of a Class II Vehicle; or (see 15.2.1.2)

15.2.1.1.3 Against the established ATP direction of traffic; or,

15.2.1.1.4 Through a protected work area; or,

15.2.1.1.5 Whenever, in the judgment of the Rail Operations Control Center (ROCC) Supervisor, another circumstance warrants the use of an absolute block.

15.2.1.2 A Convoy Block may be implemented in lieu of an Absolute Block for mainline movement of a Convoy (See Definitions).

15.2.1.3 A Permissive Block shall be implemented for any mainline rail vehicle movement:

15.2.1.3.1 When a Class I Vehicle is operated with less than 75% braking; or,

15.2.1.3.2 When train console indications are inoperative and the train must be operated in manual mode; or,



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15.2.1.3.3 When a train is operated from other than the lead end (using the proceed method); or,

15.2.1.3.4 When operated Mode 3 (with ATP cut-out), or,

15.2.1.3.5 Whenever in the judgment of the ROCC Supervisor, another circumstance warrants the use of a permissive block.

15.2.1.4 This SOP is applicable to ROCC Supervisors, Rail Operations Supervisors, Rail Vehicle Operators, Vehicle Flag persons, and other qualified Rail Operations employees.

### 15.3 DEFINITIONS

15.3.1 Absolute Block: An absolute block is a section of track that shall not be occupied by more than one train or track equipment.

15.3.2 Convoy: A convoy is a pre-determined series of consists (each being either an individual Class II Vehicle or a work train), preferably with operable brake lights, including one lead consist, one tail consist, and any number of vehicles or work trains between them, intended to proceed to the same work area destination as a single unit sharing a convoy block.

15.3.3 Convoy Block: A convoy block is a section of track between two specific locations (limits) into which no other train or equipment is permitted to enter while it is occupied by a convoy.



**Notice:** A Convoy Block differs from an Absolute Block only because it is occupied by a convoy rather than a single train or equipment. A Permissive Block differs from an Absolute Block because other trains with speed readouts are allowed to follow a train or equipment with a Permissive Block. A Permissive Block provides protection ahead of a train or equipment in the locked direction of traffic. An Absolute Block provides protection from both directions by not allowing trains or equipment to enter the Absolute Block area from either end until it is vacated.

15.3.4 Permissive Block: A permissive block is a section of clear track ahead of a train in the established direction of traffic up to a specific point (limit) into which no other train, vehicle or track obstruction is permitted.



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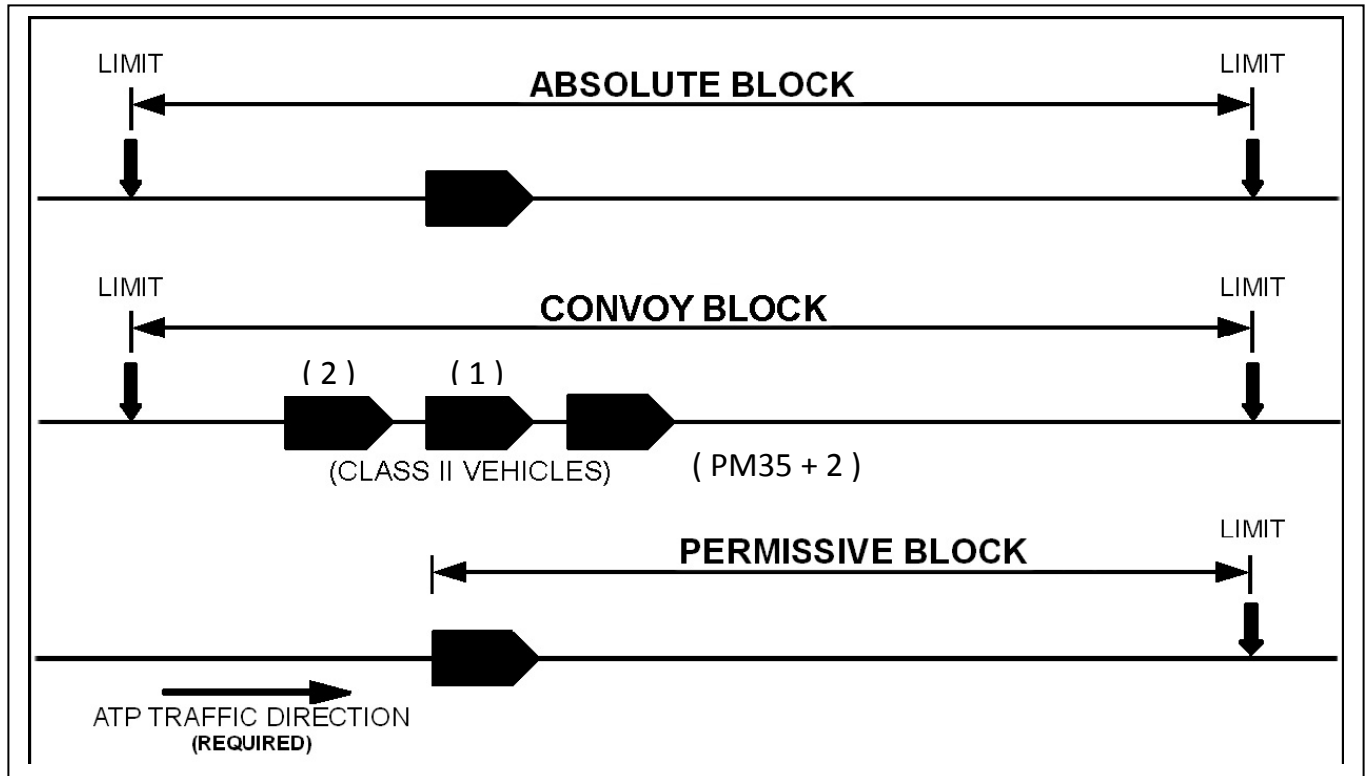


Figure 1

15.3.1 Roadway Flag Person: A qualified employee designated by the RWIC to direct or restrict the movement of trains. Roadway Flag Persons shall be equipped to properly provide proper warnings. Their **SOLE** duty is to look out for approaching trains and/or track equipment. From a place of safety, Roadway Flag Persons shall signal trains to **STOP** before entering the working limits. Roadway Flag Persons will not permit the movement of trains and/or track equipment into the working limits unless authorized by the RWIC.

15.3.2 Roadway Worker In Charge (RWIC): A qualified employee responsible for the Roadway safety for all workers and work gangs within their working limits.

The RWIC shall:

- Conduct an on-track job safety briefing before any worker fouls a track,
- Communicate with ROCC,
- Designate the working limits,
- Identify the type of On-Track protection to be used,
- Assign and position the Roadway Flag person and/or Watchman/Lookout



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15.3.3 Vehicle Flag Person: A qualified employee who is assigned to flag a rail vehicle.

### 15.4 RESPONSIBILITIES

15.4.1 The ROCC Supervisor is responsible for:

15.4.1.1 Invoking, coordinating and directing the procedures of this SOP;

15.4.1.2 Establishing and defining block limits and train identities;

15.4.1.3 Setting wayside signals in compliance with these procedures, and;

15.4.1.4 Assigning Rail Operations Supervisors or other qualified Rail Operations employees to Manual Train Control Points.

15.4.2 Rail Operations Supervisors and other qualified Rail Operations employees assigned to Manual Train Control Points are responsible for:

15.4.2.1 Coordination with adjacent Manual Train Control Points;

15.4.2.2 Controlling train entry into the absolute block, and;

15.4.2.3 Recording the identifications and the absolute block entry and exit times of each train.

15.4.3 Rail Vehicle Operators and Vehicle Flag persons are responsible for compliance with the ROCC or Rail Supervisors' verbal instructions and limits regardless of wayside signal aspects or speed readouts and are responsible for checking rail alignment when given permission to pass any signal set to stop.



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15.5 PROCEDURES

Procedure #	Content
15.5.1	ROCC Actions for Failure of Wayside ATP Subsystem
15.5.2	Absolute Blocks for Failure of Wayside ATP Subsystem
15.5.3	Movement Before Manual Train Control Points are Established
15.5.4	Movement Against ATP Traffic Direction
15.5.5	Implementing Manual Train Control
15.5.6	Maintaining Through Service at Failed Interlockings
15.5.7	Absolute Block Through an Established Work Area
15.5.8	Absolute Blocks for Movement of a Class II Vehicle
15.5.9	Convoy Blocks for Movement of a Convoy
15.5.10	Class II Vehicles Exiting Mainline to Yard Track
15.5.11	Permissive Block for Movement of a Malfunctioning Train

15.5.1 ROCC Actions for Failure of Wayside ATP Subsystem:

15.5.1.1 When the ROCC receives a notification or other indication of failure or disability of the ATP subsystem that prevents it from safely providing a cleared signal or valid speed commands to one or more trains, the ROCC Supervisor shall:

15.5.1.1.1 Determine the limits of the affected area;

15.5.1.1.2 Immediately order the Train Operators of trains operating in the manual mode in the affected area to stop their trains, report their position and await further instructions;

15.5.1.1.3 Direct the Train Operators of other trains stopped in the affected area to report their positions and await further instructions;

15.5.1.1.4 Instruct Train Operators of trains on unaffected track in immediate approach to the affected area to hold their trains in stations, keep the doors open and await instructions;

15.5.1.1.5 Inform MOC of the problem, the line, area and tracks affected;

15.5.1.1.6 Notify all other concerned Authority departments, Station Managers and Terminal Supervisors on the affected line;

15.5.1.1.7 Arrange for appropriate public address announcements to be made to customers on trains and in stations, and;





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- 15.5.1.1.8 Dispatch Rail Operations Supervisors and/or qualified Rail Operations personnel to the Manual Train Control Points to be established in the affected area in accordance with Section 15.5.2 of this SOP.
- 15.5.1.2 Train control shall be in accordance with Sections 15.5.2 through 15.5.6 of this SOP.
- 15.5.2 Absolute Blocks for Failure of Wayside ATP Subsystem:
  - 15.5.2.1 To control train movement through a section of mainline track affected by a loss of the ATP subsystem, the ROCC Supervisor shall establish a manually controlled absolute block or a series of manually controlled absolute blocks to conform to the existing revenue train headway.
    - 15.5.2.1.1 When the train headway is five minutes or less a manually controlled absolute block shall not contain more than three successive stations.
    - 15.5.2.1.2 When the revenue train headway is greater than five minutes, the limits of a manually controlled block can be extended to stations between which train headway can be maintain when occupied by one train at a time.
  - 15.5.2.2 When only one station is affected, the manually controlled absolute block shall be established with the station preceding and the station following as its limits.
  - 15.5.2.3 When, during a period of minimum train headway, more than one or a series of stations is affected by the failure, the ROCC Supervisor shall establish a series of successive manually controlled absolute blocks with Manual Train Control Points as follows:
    - 15.5.2.3.1 One at the unaffected station immediately preceding the affected section of track;
    - 15.5.2.3.2 One at every other station following the first Manual Train Control Point in the direction of train movement;
    - 15.5.2.3.3 One at the unaffected station immediately following the last affected station whether or not the last affected station is a Manual Train Control Point, and;
    - 15.5.2.3.4 One at each active junction location within an absolute block where diverging and converging revenue service is to be maintained.



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15.5.2.4 The ROCC shall assign a Rail Operations Supervisor or a qualified transportation employee to each designated Manual Train Control Point.

15.5.2.5 Rail vehicle operators and Vehicle Flag persons shall, regardless of the controlling signal's aspect:

15.5.2.5.1 Ensure that correct rail alignment, consistent with the absolute block instructions, has been established prior to entering into and/or traveling through an interlocking's limits, and;

15.5.2.5.2 Not operate their vehicle beyond the established limits of the assigned absolute block.

15.5.3 Movement Before Manual Train Control Points are Established:

15.5.3.1 After receiving the identification and position of the trains stopped in the affected area, the ROCC Supervisor shall alert the Train Operators to the situation, instruct them to:

15.5.3.1.1 Disregard scheduled operations;

15.5.3.1.2 Change to Mode 2;

15.5.3.1.3 Proceed at restricted speed (15 mph or as directed by ROCC) with caution, and;

15.5.3.1.4 Continue to make station stops.

15.5.3.2 The ROCC Supervisor shall instruct Train Operators approaching an emergency crossover for which a signal cannot be cleared, that the switch points must be blocked in the normal position in accordance with SOP # 35 prior to proceeding through the interlocking.

15.5.3.3 The ROCC Supervisor shall instruct each Train Operator to notify the ROCC when they make a station stop with station name and train identification.

15.5.3.3.1 The Train Operators shall continue these reports from each station until their train clears the affected area.

15.5.3.3.2 In accordance with reports received, the ROCC Supervisor shall maintain a station to station separation between the trains in the affected area.



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- 15.5.3.3.3 The ROCC Supervisor shall keep a written log of the operation recording the train identification and the time the trains are dispatched from each station.
- 15.5.3.4 The ROCC Supervisor shall also instruct the operators of trains holding in approach to the affected area to follow the procedures outlined in Paragraphs 15.5.3.1 and 15.5.3.3 when they enter the affected area.
- 15.5.3.5 When train congestion occurs outside the affected area because of slow movement of trains through the affected area, the ROCC Supervisor shall turn trains away at interlocking locations outside the affected area and instruct the Terminal supervisor to institute terminal schedule adjustments.
- 15.5.3.6 The ROCC Supervisor shall instruct Train Operators approaching locations where automatic route selection is inoperative to use the manual route selection push button at the signal location.
  - 15.5.3.6.1 Should the signal fail to clear, the switches shall be blocked in accordance with SOP # 35.
  - 15.5.3.6.2 When the route requires switches to be hand cranked and blocked, it shall be done by qualified persons in accordance with SOP # 35.
- 15.5.3.7 The ROCC Supervisor shall request the assistance of the Transit Police for crowd control at any station reporting customer overcrowding.
- 15.5.3.8 When all designated train control points in the affected area, in accordance with Section 15.5.2, are staffed by qualified Rail Operations personnel the ROCC Supervisor shall implement manually controlled absolute block operation in accordance with Section 15.5.5.
- 15.5.4 Movement Against ATP Traffic Direction:
  - 15.5.4.1 Before initiating a train movement against the established ATP direction of traffic, the ROCC Supervisor shall establish an absolute block for the distance the train will travel against the direction of traffic.
  - 15.5.4.2 The ROCC Supervisor shall do the following:
    - 15.5.4.2.1 Determine that no trains are within the designated limits of the absolute block.



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- 15.5.4.2.2 If an opposing interlocking signal is located at the distant limit of the absolute block, be certain it is placed in the stop position and also prohibit any route initiation or automatic routing that would oppose the intended operation.
- 15.5.4.2.3 If the distant limit of the absolute block is not an interlocking signal location, direct the Train Operator of any approaching (opposing) train to STOP and stay outside the distant limit of the absolute block. Await the operator's report that the train is stopped and its position. Then verify that the train's position is outside the absolute block limit.
- 15.5.4.2.4 After the first three actions have been completed, instruct the Train Operator of the train for which the absolute block has been established to:
- 15.5.4.2.4.1 Change to Mode 2;
- 15.5.4.2.4.2 Proceed at restricted speed (15 mph or as directed by ROCC) or be flagged to the distant limit of the absolute block and stop; and
- 15.5.4.2.4.3 Sound the warning horn as the train proceeds.
- 15.5.4.3 When it is necessary for the train making the movement against traffic to pass an interlocking signal that cannot be cleared for any reason, the additional precautions of Section 15.5.6 and SOP # 35 shall be implemented.

### 15.5.5 Implementing Manual Train Control:



**Notice:** Manual Train Control setup is outlined in Section 15.5.2.

- 15.5.5.1 Communication channels shall be established between each adjacent Manual Train Control Point and the Operations Control Center. The communication channels, when established, shall be used solely for train movement control.
- 15.5.5.2 The ROCC Supervisor shall establish train identification for trains using the manually controlled absolute blocks. Either the number of the lead car of each train or the train identification number can be used.
- 15.5.5.3 All trains in revenue service operating within the absolute blocks shall be operated in Mode 2.



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- 15.5.5.4 The Rail Operations Supervisor or qualified Rail Operations employee assigned to a Manual Train Control Point shall control, by oral instructions and directions, the entry of trains into the absolute block and the use of that block.
- 15.5.5.5 The Rail Operations Supervisor or qualified Rail Operations employee assigned to each Manual Train Control Point shall keep a record of each train identity and the time it arrived and left their control point.
- 15.5.5.6 Before permitting a train to proceed from their Manual Train Control Point to the next downstream Manual Train Control Point the Rail Operations Supervisor or qualified Rail Operations employee shall:
  - 15.5.5.6.1 Await notification from the next downstream Manual Train Control Point and ensure that the downstream control point has no train in the station;
  - 15.5.5.6.2 Verify, by train identification, that the last train dispatched from that downstream Manual Train Control Point was also the last train dispatched from his/her own control point;
  - 15.5.5.6.3 When the next train arrives, or if already holding one at the control point, request permission to dispatch the train;
  - 15.5.5.6.4 Notify the Train Operator of the next Manual Train Control Point location and any speed restrictions imposed because of the absolute block operation;
  - 15.5.5.6.5 When permission is received from the next downstream Manual Train Control Point, furnish the train identification, the time it will depart and then dispatch the train; and
  - 15.5.5.6.6 When the station is clear, notify the upstream Manual Train Control Point and furnish the train identification of the last train dispatched.
- 15.5.5.7 The Rail Operations Supervisor or qualified Rail Operations employee assigned to the last Manual Train Control Point at the distant limit of the last absolute block (outside the affected area) shall instruct Train Operators of trains departing that location to return to normal train operation.



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15.5.6 Maintaining Through Service at Failed Interlockings:

15.5.6.1 When a failure of the wayside ATP subsystem or other condition affects the operation of an interlocking, disabling one or more lunar signals, ROCC shall establish an absolute block for the interlocking. Trains shall pass through the interlocking, one train at a time, until desired routes are verified to be correct and secured on all tracks of the interlocking.

15.5.6.2 To ensure safe train movement through an affected interlocking, the ROCC Supervisor shall:

15.5.6.2.1 Establish an absolute block within the interlocking limits;

15.5.6.2.2 Assign qualified employee(s) the tasks of hand cranking and blocking/clamping in accordance with SOP #35;

15.5.6.2.3 Ensure that the qualified employee reports the route established by each switch number and position in accordance with SOP #35;

15.5.6.2.4 Upon notification by the qualified employee that the switch(es) is/are blocked/clamped for the desired route on either track of the interlocking, ROCC shall:

15.5.6.2.4.1 Allow one train to pass through the secured switch(es) with instructions to verify and confirm the route and that the switches are properly tucked and blocked/clamped.

15.5.6.2.4.2 When the first train is clear of the interlocking limits, and all required switches are secured, allow another train to pass through the secured switches on the opposite track of the interlocking with instructions to verify and confirm the route and that the switches are properly tucked and blocked/clamped.

15.5.6.2.4.3 In the special case of locations with more than one interlocking (e.g., a pocket track location) this procedure shall be repeated for each affected interlocking (e.g., on each end of the pocket track) until the entire location is verified;

15.5.6.2.4.4 Remove the absolute block requirement after the route on all tracks of the interlocking have been verified; and

15.5.6.2.4.5 If required, direct the Rail Operations Supervisor or other designated employee to hand flag trains through the interlocking.



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### 15.5.7 Absolute Block Through an Established Work Area:

15.5.7.1 When it is necessary to move a rail vehicle through an established protected work area, ROCC shall:

15.5.7.1.1 Notify the RWIC and request permission to pass through the work zone.

15.5.7.1.2 Request the RWIC to clear all equipment and personnel from the track area and notify ROCC when personnel and equipment are clear of the track and it is safe to move a rail vehicle through the work area;

15.5.7.1.3 After receiving confirmation from the RWIC that all equipment and personnel are clear of the track area and it is safe to move the rail vehicle, give the rail vehicle an absolute block, at restricted speed, through the cleared protected work area; and

15.5.7.1.4 After the rail vehicle has passed the cleared protected work area, notify the RWIC to resume working.

### 15.5.8 Absolute Blocks for Movement of a Class II Vehicle:

15.5.8.1 To ensure the safety of a Class II Vehicle (e.g., work train) and the safety of any train ahead of or following the Class II Vehicle, the ROCC Supervisor shall establish the necessary absolute block or series of absolute blocks to move the Class II Vehicle.

15.5.8.2 The ROCC Supervisor shall use interlocking signals of adjacent interlocking locations or stations in the direction of travel as the block's limits. If an interlocking is located between the two limits of the absolute block and the aspect of the interlocking signal indicates "stop", the train must stop prior to the signal and call ROCC before continuing to its destination.

15.5.8.3 The absolute block shall be moved progressively forward as the train ahead clears the limits of each intermediate interlocking location or station to be used as an absolute block limit. This shall continue until the Class II Vehicle arrives at the work location, signal, or yard destination.

15.5.8.4 To establish an absolute block for a Class II Vehicle, the ROCC Supervisor shall:

15.5.8.4.1 Cause the interlocking signal at the distant limit of the absolute block to indicate "stop" after the revenue train ahead has cleared the interlocking signal;



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**Notice:** The absolute block shall not exceed three (3) consecutive stations.

- 15.5.8.4.2 Advise the Class II Vehicle operator of the absolute block limits and any operational and speed restrictions; and
- 15.5.8.4.3 When the section of track between the absolute block limits is clear, and after the Class II Vehicle operator has confirmed (by repeating the ROCC Supervisor's communication) the length of the block, the specific locations that are its limits, and any operational instructions, the ROCC Supervisor shall permit the Class II Vehicle to enter the absolute block.
- 15.5.8.5 The procedure outlined in the preceding paragraphs shall be repeated for each successive absolute block until the Class II Vehicle arrives at its work location or is off the mainline tracks.
- 15.5.8.6 With a lunar aspect, rail vehicle operators and flag persons shall:
  - 15.5.8.6.1 Ensure correct rail alignment consistent with the absolute block instructions has been established prior to entering into and/or traveling through an interlocking's limits; and
  - 15.5.8.6.2 Not operate their vehicle beyond the established limits of the assigned absolute block.
- 15.5.9 Convoy Blocks for Movement of a Convoy:
  - 15.5.9.1 A Convoy Block shall be implemented in exactly the same manner as an Absolute Block except with a convoy and the following additional requirements (See Definitions).
  - 15.5.9.2 Only operators and vehicle flag persons, specifically trained and certified on the use and special hazards of convoy blocks, shall be permitted to operate and flag vehicles in convoys.
  - 15.5.9.3 A list of the consists comprising the convoy shall be provided to ROCC by the lead consist operator or by the supervisor prior to establishment of the Convoy Block. The list shall sequentially identify each work train in the series from lead consist to tail consist and the destination.





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15.5.9.4 Each consist operator in the convoy shall verify the operation of the consist's brake lights, if equipped. Consists without brake lights shall flash running directional lights to indicate when the vehicle is stopping. A radio announcement shall also be made when any unit within a convoy is coming to a stop.

Example: "Convoy PM35 plus 2 coming to a stop at [location]."

15.5.9.5 Each operator shall make a radio check with ROCC and monitor the Operations radio communications.

15.5.9.6 Communication between all operators and vehicle flag persons of the convoy shall be established before movement.

15.5.9.7 Lead operator shall request permission from ROCC to travel to destination via Convoy Block.

Example: "Lead operator of convoy PM35 plus 2, permission to move via Convoy Block to [destination]."

15.5.9.8 After permission to proceed from ROCC is given, all vehicles of the Convoy Block shall be governed by the block and all wayside signal aspects. ROCC shall fleet the interlockings for the entire Convoy Block, when possible.

15.5.9.9 The operator of the tail end of the convoy is responsible for reporting clear of each Interlocking and Station.

Example: "Tail operator of convoy PM35 plus 2 clear of [Interlocking or Station]."

15.5.9.10 Operators shall travel at restricted speed i.e. speed not to exceed 15 mph, prepared to stop within half the distance of vision.

15.5.9.11 Once occupied, the Convoy Block shall be sustained by ROCC until the tail vehicle operator has reported clear of the end of the Convoy Block.

15.5.10 Class II Vehicles Exiting Mainline to Yard Track:

15.5.10.1 Class II Vehicles including Work Trains must stop at the end of their Absolute Block in approach to a Yard.



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15.5.10.2 After the Class II Vehicle is stopped, the operator must contact the Yard Tower giving their operator's identification, equipment number and location by track and signal number prior to requesting a lead into the Yard.

Example: "This is track unit number 6975 operating PM25 on track one at signal number D99-24 requesting a lead into D99 yard".

15.5.10.3 After movement is authorized into the Yard, the Class II Vehicle must proceed past the limit of the Absolute Block and stop.

15.5.10.4 The operator shall clear the mainline with ROCC and then switch back to Yard radio frequency prior to proceeding with movement into the yard.

15.5.11 Permissive Block for Movement of a Malfunctioning Train:

15.5.11.1 When a train malfunction or configuration prevents enforcement of ATP speeds or a Class I Vehicle lacks the minimum 75% braking ability required to enforce ATP speeds, then to ensure the safety of the revenue train ahead, the ROCC Supervisor shall establish a permissive block to move the train to the nearest unused siding or yard.

Consist Length	75% Braking MAXIMUM Trucks Cut
8-car	4 Trucks Cut-Out
6-car	3 Trucks Cut-Out
4-car	2 Trucks Cut-Out
2-car	No Trucks Cut-Out

15.5.11.2 Depending on the distance to be traveled or route of the train being moved by permissive block, a series of permissive blocks may be established within the affected track section to expedite train movement.

15.5.11.3 The permissive block shall be moved progressively forward as the revenue train ahead clears the limits of each intermediate interlocking location. This shall continue until the malfunctioning train is stored on an unused siding or arrives within the limits of the nearest yard.

15.5.11.4 To establish the permissive block the ROCC Supervisor shall:

15.5.11.4.1 Cause the interlocking signal at the distant limit of this permissive block to indicate "stop" after the revenue train ahead has cleared that interlocking;



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- 15.5.11.4.2 Advise the Train Operator of the malfunctioning train of the limit of the permissive block, mode of operation and any operational and speed restrictions;
- 15.5.11.4.3 When the section of track between the two interlocking signals is clear of the train ahead, permit the malfunctioning train to enter the permissive block after the Train Operator has confirmed (by repeating the ROCC Supervisor's communication) the length of the block, mode of operation and any operational and speed restrictions; and
- 15.5.11.4.4 **PERMIT ONLY TRAINS OPERATING UNDER ATP WITH SPEED READOUTS TO FOLLOW THE MALFUNCTIONING TRAIN TRAVELING UNDER PERMISSIVE BLOCK.**
- 15.5.11.5 The procedure outlined above shall be repeated for each successive permissive block until the malfunctioning train is off the mainline tracks.
- 15.5.11.6 Rail vehicle operators and Vehicle Flag persons shall:
  - 15.5.11.6.1 Regardless of the controlling signal's aspect, ensure that correct rail alignment, consistent with the permissive block instructions, has been established prior to entering into and/or traveling through an interlocking's limits; and
  - 15.5.11.6.2 Not operate their vehicle beyond the established limit of the assigned permissive block.

### **15.6 REFERENCES**

- 15.6.1 OR 3.23, 3.24, 3.25, 3.26, 3.28, 3.29.1, 3.30, 3.48.2, 3.48.3, 3.79, 3.97 & 3.100
- 15.6.2 SOP # 1
- 15.6.3 SOP # 4
- 15.6.4 SOP # 10
- 15.6.5 SOP # 23
- 15.6.6 SOP # 31
- 15.6.7 SOP # 32



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15.6.8 SOP # 35

15.6.9 SOP # 15



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## **SOP # 16      COUPLING AND UNCOUPLING REVENUE CARS**

### **16.1      PURPOSE**

The purpose of this Standard Operating Procedures (SOP) is to establish procedures for coupling and uncoupling of revenue cars.

### **16.2      SCOPE**

This SOP is applicable to all personnel qualified to coupling/uncoupling revenue cars to include the use of maintenance vehicles to move revenue cars during emergencies.

### **16.3      DEFINITIONS**

None

### **16.4      RESPONSIBILITIES**

#### 16.4.1 Supervisors' Responsibility:

ROCC and Rail Transportation Supervisors shall authorize and ensure that these procedures are followed when the uncoupling/coupling of revenue cars on the Main Line occur. Terminal supervisors shall document in the Rail Performance Monitoring (RPM) System who and what cars were coupled to/uncoupled from at terminal locations.

#### 16.4.2 Interlocking Operator Responsibility:

The Interlocking Operator shall be responsible for authorizing and ensuring that these procedures are followed and document who and what cars are coupled to/ uncoupled from in the RPM.

#### 16.4.3 Qualified Personnel Responsibility:

It shall be the responsibility of all personnel who are qualified to couple/uncouple revenue cars to obtain permission prior to coupling/uncoupling revenue cars and follow these procedures and that of the Procedural Checklist of The Train Operators Troubleshooting Guide.



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16.4.4 Car Maintenance Responsibility:

Car maintenance Supervisors and Mechanics shall provide technical assistance and advice when mechanical problems are encountered that prevent normal coupling/uncoupling of revenue cars.

**16.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
16.5.1	Authorization
16.5.2	Coupling Car Units
16.5.3	Uncoupling Car Units
16.5.4	Rollback Prevention

16.5.1 Authorization:

16.5.1.1 Only the ROCC, Operations Supervisors, CMNT Supervisors and Interlocking Operators shall authorize the coupling/uncoupling of revenue cars.

16.5.1.2 Only qualified personnel shall be authorized to couple/uncouple revenue cars.

16.5.2 Coupling Car Units:

16.5.2.1 When approaching one or more car units to make a coupling, on straight track when possible, qualified personnel shall:

16.5.2.1.1 Make safety stops as specified in Operating Rule 3.89.

16.5.2.1.2 Visually inspect both couplers for correct alignment to couple. If the cars are on a curve and the couplers cannot be aligned normally, the qualified personnel making the coupling shall unhook the coupler spring on the car that is being coupled to and align the couplers. If the couplers cannot be aligned in this manner, stop and contact the control point for assistance.

16.5.2.1.3 Ensure the stored cars have full service brake. Unless instructed otherwise by ROCC, Rail Operations supervisor, Car Maintenance Supervisor or the Interlocking Operator, handbrakes shall not be applied on the consist being coupled to, prior to attempting to couple. After a successful coupling, the handbrakes (if applied) shall be released prior to attempting to move.



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- 16.5.2.1.4 When coupling to car units with the brakes cut out, make certain handbrakes are applied. Wheel stops and chocks shall be removed. After coupling, the handbrakes shall be released.
  - 16.5.2.1.5 When coupling to car units on level track, the shorter section of car units shall be operated to couple to the longer section.
  - 16.5.2.1.6 When coupling to car units on a grade, the cars on the low end of the grade shall be operated to couple to the stationary cars on the high end. When coupling to car units on a grade, cars may be coupled on the high end provided that a secure coupling has been verified prior to cutting out brakes.
  - 16.5.2.1.7 When other employees are assisting in making a coupling, qualified personnel shall not couple until the employees are in a safe position and a proceed hand signal is given.
  - 16.5.2.1.8 After coupling, qualified personnel shall check the last number of the train identity digital readout to make certain the correct number of car units is in the train consist. They shall also obtain a “brakes off” indication on the console before securing the train. If the cars are to be used for revenue, the inter car barriers are to be deployed in accordance with procedures.
  - 16.5.2.1.9 When unable to make a coupling, because of the height differential (more than three inches) between the couplers or noted damage to the coupler(s), qualified personnel shall notify their control point and be governed by instructions. The Car Maintenance Supervisor/Mechanic shall be notified and respond to determine whether or how the coupling shall be made.
- 16.5.3 Uncoupling Car Units:
- 16.5.3.1 Prior to uncoupling revenue cars, qualified personnel shall unhook the inter car barriers and store them and shall observe the last digit of the train identity digital readout before and after uncoupling has been accomplished. In the event of an extreme emergency and time does not permit unhooking and stowing barriers, the requirement shall be waived and the operator shall allow the barrier to break.
  - 16.5.3.2 The uncoupling shall be made from the section of car units to be moved.
  - 16.5.3.3 Car units that have brakes cut out or other braking problems shall have handbrakes applied before being uncoupled.





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16.5.3.4 When instructed to do so, qualified personnel shall protect the stored car units with lights, flags, wheel stops and chocks.

16.5.3.5 When uncoupling cannot be made using normal uncoupling procedures and the uncoupling has to be accomplished mechanically, the Car Maintenance Supervisor/Mechanic shall be notified by the control point and he shall respond to determine whether or how the uncoupling shall be accomplished.

16.5.4 Rollback Prevention:

In order to prevent unintentional coupling and/or damage to equipment when moving away from stored unit, qualified personnel shall, place the master controller in B4/B5 for 15 seconds and/or apply snow brakes before taking a point of power.

### 16.6 REFERENCES

16.6.1 Troubleshooting Guide and Procedural Checklist

16.6.2 SOP # 43 – Inter Car Barriers



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### SOP # 35 HAND CRANKING, BLOCKING AND CLAMPING OF SWITCHES

#### 35.1 PURPOSE

The purpose of this SOP is to provide instruction and requirements for ensuring safe passage over one or more track switches when a condition or activity prevents the interlocking from providing locked switch(es) with a lunar signal for the desired route.

#### 35.2 SCOPE

35.2.1 This SOP is applicable to Mainline and Yard switches whenever:

35.2.1.1 A lunar signal cannot be provided ahead of a rail vehicle operator for passage over one or more track switches, or;

35.2.1.2 Rail vehicle movement is required over a switch reported to have a defect, including but not limited to a failed obstruction test, until the defect is corrected and the switch is successfully tested, or;

35.2.1.3 Establishment of a work area (SOP # 28) that includes track switches, or;

35.2.1.4 In the judgment of the Rail Operations Control Center (ROCC) Supervisor another condition warrants blocking/clamping of switches.

35.2.2 This SOP applies to ROCC personnel, Yard Interlocking Operators, Operations Supervisors, Track and Structures maintenance personnel, ATC maintenance personnel, and Train Operators.

#### 35.3 DEFINITIONS

35.3.1 Block: A yellow, 18" long, 2" thick, 4.5" wide on one end, and 6" wide on the other end, wooden wedge designed to be forced between an open switch point and the stock rail of a track switch, to hold the other switch point firmly against its stock rail.

35.3.2 Clamp: A lockable threaded device for clamping the base of a closed moveable switch point to the base of the adjacent stock rail.



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35.3.3 Derail: A track device used to prevent movement of rolling stock by forcing its wheels off the rail. The device uses a derail block on top of the running rail when in the “normal” position to force wheels off the rail. WMATA’s derails are numbered switches in a route and are controlled by switch machines. The derail must be in the “reverse” position, (i.e. in the cradle) to pass a train either direction through a route associated with its nearest signal or nearest track switch. The derail can be hand cranked but cannot be blocked or clamped like a switch.

	Derail's		Nearest
	Switch	Nearest	Track
Interlocking with Derails	Number	Signal	Switch
A02 - Farragut North	3	34	5B
A11 - Grosvenor	13	44	11A
B08 - Silver Spring	13	44	11A
C10 - National Airport	13	44	11A
E01 - Mount Vernon Square	13	34	5B
K06 - West Falls Church	13	44	11A

35.3.4 Manual Control Point: The converging/diverging location, or fourth switch, of a Manual Terminal Operation.

35.3.5 Manual Terminal Operation: A method of controlling a terminal interlocking whereby the predetermined position of three switches are blocked/clamped and the position of the fourth switch is changed and blocked/clamped as needed for each train movement through the interlocking.

**35.4 RESPONSIBILITIES**

35.4.1 The ROCC Supervisor is responsible for supervising and coordinating the implementation of this SOP on the mainline.

35.4.2 The Yard Interlocking Operator is responsible for supervising and coordinating the implementation of this SOP in the yard.

35.4.3 **Only the ROCC Supervisor or Yard Interlocking Operator may authorize hand cranking, blocking or clamping, or the removal of blocks or clamps.**

35.4.4 The ROCC Supervisor and the Yard Interlocking Operator are responsible for ensuring switches (and derail, if applicable) are properly aligned and secured for the desired train movement by qualified personnel, as follows;



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- 35.4.4.1 Hand Cranking a switch or derail: Only RAIL Operations Supervisors, Interlocking Operators, Qualified Track and Structures Supervisors or ATC Maintenance personnel are qualified to Hand Crank a switch or derail.
- 35.4.4.2 Blocking or Clamping a switch: Only personnel authorized to Hand Crank a switch (above) or Train Operators are qualified to block or clamp a switch.
- 35.4.4.3 Removing blocks or clamps to reposition switch(es): Only personnel qualified to Hand Crank a switch (above) are qualified to remove a switch block or clamp for the purpose of repositioning a switch.
- 35.4.4.4 Removing blocks or clamps to restore interlocking: After a switch failure or track related defect, only an ATC Maintenance person are qualified to remove blocks or clamps in order to place an interlocking back in service.
  - 35.4.4.4.1 When blocks or clamps are installed without any known switch failure or related track defect (e.g., for a work area) then qualified persons who installed the blocks or clamps may be authorized to remove them.
  - 35.4.4.4.2 After a US&S model M-3 switch machine has been hand cranked, only an ATC Maintenance person may be authorized to remove blocks or clamps in order to place the switch back in service because this action requires access to the inside of the machine.
- 35.4.5 All personnel, including ROCC Supervisors, Interlocking Operators and field personnel, are responsible for clear radio communication that shall include the INTERLOCKING IDENTIFICATION, the SWITCH NUMBERS and the SWITCH POSITIONS in all instructions and confirmations of cranking and blocking/clamping instructions. (e.g. “D13, New Carrollton, switches 3A and 3B reverse, and switches 1A and 1B normal”)
- 35.4.6 All personnel are responsible for immediately reporting all cranking, blocking and clamping activities to the ROCC Supervisor or Yard Interlocking Operator.



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**35.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
35.5.1	Blocking and Clamping of Switches
35.5.2	Hand Cranking of Switches
35.5.3	Hand Cranking of a Derail
35.5.4	Manual Terminal Operation
35.5.5	Repositioning Blocked or Clamped Switches
35.5.6	Final Removal of Blocks and Clamps

35.5.1 Blocking and Clamping of Switches:

35.5.1.1 When necessary to block or clamp one or more track switches, the ROCC Supervisor or the Yard Interlocking Operator shall:

35.5.1.1.1 Remotely place, or have locally placed, an auxiliary switch call on each affected switch for the desired switch position, and;

35.5.1.1.2 Direct qualified wayside personnel by radio to block the appropriate switches in the desired position. The instruction shall include the INTERLOCKING IDENTIFICATION, the SWITCH NUMBERS and the SWITCH POSITIONS. (e.g. Block “D13, New Carrollton, switches 3A and 3B reverse, and switches 1A and 1B normal”).

35.5.1.2 Upon receiving instruction from the ROCC or the Yard Interlocking Operator the qualified wayside personnel shall verify the instruction by repeating all details including the INTERLOCKING IDENTIFICATION, the SWITCH NUMBER(S) and the SWITCH POSITION(S).

35.5.1.3 The ROCC Supervisor or the Yard Interlocking Operator shall either concur and repeat the instructions or correct the instructions.

35.5.1.4 When the ROCC or the Yard Interlocking Operator concurs, the qualified wayside person shall check for proper switch position and tuck of each switch in the instructions.



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### 35.5.2 Hand Cranking of Switches:

35.5.2.1 If a switch is NOT in the desired position or is NOT properly tucked, then qualified wayside personnel shall crank the switch as follows. Otherwise, skip this cranking procedure and continue, below.

35.5.2.1.1 Insert the crank into the switch until it engages the crank shaft. Do not use excessive force on the crank handle.

35.5.2.1.2 Crank the switch to the required position and ensure that the switch point is properly tucked under the stock rail. Continue to crank the switch until the crank will not turn. (On mainline this will take several turns of the crank after the point rail stops moving.)

35.5.2.1.3 Remove the hand crank from the switch machine.

35.5.2.2 When a switch is in the correct position and properly tucked, the qualified wayside personnel shall either:

35.5.2.2.1 Insert the switch block between the open switch point and stock rail, and strike the end of the block until it is securely wedged, or;

35.5.2.2.2 If a switch block cannot be inserted into the open switch point, (e.g., a guarded switch layout) use a switch point clamp to securely clamp the closed switch point to the stock rail. Install the switch point clamp as close as possible to the tapered end of the switch point.

35.5.2.2.3 The qualified wayside personnel shall repeat steps 35.5.2.1 through 35.5.2.2 for each switch designated by the ROCC Supervisor or the Yard Interlocking Operator until all required switches are blocked or clamped according to the instructions.

35.5.2.2.4 When all switches have been blocked or clamped in the required positions, the person who blocked or clamped the switches shall notify the ROCC or the Yard Interlocking Operator, by INTERLOCKING IDENTIFICATION, SWITCH NUMBER(S) and POSITION(S), that the switches have been blocked or clamped. (e.g., “At D13, New Carrollton, switches 3A and 3B are blocked/clamped reverse, and switches 1A and 1B are blocked/clamped normal”)

35.5.2.2.5 Upon notification that the switches are blocked or clamped in the correct positions, the ROCC Supervisor or Yard Interlocking Operator shall confirm the information by repeating it back to the reporting person.



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STANDARD OPERATING PROCEDURES**

35.5.3 Hand Cranking of a Derail:

35.5.3.1 When necessary to hand crank a derail, the ROCC Supervisor shall:

35.5.3.1.1 Remotely place, or have locally placed, an auxiliary switch call on the derail for the desired position, and;

35.5.3.1.2 Direct qualified wayside personnel by radio to hand crank the derail in the desired position. The instruction shall include the INTERLOCKING IDENTIFICATION, the DERAILED SWITCH NUMBER and the POSITION. (e.g. Crank "A02, Farragut North, switch 3 reverse").

35.5.3.2 Upon receiving instruction from the ROCC the qualified wayside personnel shall verify the instruction by repeating all details including the INTERLOCKING IDENTIFICATION, the DERAILED SWITCH NUMBER and the POSITION.

35.5.3.3 The ROCC Supervisor shall either concur and repeat the instructions or correct the instructions.

35.5.3.4 When the ROCC concurs, the qualified wayside person shall:

35.5.3.4.1 Insert the crank into the derail switch machine until it engages the crank shaft. Do not use excessive force on the crank handle.

35.5.3.4.2 Crank the derail to the required position and ensure that the derail block is full on the rail for "normal" position or fully retracted into its cradle for "reverse" position. Continue to crank the switch until the crank will not turn. (This will take about seven more turns of the crank after the derail stops moving.)

35.5.3.4.3 Remove the hand crank from the switch machine.

35.5.3.5 When the derail is in the required positions, the person who blocked or clamped the switches shall notify the ROCC by INTERLOCKING IDENTIFICATION, DERAILED SWITCH NUMBER and POSITION, that the derail has been hand cranked. (e.g., "At A02, Farragut North, switches 3 has been hand cranked reverse")

35.5.3.6 Upon notification that the derail has been hand cranked in the correct positions, the ROCC Supervisor shall confirm the information by repeating it back to the reporting person.



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### 35.5.4 Manual Terminal Operation:

35.5.4.1 The ROCC shall determine the requirement for Manual Terminal Operation and the configuration utilized at the interlocking by directing which two switches to be blocked/clamped Normal, the third switch to be blocked/clamped reverse and the fourth switch to be the Manual Control Point. During Manual Terminal Operation the auxiliary switch call placed on the Manual Control Point shall remain reverse.

35.5.4.2 Changes to the switch position of the Manual Control Point shall only be made in accordance with instruction from the ROCC Supervisor.

### 35.5.5 Repositioning Blocked or Clamped Switches:

35.5.5.1 When it is necessary to reposition one or more affected switches without returning the switches to service the ROCC Supervisor or the Yard Interlocking Operator shall cancel the auxiliary switch calls on the affected switch(es). Electric operation of the switch(es) to the desired position is preferred over hand cranking but should not be attempted until after the blocks/clamps have been removed.

35.5.5.2 The ROCC Supervisor or the Yard Interlocking Operator shall notify wayside personnel that the affected switches are going to be repositioned and instruct the qualified wayside personnel to remove the blocks/clamps, by specific INTERLOCKING IDENTIFICATION and SWITCH NUMBER(S).

35.5.5.3 The qualified wayside personnel shall verify the instruction by repeating it including specific INTERLOCKING IDENTIFICATION and SWITCH NUMBER(S).

35.5.5.4 Once the instruction has been confirmed the qualified wayside personnel shall:

35.5.5.4.1 Remove the blocks and/or clamps,

35.5.5.4.2 Report to the ROCC Supervisor or Interlocking Operator when the switch(es) have been unblocked/unclamped, by specific INTERLOCKING IDENTIFICATION and SWITCH NUMBER(S), and;

35.5.5.4.3 Stand clear of moving parts.





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35.5.5.5 The ROCC Supervisor or the Yard Interlocking Operator shall attempt to reposition the switch(es) electrically and then implement the procedures for BLOCKING AND CLAMPING OF SWITCHES in 35.5.1.

35.5.6 Final Removal of Blocks and Clamps:

35.5.6.1 When the cause for blocking/clamping has been corrected or eliminated the ROCC Supervisor or the Yard Interlocking Operator shall:

35.5.6.1.1 Cancel the auxiliary switch calls on the affected switches, and;

35.5.6.1.2 Instruct the qualified wayside personnel to remove the blocks/clamps by INTERLOCKING IDENTIFICATION and SWITCH NUMBER(S).

35.5.6.2 The qualified wayside personnel shall verify the instruction to unblock/unclamp by radio, including INTERLOCKING IDENTIFICATION and SWITCH NUMBER(S).

If field personnel are aware of any potential safety risks associated with the removal of blocks/clamps they shall immediately inform the ROCC and await further instructions before continuing with the removal of blocks/clamps.

35.5.6.3 The qualified wayside personnel shall remove blocks and clamps from the designated switches, reset the crank cut-out latches and secure/stow the crank hole covers and blocking/clamping equipment.

35.5.6.4 The qualified wayside personnel shall notify the ROCC or the Yard Interlocking Operator, by INTERLOCKING IDENTIFICATION, SWITCH NUMBER(S) and POSITION(S), that the switches have been unblocked/unclamped. (e.g., “At D13, New Carrollton, blocks have been removed from switches 1A and 1B”)

35.5.6.5 Upon notification that the switches are unblocked/unclamped, the ROCC Supervisor or Yard Interlocking Operator shall confirm the information by repeating it back to the reporting person.

### 35.6 REFERENCES

35.6.1 S.O. 03-05

35.6.2 SOP # 15

35.6.3 SOP # 28



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**

**SOP # 40 DOOR OPERATIONS / STATION SERVICING PROCEDURES**

**40.1 PURPOSE**

The purpose of this Standard Operating Procedure is to establish procedures for Train Operators to follow while servicing a station (i.e., berthing train, opening doors, loading train and closing doors).

**40.2 SCOPE**

This SOP is applicable to all WMATA employees who operate Metrorail trains in revenue or non-revenue service.

**40.3 DEFINITIONS**

None

**40.4 RESPONSIBILITIES**

40.4.1 Supervisor's Responsibility:

Supervisors shall ensure that all train operators within their sector are familiar with this SOP and periodically monitor operators for compliance.

40.4.2 Train Operator's Responsibility:

Train Operators are responsible for the safe movement of trains and the safe loading and unloading of customers.

40.4.3 Rail Operations Control Center (ROCC) Supervisor Responsibility:

ROCC Supervisors shall be aware of procedures to mitigate station overrun occurrences.



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40.5 PROCEDURES

Procedure #	Content
40.5.1	Door Opening Procedures
40.5.2	Customer Boarding Procedures
40.5.3	Door Closing Procedures
40.5.4	Station Overrun Procedures
40.5.5	Trailing Cab Door Procedures

40.5.1 Door Opening Procedures:

40.5.1.1 When operating in ATO and the Door Mode Selector is in the Auto/Manual position, the train doors will automatically open when the train is properly berthed.

40.5.1.2 When operating a train in Manual Mode (Mode 2, Level 1) and the Door Mode Selector is in the Auto/Manual position, to automatically open the doors the operator shall:

40.5.1.2.1 Depress the Train Berth button at 3 mph or less, and;

40.5.1.2.2 Properly berth the train on the platform.

40.5.1.3 When train doors fail to open automatically when the Door Mode Selector is in the Auto/Manual position, the train operator shall:

40.5.1.3.1 Verify the number of cars in the consist;

40.5.1.3.2 Verify the berthing position of the train on the platform for the number of cars in the consist;

40.5.1.3.3 If not properly berthed, announce over PA, “Your attention please, this train will move forward”;

40.5.1.3.4 Sound the train’s horn, and;

40.5.1.3.5 Properly berth train on the platform for number of cars in the consist. (The train operator may adjust the train in the same direction of traffic to service the station without contacting ROCC).

40.5.1.3.6 Depress the Train Berth button at 3 mph or less.



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- 40.5.1.4 If the train doors still fail to open automatically:
  - 40.5.1.4.1 Contact ROCC and obtain permission to open the doors manually;
  - 40.5.1.4.2 After permission is granted by ROCC, verify the platform side of the train, place your head out of the cab window and look at the platform, and;
  - 40.5.1.4.3 Depress the Door Open button on the platform side of the train.
- 40.5.1.5 When the Door Mode Selector is in the Manual/Manual position, the train operator is to use extreme caution prior to depressing the Open Doors button and:
  - 40.5.1.5.1 Make eight-car stops with all trains unless otherwise directed by ROCC (Ensure the train is properly berthed on the platform for the number of cars in the consist);
  - 40.5.1.5.2 Verify the platform side of the train by placing your head out of the cab window and looking at the platform, and;
  - 40.5.1.5.3 Depress Open Doors button on the platform side of the train.
- 40.5.2 Customer Boarding Procedures:
  - 40.5.2.1 After train doors open announce: “This is a (color) line train to (destination).
  - 40.5.2.2 Open cab window on platform side (if not done previously) and place head out of window.
  - 40.5.2.3 Visually monitor platform area for the following:
    - 40.5.2.3.1 Senior citizens and customers with disabilities (i.e., especially visually or mobility impaired, customers using wheelchairs, canes, crutches, or service animals);
    - 40.5.2.3.2 Strollers, small children, bicycles;
    - 40.5.2.3.3 Intoxicated customers or any unusual behavior, and;
    - 40.5.2.3.4 Gap areas between the granite edge and train.
- 40.5.3 Door Closing Procedures:



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- 40.5.3.1 Prior to initiating the Close Door button, the train operator shall check the Roadway ahead of the train to ensure it is clear.
- 40.5.3.2 When passenger flow has subsided, initiate the Close Door button while constantly observing the train doors closing and passengers on the platform.
- 40.5.3.3 If any object/customer is caught in the train doors or the door indicator lights fail to extinguish, immediately recycle train doors. Be aware that small items such as clothing can be caught in the doors and NOT cause a loss of All Doors Closed Indication. Do not allow the train to move until it has been verified that it is safe to do so.
- 40.5.3.4 Do not recycle train doors after all the exterior door indicator lights are extinguished and you have verified that it is safe to move.
- 40.5.3.5 At center platform stations, when in ATO Operation, continue to observe passengers on the platform for a moment after the train begins to move in ATO. If no problems are observed on the platform, close the window and look in the direction of travel as you continue ATO operation.
- 40.5.3.6 At side platform stations, when in ATO operation, as the train begins to move and no problems are observed on the platform, close the window and look in the direction of travel as you continue ATO operations.
- 40.5.3.7 At center platform stations, when in Manual Operation, use extra care checking the platform for door obstructions/articles caught in the doors. If no problems are observed on the platform, close the window, and look in the direction of travel as you return to your seat to resume manual train operation.
- 40.5.3.8 At side platform stations when in Manual Operation, using extra care to ensure that no problems are observed on the platform, close the window and look in the direction of travel as you resume manual train operation.
- 40.5.4 Station Overrun Procedures:
- In the event that you fail to stop within the platform limits with front end of the train beyond the 8-car marker, Operators of trains shall:
- 40.5.4.1 Immediately advise customers that the train will be holding momentarily with doors closed.
- 40.5.4.2 Call ROCC and report exact locations of train and number of doors if any beyond platform limits.



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- 40.5.4.3 Follow ROCC's instructions for conducting the following actions:
- 40.5.4.3.1 Continuing to the next station – prior to moving make two (2) PA announcements advising customers that the train failed to stop at the proper platform berthing location and must continue to the next station. Also inform customers via the PA directions on how to return to the skipped station.
  - 40.5.4.3.2 Dropping Left / Right (L/R) Circuit Breakers in lead cab and servicing station - After disabling control to doors on the lead car and opening doors on the platform side, make two (2) PA announcements advising customers on lead car that they must use the emergency bulkhead doors at rear of the first car to enter next car and exit train.
    - 40.5.4.3.2.1 Operators must request permission to leave cab and assist customers in lead car with safely opening bulk head doors and verbal directions on exiting the train.
    - 40.5.4.3.2.2 If crowded conditions exist making it not possible to exit cab, Operators must immediately inform ROCC and continue to make announcements directing customers in the lead car to next car, periodically viewing customers in lead car to determine when safe to close train doors and move train. Note: Set Door CB's to normal position prior to moving train.
  - 40.5.4.3.3 Reverse ends and pull train back to station platform -Inform customers via the PA that train failed to stop within the platform limits and that the Rail Operations Control Center has instructed you to operate train back to the platform. Advise customers that you will be leaving the cab and operations will take approximately four minutes.
    - 40.5.4.3.3.1 Notify ROCC that you will be reversing ends to pull train back.
    - 40.5.4.3.3.2 Key down from original operating cab and walk to trailing operating cab.
    - 40.5.4.3.3.3 Key up and announce to customers train will be moving back to platform to service station.
    - 40.5.4.3.3.4 Contact ROCC and request permission to move without speed commands to reposition the train on the platform.
    - 40.5.4.3.3.5 Be guided by ROCC instructions.



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### 40.5.5 Trailing Cab Door Procedures:

After completing the Switching Ends Procedure, the train operator shall adhere to the following guidelines when securing the non-operating end train cab doors during mainline operations:

- 40.5.5.1 During Rush Hours, personnel shall secure cab door to isolate operator seat and console area, allowing access to seats and intercom for customers.





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40.5.5.2 During Non Rush Hours, personnel shall secure all non operating end cab door (no access), closing off full cab area to include seats, intercom and bulk head door.



### 40.6 REFERENCES

Operating Rules 3.119, 3.120, 3.121, 3.121.1, 3.79.1





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# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## **SOP # 43 STOWING AND DEPLOYING INTER-CAR BARRIERS**

### **43.1 PURPOSE**

The purpose of this Standard Operating Procedure is to instruct employees on proper procedures for deploying and stowing inter-car barriers.

### **43.2 SCOPE**

43.2.1 Inter-car barriers are required to be deployed when the consist is going mainline for any reason, including maintenance, testing or transports. When the cars are being moved within yards, barriers must be deployed or stowed.

43.2.2 This SOP applies to all personnel who are responsible for deploying or stowing inter-car barriers.

43.2.3 This SOP applies to all WMATA employees for reporting improperly stowed, deployed or broken inter-car barriers to the Train Operator, Supervisor or Rail Operations Control Center (ROCC).

### **43.3 DEFINITIONS**

None

### **43.4 RESPONSIBILITIES**

43.4.1 Car mechanics shall secure any broken inter-car barriers and create a work order number for its repair.

43.4.2 Train Operators, Supervisors, Interlocking Operators or Mechanics responsible for moving trains or changing consists size shall:

Ensure all inter-car barriers are properly stowed or deployed prior to moving the train in yard or on mainline.

43.4.3 WMATA employees regardless of position or department are responsible for reporting improperly stowed or dangling inter-car barriers to the Train Operator, ROCC, Interlocking Operators or other Operations employees.



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**43.5 PROCEDURES**

<b>Procedure #</b>	<b>Content</b>
43.5.1	Employee Position for Deploying / Stowing Inter-Car Barriers
43.5.2	Position of the Inter-Car Barriers
43.5.3	Deploying Inter-Car Barriers
45.5.4	Stowing Inter-Car Barriers
43.5.5	Reporting Improperly Stowed or Deployed or Broken Inter-Car Barriers

43.5.1 Employee Position for Deploying / Stowing Inter-Car Barriers:

43.5.1.1 Employees deploying or stowing exterior inter-car barriers shall either be positioned on a station platform, or on the track bed or on a catwalk adjacent to the train. Exterior inter-car barriers shall not to be deployed or stowed while the employee is in the operating cab reaching through the cab window or while standing in the bulk head doors.

43.5.1.2 Employees deploying or stowing interior inter-car barriers shall be positioned between the bulk head doors, with one bulk head door propped open with the employee's foot while handling inner inter-car barriers.

43.5.2 Position of the Inter-Car Barriers:

43.5.2.1 Trains shall not be operated with broken or dangling inter-car barriers.

43.5.2.2 Cars that are coupled for mainline operation shall have the inter-car barriers connected to the opposing car.

43.5.2.3 Inter-car barriers shall be stowed on the open ends of the consist.

43.5.2.4 Inter-car barriers of cars to be uncoupled shall be stowed prior to uncoupling the cars.



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### 43.5.3 Deploying Inter-Car Barriers:

#### 43.5.3.1 Deploying Exterior Inter-Car Barriers:

43.5.3.1.1 Remove the exterior inter-car barrier from its stowed position by pushing the inter-car barrier bar down toward the spring end of the bar and the bottom end of the holding bracket.

43.5.3.1.2 Lift the inter-car barrier out of the holding assembly.

43.5.3.1.3 Rotate the inter-car barrier 180 degrees.

43.5.3.1.4 Place the spring end of the inter-car barrier into the top of the holding bracket on the opposite car so the black sheathed spring ropes are parallel to the ground.

43.5.3.1.5 Push the spring end up into the holding bracket of the opposite car and lower the bottom of the inter-car barrier into the bottom receptacle of the holding bracket.

#### 43.5.3.2 Deploying Interior Inter-Car Barriers:

43.5.3.2.1 Release the snap hook from the rope guide.

43.5.3.2.2 Attach the inner barrier to the corresponding rope guide on the opposite car so the black sheathed spring ropes are parallel to the ground.

### 43.5.4 Stowing Inter-Car Barriers (Figure A):

#### 43.5.4.1 Stowing Exterior Inter-Car Barriers:

43.5.4.1.1 Remove the exterior inter-car barrier from its stowed position by pushing the inter-car barrier bar up toward the spring end of the bar and top of the holding bracket.

43.5.4.1.2 Lift the inter-car barrier out of the holding bracket.

43.5.4.1.3 Rotate the inter-car barrier 180 degrees.

43.5.4.1.4 Place the spring end of the barrier bar into the bottom of the holding bracket, push down on the inter-car barrier and place the upper tip of the inter-car barrier into the hole of the holding bracket.



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### 43.5.4.2 Stowing Interior Inter-Car Barriers:

43.5.4.2.1 Release the snap hook from the rope guide on the opposite car.

43.5.4.2.2 Attach the inner barrier to the corresponding rope guide on same car.

### 43.5.5 Reporting Improperly Stowed or Deployed or Broken Inter-Car Barriers:

43.5.5.1 Any WMATA employee witnessing improperly stowed, deployed or broken inter-car barriers shall immediately contact the Train Operator, a Rail Supervisor or Rail Operations Control Center (ROCC) on 202-962-1652.

Provide the following information when reporting improperly stowed inter-car barriers: car number, car place in consist (third car of six car train).

43.5.5.2 The Train Operator or Supervisor once notified of a broken or dangling inter-car barrier shall:

43.5.5.2.1 Notify ROCC if the report came from other than ROCC.

43.5.5.2.2 Inspect the train for dangling or broken inter-car barriers.

43.5.5.2.3 Properly stow, deploy or secure the inter-car barrier (tie-wires are stored in seat wells of the B car).

43.5.5.2.4 If unable to secure inter-car barriers, contact ROCC for instructions.

43.5.5.2.5 ROCC shall determine safe speeds to move train (not to exceed 25 mph) until inter-car barriers can be secured.

43.5.5.2.6 Inform ROCC of the actions taken.

43.5.5.3 The Train Operator or Supervisor shall properly secure broken inter-car barriers or completely remove them prior to moving the train.

## 43.6 REFERENCES

43.6.1 Operating Rule 3.170 (new rule on securing inter-car barriers prior to moving consist).

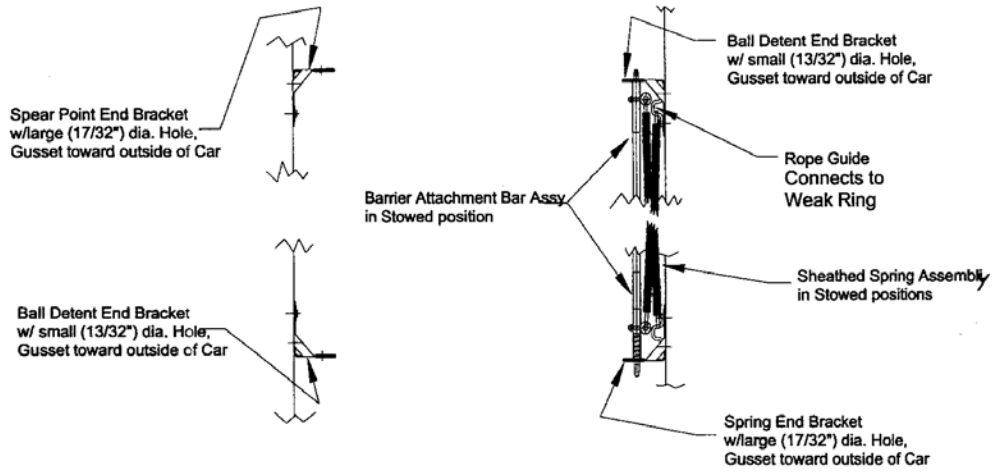
43.6.2 Publication "Don't Be A Barrier Buster".



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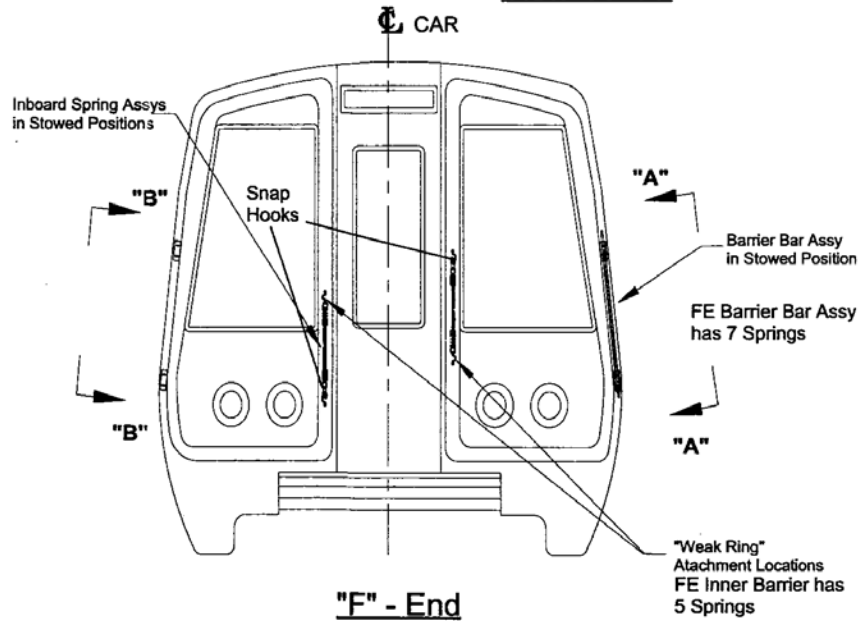
## FRONT END INTER-CAR BARRIER – STOWED

### FRONT END INTER-CAR BARRIER - STOWED (All FE Barriers have a smaller, weak ring)



View "B - B"

View "A - A"



ERRP QA

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Figure A



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**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES**

**SOP # 45 REMOVING REVENUE VEHICLES FROM SERVICE ON MAINLINE  
AND AT TERMINAL LOCATIONS**

**45.1 PURPOSE**

The purpose of these Standard Operating Procedures is to establish procedures for ensuring trains are thoroughly inspected for customers prior to going out-of-service on mainline and/or prior to laying-up in rail yards.

**45.2 SCOPE**

These procedures are applicable to all WMATA personnel responsible for the movement of revenue (Class 1) vehicles on mainline and in rail yards.

**45.3 DEFINITIONS**

45.3.1 Operator: That person on board a rail vehicle having direct and immediate control of the movement of the vehicle.

**45.4 RESPONSIBILITIES**

45.4.1 Managers, Supervisors and ROCC Controllers are responsible for:

45.4.1.1 Familiarization and compliance with the guidelines set forth in this procedure.

45.4.1.2 Ensuring that personnel fully understand the instructions in these procedures.

45.4.1.3 Ensuring the requirements of these procedures are executed properly and in the safest manner possible.

45.4.2 Train Operators and Interlocking Operators are responsible for:

45.4.2.1 Familiarization and compliance with the guidelines set forth in this procedure.

45.4.2.2 Ensuring the requirements of these procedures are executed properly and in the safest manner possible.





# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## 45.5 PROCEDURES

Procedure #	Content
45.5.1	Removing Revenue Vehicles From Service on Mainline
45.5.2	Removing Revenue Vehicles From Service at Terminal Locations
45.5.3	Customer Found on a Non-Revenue Train in a Rail Yard



**Notice:** If a customer refuses to exit an out-of-service train on mainline, at a terminal location and/or in a rail yard, the Operator must immediately contact ROCC, the Terminal Supervisor, or the Tower for assistance.



**Notice:** If a customer on a train is unresponsive, at no time should the customer be removed from the train or the train be moved until medical assistance has transported or treated the customer.

### 45.5.1 Removing Revenue Vehicles From Service on Mainline:

45.5.1.1 When removing revenue vehicles from service on the mainline, Train Operators shall:

45.5.1.1.1 Make the appropriate announcements for customers to safely exit the train and include reason for train being removed from service; include instructions for boarding the next available train;

45.5.1.1.2 Obtain permission from ROCC to walk through interior of the train and inspect each car for customers. If a customer is found on board the train, the Operator must inform ROCC and allow the customer to exit to the platform via the nearest crew door;

45.5.1.1.3 Once all cars are inspected and it is determined that train is clear of customers, the Operator must provide an “all clear” update to ROCC and to return to the lead/operating car, or;

45.5.1.1.4 If permission is not granted by ROCC to inspect the train for customers, the Operator must, after all announcements for customers to exit the train are made and the train doors are closed:

45.5.1.1.4.1 Make an additional announcement that the train is going to move and for any customers still on board to use the intercom to contact the Operator;

45.5.1.1.4.2 Immediately contact ROCC if a customer is still on board and contacts the Operator via the intercom; and



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 45.5.1.1.4.3 No door operations of a non-revenue train are permitted unless the train is properly berthed on a platform and permission is received from ROCC.
  
- 45.5.1.2 ROCC has the authority to bypass the initial inspection of the offloaded train by the Operator and give the following directives to ensure customer safety:
  - Instruct authorized personnel (RTRA Supervisor, Train Operator, Station Manager, CMNT and/or MTPD) to complete a walk-through interior inspection of the out-of-service train at the offloading station or at another station platform.
  
- 45.5.2 Removing Revenue Vehicles From Service at Terminal Locations:
  - 45.5.2.1 When removing revenue vehicles from service at a terminal/end of the line, Train Operators shall:
    - 45.5.2.1.1 Make the appropriate announcements for customers to safely exit the train, include instructions for boarding the next available train and close train doors;
    - 45.5.2.1.2 Obtain permission from the Terminal Supervisor or ROCC to walk through interior of the train and inspect each car for customers. If a customer is found on board the train, the Operator must inform the Terminal Supervisor or ROCC and allow the customer to exit to the platform via the nearest crew door;
    - 45.5.2.1.3 Once all cars are inspected and it is determined that train is clear of customers, the Operator must return to the lead/operating car and request permission to enter the yard, or;
    - 45.5.2.1.4 If permission is not granted by the Terminal Supervisor or ROCC to inspect the train for customers, the Operator must, after all announcements for customers to exit the train are made and the train doors are closed:
      - 45.5.2.1.4.1 Make an additional announcement that the train is going to move and for any customers still on board to use the intercom to contact the Operator;
      - 45.5.2.1.4.2 Immediately contact the Terminal Supervisor or ROCC if a customer is still on board and contacts the Operator via the intercom;
      - 45.5.2.1.4.3 Inform the tower whether a walk-through interior inspection has or has not been completed;



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 45.5.2.1.4.4 Until a walk-through interior inspection of the out-of-service consist has been completed by the Operator or yard personnel, the following activities are prohibited: any door operation; any separation of the consist, and; any car washing of the consist;
- 45.5.2.1.4.5 Adhere to MSRPH Operating Rule 3.126 (Storing Class 1 Vehicles) and Operating Rule 3.127 (Removing Class 1 Vehicles from Storage).
- 45.5.2.1.5 The Terminal Supervisor or ROCC has the authority to bypass the inspection of the out-of-service train by the Operator and give the following directives to ensure customer safety:
  - 45.5.2.1.5.1 Instruct authorized personnel (RTRA Supervisor, Train Operator, Station Manager, CMNT and/or MTPD) to complete a walk-through interior inspection of the out-of-service train at the station platform, or;
  - 45.5.2.1.5.2 If the Terminal Supervisor or ROCC does not grant permission to inspect the train for customers, the Terminal Supervisor will direct the Operator to inform the tower that a walk-through interior inspection has not been completed.
- 45.5.3 Customer Found on a Non-Revenue Train in a Rail Yard:
  - 45.5.3.1 If a customer is found on a non-revenue train in a rail yard, operating personnel shall:
    - 45.5.3.1.1 Immediately notify the Tower that a customer was found on a train, the Tower must immediately notify ROCC;
    - 45.5.3.1.2 Provide the train's location, car number, the condition of the customer and if medical assistance is requested or needed to ROCC and the Tower;
    - 45.5.3.1.3 ROCC shall notify Division Management and dispatch a Supervisor to interview the customer and gather the following information:
      - 45.5.3.1.3.1 The customer's Name, Address, Date of Birth and Phone Number;
      - 45.5.3.1.3.2 Their originating station;
      - 45.5.3.1.3.3 Their original destination, and;
      - 45.5.3.1.3.4 Their reason, if known, for remaining on the out-of-service train;



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 45.5.3.1.4 Be governed by ROCC as to the safest method of returning the customer to the Metrorail system.

### 45.6 REFERENCES

- 45.6.1 MSRPH Operating Rule 3.126

*3.126 When storing Class I Rail Vehicles, operators shall:*

- a. secure cars being stored a minimum distance of two (2) feet apart at all storage locations, yards and/or tail tracks;*
- b. set handbrakes on at least two cars;*
- c. set a sufficient additional number of handbrakes for the grade on which the cars are being stored;*
- d. ensure that the cars being stored are not fouling other tracks; and*
- e. if the consist is to be stored for more than 15 days, the consists shall be chocked and blue flagged.*

- 45.6.2 MSRPH Operating Rule 3.127

*3.127 Train Operators removing Class I cars from storage or preparing Class I cars for passenger service shall perform an interior and exterior inspection, and perform a Rolling and Rolling Brake Test prior to initiating general operation of the consist.*



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
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# Temporary Orders

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES



Washington Metropolitan Area Transit  
Authority

METRO RAIL SAFETY RULES AND PROCEDURES HANDBOOK

TEMPORARY ORDER

NO. T-11-04 Twinbrook Inaccessible Track

Date: Monday, February 28, 2011

TO: All Personnel

This Special Order temporarily suspends the requirements of SOP #33 REMOVAL AND RESTORATION OF THIRD RAIL POWER FOR WORK BY CONTRACTOR FORCES – MAINLINE REVENUE SYSTEM, Sections 33.2.f.3 and 33.4.e.3 allowing for the placement of the shunts and lights at less than 500 feet from the end of the actual work area at the north end of the Twinbrook Station platform track 1 or track 2 during the weekend shutdowns and weeknights early outs (February 28<sup>th</sup>, 2011 – August 31<sup>st</sup>, 2011), for the performance of work required for the Redline Metro Rehabilitation Project platform work on the A-Line.

This Special Order applies only to the work described in the Site Specific Work Plans for "Twinbrook Platform Rehabilitation" and expires on the completion of the work.

The following actions shall be taken in lieu of the protection as dictated in SOP 33.2.f.3 and 33.4.e.3 for protection the aforementioned work areas beginning at CM A1 or A2 700+40.

- All Revenue trains shall service Twinbrook via the platform on the opposite track work is being performed.
- Shunt straps shall be installed at the interlocking north side of the station. These straps will be installed on the platform side of the insulated joints at CM A1 or A2 700+65.
- Red Flags during daylight/lanterns after dusk shall be placed across the track at CM A1 or A2 700+60.
- A derailer shall be installed at CM A1 or A2 700+55 per Permanent Order T-10-04 rev 1 on the use of derailleurs.
- A orange snow fence will be installed between the shunt straps and the derailleurs
- At A13 interlocking, when working on Track 1, prohibit exit shall be placed on A13-04 and A11-26 signals. When working on Track 2, prohibit exit shall be placed on A13-08 and A11-30 signals.

Temporary Order T-11-04

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES

Approval of Temporary Order T-11-04

*Charles J. Dziduch*

Recommended:  
Charles J. Dziduch  
Chair  
Rail Rule Book Committee

*Hercules Ballard* *For Hercules Ballard*

Concur:  
Hercules Ballard  
Managing Director  
Department of Rail Transportation

*Clay A. Kelly*

Concur:  
Darvin Kelly  
General Superintendent  
Track and Structures, Systems  
Maintenance

*Dave J. Kubiczek*

Approved:  
Dave J. Kubiczek  
Assistant General Manager  
Transit Infrastructure and Engineering Services

*James M. Dougherty*

Concur:  
James M. Dougherty  
Chief Safety Officer  
System Safety and Environmental  
Management





WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES



Washington Metropolitan Area Transit Authority

METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

TEMPORARY ORDER

NO: T-10-11 - ETO Block Work Zone Protection Procedures

DATE: May 27, 2010

TO: All Personnel

Temporary Order T-10-11 establishes a new SOP #44 Exclusive Track Occupancy Block Work Zone Protection. The purpose of ETO Block Work Zones is to improve the safety of individuals conducting track inspections by:

- condensing the area of ROW track inspection to occur between five to seven consecutive stations,
- providing flagging protection and notification to Train Operators at the station prior to entering the work zone,
- reducing the speed of trains traveling through the block work zone to 35 mph, and,
- utilizing watchman/lookouts for each gang within the ETO Block Work Zone.

The Order also introduces and defines new terms which will appear in the next MSRPH and is part of the WMATA effort to adopt right-of-way protection terms and procedures used by the Federal Railroad Association (FRA). The new terms are Right-of-Way Worker In Charge, Exclusive Track Occupancy (ETO) and ETO Block Work Zone Protection.

SOP #44 may be a stand-alone SOP or part of SOP #28 in the next revision of the MSRPH if the procedures become permanent. Please see attached SOP #44.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
STANDARD OPERATING PROCEDURES

Approval of Temporary Order T-10-11

*Charles J. Dziduch*

Recommended:  
Charles Dziduch  
Rule Book Committee Chair

*Daniel Epps III*

Concur:  
Daniel Epps, III  
Managing Director,  
Department of Rail Transportation

*D. J. Kelly 6/14/10*

Concur:  
Darvin Kelly  
General Superintendent  
Track and Structures, Systems  
Maintenance

*Dave J. Kubicek*

Approved:  
Dave J. Kubicek  
Assistant General Manager,  
Transit Infrastructure and Engineering  
Services and  
Acting Deputy General Manager for  
Operations

*James M. Dougherty 4/21/10*

Concur:  
James M. Dougherty  
Chief Safety Officer



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### SOP # 44 EXCLUSIVE TRACK OCCUPANCY (ETO) BLOCK WORK ZONE PROTECTION

#### 44.1 PURPOSE

44.1.1 The purpose of ETO Block Work Zones (see figure 1) is to improve the safety of individuals conducting track inspections by:

44.1.1.1 Condensing the area of Roadway track inspection to occur between any number of consecutive stations,

44.1.1.2 Providing flagging protection and notification to Train Operators at the station prior to entering the work zone,

44.1.1.3 Reducing the speed of trains traveling through the work zone to 35 mph, and;

44.1.1.4 Utilizing Watchman/Lookout(s) for each gang within the ETO Block Work Zone.

#### 44.2 SCOPE

44.2.1 ETO Block Work Zone procedures apply to all WMATA and non-WMATA personnel who work in or control train movement through the ETO Block Work Zone.

#### 44.3 DEFINITIONS

44.3.1 Exclusive Track Occupancy - Exclusive Track Occupancy is where the authority to permit train and track equipment to move into or through any given work limits rests solely with the RWIC. This authority is transferred to the RWIC from the ROCC.

44.3.2 ETO Block Work Zone - Multi-station work zones where ETO procedures are in effect. Additional protection is provided by reducing the speed of all vehicles and track equipment. Vehicles proceed through the block zone at no more than 35 mph. Operators will receive specific instruction from on-site personnel. This unique protection applies to Track Inspections ONLY and access to **ONE TRACK AT A TIME**.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

44.3.3 Roadway Worker In Charge (RWIC) - A qualified employee responsible for the Roadway safety for all work gangs within their working limits. The RWIC shall:

- Conduct an on-track job safety briefing before any worker fouls a track,
- Communicate with ROCC,
- Designate the working limits,
- Identify the type of On-Track protection to be used,
- Assign and position the Flagperson and/or Watchman/Lookout(s).

44.3.4 Watchman/Lookout(s) - A qualified employee who provides warning to Roadway workers of approaching trains and/or track equipment. A Watchmen/Lookout's sole duty is to warn workers to move to, and remain in, a place of safety 15 seconds before the arrival of trains or rail vehicles.

### 44.4 RESPONSIBILITIES

44.4.1 RWIC – The RWIC is responsible for the whereabouts of all crews in the ETO Block Work Zone, ensuring all rules and procedures are followed, conducting safety job briefings and coordinating train movement within the block zone with ROCC. The RWIC shall authorize the RTRA Supervisor to allow trains to proceed past red lanterns at the beginning of the work block and enter the block work zone.

44.4.2 ROCC Controllers and Supervisors are responsible for establishing block zone protection with RTRA Supervision and train movement at the direction of the RWIC.

44.4.3 RTRA Supervisors / Coordinators are responsible for notifying Train Operators that they are entering an ETO Block Work Zone, the limits of the work zone and providing the Operator's operating instructions while traveling through the work zone. The RWIC shall authorize the RTRA Supervisor to allow trains to enter the work zone once proper instruction is provided, or, halt train movement if necessary.

44.4.4 Train Operators are to follow the RTRA Supervisor's instructions when entering the ETO Block Work Zone.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
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44.5 PROCEDURES

Procedure #	Content
44.5.1	ROCC Prior Notification and Pre-Job Safety Briefing
44.5.2	ETO Block Work Zone Set-up
44.5.3	ETO Block Work Zone Protection Implementation
44.5.4	PPE, Restrictions and Hand Signaling

44.5.1 ROCC Prior Notification and Pre-Job Safety Briefing:

44.5.1.1 The Track Inspection Manager shall send Form EB-332 (see appendix A) to ROCC 12 hours prior to the work zone being established. The final schedule with any updates will be provided at least 1 hour prior to implementation of the work zone. This form shall list:

44.5.1.1.1 RWIC.

44.5.1.1.2 Date and time block zone will be used.

44.5.1.1.3 Route (A-line, B-line, C-line).

44.5.1.1.4 Location of block zone.

44.5.1.1.5 Number of work gangs.

44.5.1.1.6 Identification of each Watchman/Lookout.

44.5.1.1.7 Radio call number for each Watchman/Lookout(s).

44.5.1.2 RWIC shall make sure a Roadway job safety briefing occurs before any worker enters the Roadway. This briefing shall include all workers entering into the requested work limits.

44.5.1.3 The RWIC shall direct RTRA Coordinator(s) to instruct each rail vehicle operator who enter the Block Zone to switch to manual mode. Trains or rail equipment entering the block zone shall proceed at no more than 35 MPH. All trains and rail equipment shall be prepared to stop when any work gang is sighted.

44.5.1.4 The RWIC shall direct RTRA Coordinator(s) to instruct each rail vehicle operator to STOP if they do not receive the **proper proceed signal or gangs do not clear.** This signal shall come from the Watchman/Lookout(s) of each work gang they encounter.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 44.5.1.5 The RWIC shall instruct each Watchman/Lookout(s) to remain vigilant in detecting trains or rail equipment.
- 44.5.1.6 RWIC shall refer to Section 20 of the RWP Manual (when released) and SOP 28 for power outages.
- 44.5.1.7 RWIC shall establish the work limits by contacting ROCC by radio and:
  - 44.5.1.7.1 Identify who the RWIC is, and;
  - 44.5.1.7.2 Request block zone protection, and;
  - 44.5.1.7.3 Identify track number and location. The location can be obtained by chain marker identification, or station name, and;
  - 44.5.1.7.4 Confirm that ROCC received Form EB-332 form containing the specific information pertaining to the duties being performed.
- 44.5.2 ETO Block Work Zone Set-up:
  - 44.5.2.1 Once ROCC has be granted the RWIC permission to establish Block Zone Protection, the RWIC shall:
    - 44.5.2.1.1 Establish flagging protection by placing:
      - 44.5.2.1.1.1 GREEN lanterns at the end of the Block Zone. The green lanterns shall be a minimum of 15 feet past the 8 car marker between the adjacent rail and the safety walk at the end station.
      - 44.5.2.1.1.2 Two RED lanterns at the starting station of the Block Zone. The lanterns shall be placed at the far end of the platform in the direction of normal traffic flow. Two Red lamps shall be placed a minimum of 15 feet past the 8 car marker between the adjacent rail and the safety walk. It is important to allow the approaching train to pull up to the platform completely.  
  
Note: Multiple RTRA Coordinators and Red lantern placements shall be required one station prior to converging lines that enter into a block zone.
    - 44.5.2.1.2 Ensure that only one track at a time is being used.
  - 44.5.2.2 The RWIC shall inspect the flagging equipment to ensure it is functional.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 44.5.2.3 The RWIC shall inspect the Watchman/Lookout(s) equipment to ensure it is functional.
- 44.5.2.4 The RWIC shall ensure they have the ability to communicate with each work gang at all times.
- 44.5.2.5 The RWIC shall ensure they have the ability to communicate with the RTRA Coordinator(s) at all times.
- 44.5.2.6 The RTRA Coordinator shall monitor their radio AT ALL TIMES, on the proper channel.
- 44.5.2.7 Watchman/Lookout(s) shall monitor their radio AT ALL TIMES, on the proper channel.
- 44.5.2.8 If radio communications are lost, the RTRA Coordinator shall instruct all rail vehicles operators entering the work zone to travel at restricted speed and be prepared to stop. The RWIC shall clear work gangs within block zone.
- 44.5.2.9 The RWIC shall provide oversight of each work gang. The RWIC shall not perform any other duties while providing oversight.
- 44.5.2.10 The RWIC shall never permit any work gang to enter the adjacent track. If access to the adjacent track is necessary, authorization must be obtained from ROCC and protection must be established before any worker can enter into that track.
- 44.5.3 ETO Block Work Zone Protection Implementation:
  - 44.5.3.1 The RTRA Coordinator shall notify the RWIC of the number of the lead car that enters the block work zone.
  - 44.5.3.2 The RTRA Coordinator shall communicate to each and every rail vehicle operator entering into the Block Zone that:
    - 44.5.3.2.1 The operator is entering a Block Zone Protection area.
    - 44.5.3.2.2 The operator shall switch to manual mode. Speed shall be reduced to no more than 35 mph. Operators shall reduce speed at the sight of personnel.
    - 44.5.3.2.3 The operator shall be prepared to stop at any time while in the Block Zone.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

- 44.5.3.2.4 Work gangs are in the area throughout the entire Block Zone.
- 44.5.3.2.5 STOP the vehicle if the PROPER proceed signal is not received or personnel are not clear.
- 44.5.3.3 The RTRA Coordinator shall accept STOP commands from every source. Once a STOP command has been received, the RTRA Coordinator shall stop all trains and rail equipment from entering the block work zone. The RTRA Coordinator shall notify the RWIC before permitting any further train or rail equipment movement into the work zone.
- 44.5.3.4 The RTRA Coordinator shall notify the RWIC and ROCC if any rail vehicles run flagging protection.
- 44.5.3.5 The Watchman/Lookout(s) shall remain vigilant for train detection at all times.
- 44.5.3.6 The Watchman/Lookout(s) shall perform no duties other than Watchman/Lookout.
- 44.5.3.7 The Watchman/Lookout(s) shall never be out of range of work gang's ability to receive a proper warning.
- 44.5.3.8 The Watchman/Lookout(s) shall provide an audible signal to worker of the approach of any train or rail equipment.
- 44.5.3.9 Watchman/Lookout(s) shall have a working WMATA approved radio. The radio shall be set to the correct channel.
- 44.5.3.10 Watchman/Lookout(s) shall monitor the radio at all times.
- 44.5.3.11 Only the Watchman/Lookout(s) shall give a proceed signal to train or rail equipment.
- 44.5.3.12 The Watchman/Lookout(s) shall communicate all safety concerns to the RWIC as soon as possible.
- 44.5.3.13 For ETO block work zones, the Watchman/Lookout(s) shall be able to communicate directly with ROCC and vice-versa.
- 44.5.3.14 The Watchman/Lookout(s) can request additional on-track protection from ROCC if it is necessary.





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- 44.5.3.15 The Watchman/Lookout(s) shall make sure that all workers move to a place of safety until the RWIC can address all safety concerns.
- 44.5.4 PPE, Restrictions and Hand Signaling:
- 44.5.4.1 The minimum PPE requirements for the RWIC and Watchman/Lookout(s) are:
- 44.5.4.1.1 Hard hat, if necessary.
- 44.5.4.1.2 Safety glasses, if necessary.
- 44.5.4.1.3 Class 3 WMATA Approved Safety Vest or Class 3 WMATA approved apparel.
- 44.5.4.1.4 Working flashlight with a minimum of 100 lumens when available.
- 44.5.4.1.5 Whistle.
- 44.5.4.1.6 Approved WMATA radio, in working order, set on the correct channel.
- 44.5.4.1.7 Working Hot Stick.
- 44.5.4.2 In the event of a dead head train (out of service train) approaches the Block Zone; the RTRA Coordinator shall STOP the train and follow procedure 44.5.3.2 of this SOP.
- 44.5.4.3 Rail operators operating dead head trains shall be prepared to stop at all times while in the Block Zone.
- 44.5.4.4 In the event any rail unit breaks down within the Block Zone, ROCC shall immediately notify the RWIC.
- 44.5.4.5 There shall be NO reverse moves of any rail unit into the Block Zone. If ROCC requires reverse moves to occur in the Block Zone, ROCC shall direct RWIC to clear all personnel in the Block Zone. Reverse traffic will be allowed once the all clear is provided by the RWIC.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

44.5.4.6 A Watchman/Lookout(s) signaling a train or rail equipment shall:

44.5.4.6.1 The Watchman/Lookout(s) shall face the oncoming vehicle to be flagged.

44.5.4.6.2 Give the proceed signal by moving their arm straight up and down in a vertical motion. No proceed signal shall be given if the tracks are not clear for traffic.



44.5.4.6.3 Give the proceed signal to trains or rail equipment on the adjacent track if it is safe to do so.



44.5.4.6.4 Not give any proceed signal to trains or rail equipment on the adjacent track if work gangs are on the adjacent track.



44.5.4.6.5 Stop a train or rail vehicle by waving their arm back and forth horizontal to the tracks. The Watchman/Lookout(s) shall continue this action until the train or rail equipment comes to a complete stop.



44.5.4.6.6 Slow down the train or rail vehicle, on either track, by extending their arm horizontal to the track. The arm must be fully extended with the hand clutched into a fist.



### 44.6 REFERENCES

44.6.1 SOP #28

44.6.2 Roadway Worker Protection Manual



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Appendix A

Form EB-332      **ETO BLOCK WORK ZONE**

Julian Date: \_\_\_\_\_ Line: \_\_\_\_\_ Time Start: \_\_\_\_\_

RWIC: \_\_\_\_\_

Track: 1 2    Chain Markers: From: \_\_\_\_\_ To: \_\_\_\_\_

Start Station: \_\_\_\_\_ End Station: \_\_\_\_\_

	Gang Leader	Radio #	Sta. Start	Time Start ***	Sta. Finish ***	Stop Time ***
1						
2						
3						
4						
5						
6						
7						
8						
9						
15						

**I certify I have reviewed the Roadway Access Guide and am aware of potential hotspots and no clearance areas with the ETO Block Work Zone as described above. I have also sent an exact copy to ROCC prior to initiating the ETO Block Work Zone.**

\_\_\_\_\_ Date \_\_\_\_\_  
RWIC signature

Note:

**\*\*\* Areas to be filled out by the RWIC on site**



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

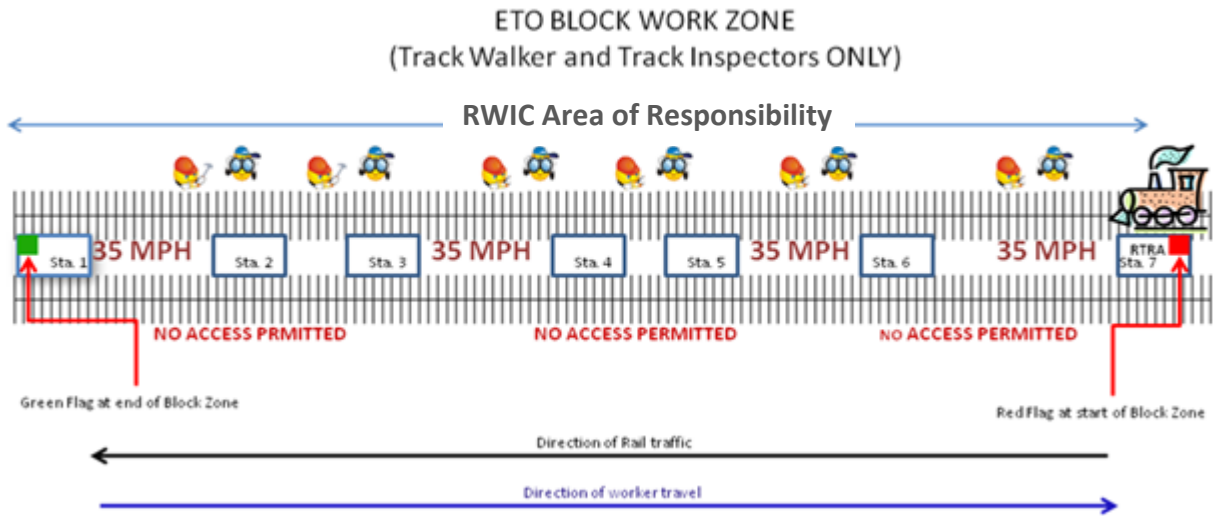


Figure 1

# Glossary

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## Glossary of Terms

### 0-9

**3rd rail:** See - third rail.

**3rd track/Pocket Track:** A center track within the mainline track for the purpose of holding or turning trains.

### A

**absolute block:** An absolute block is a section of track that shall not be occupied by more than one train or track equipment.

**access rights:** Permission to enter the Roadway.

**accident:** An unforeseen event or occurrence which results in injury or property damage.

**actual work zone:** A segment of track **within** established working limits that is being occupied for maintenance and repair.

**adjacent track(s):** The track(s) next to and parallel with the track where you are located.

**advanced watchman/lookout:** A qualified Watchman/Lookout who is, in addition to the work zone, Watchman/Lookout. Watchman/Lookouts shall always be within sight and audible warning of the next or preceding Watchman/Lookout. The sole duty of advanced Watchman/Lookout is to warn the work zone Watchman/Lookout of the approach of trains or rail equipment.

**aerial structure:** A track support structure which carries the track above the local surrounding ground level.

**align:** To position switches for a selected route.

**alignment:**

1. A railroad's horizontal location as described by tangents and curves.
2. The positioning of switch points.

**alignment bar:** A pointed, long (approx. 5') and heavy (approx. 20 lb.) pry bar used for positioning Switch Points when a Switch Machine is unable to do so.



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**ample time:** Provides for workers to be in the clear before the train or rail equipment arrives at the work location or sufficient levels of protection which permits workers time to clear the tracks without urgent movement (i.e. Exclusive Track Occupancy, Inaccessible Track, or Foul Time). *Generally, workers should be in the clear 15 seconds prior to the arrival of a train or rail equipment.*

**approach:** A predetermined block, upstream from an interlocking signal and ending at the signal location.

**aspect:** The visual appearance of a flag or lantern or of the illuminated lenses of a wayside signal, as viewed from the direction of an approaching train or a cab signal as viewed by an observer in the cab. An aspect conveys an indication (See also: indication).

**ATC:** *acronym:* Automatic Train Control System

**ATC speed limit:** The upper limit of safe train speed as enforced by the ATP subsystem.

**ATO:** *acronym:* Automatic Train Operation

**ATO marker:** A wayside, passive, electronic device installed between the running rails at a precise location to convey grade, distance and program station stopping information to passing trains via a tuned frequency between 90MHz and 180MHz.

**ATO speed limit:** The upper limit of train speed as enforced by the ATO subsystem.

**ATP:** *acronym:* Automatic Train Protection

**ATP speed sensor:** An electro-magnetic device mounted on the front truck of the A car of a married pair which outputs a frequency, proportional to train speed, for use by the train's ATP overspeed protection circuits.

**ATS:** *acronym:* Automatic Train Supervision or Automatic Transfer Switch.

**ATS speed limit:** One of the fourteen selectable speeds ranging from 14 mph to 79 mph, in increments of 5 mph, which can be selected for a train as the regulating speed. Four of the speeds are programmed on the TWC in the TCR, and one of those four is selected by ROCC when selecting the performance level.

**audio frequency track circuit:** A double rail track circuit, designed to be energized by alternating current in the audio frequency range, especially the code rated frequencies between 2100Hz and 3900Hz. Track circuit isolation is achieved with specially tuned impedance bonds.

**authority:** Washington Metropolitan Area Transit Authority.



**automatic block signal system:** A series of consecutive blocks governed by wayside signals, cab signals or both, actuated by certain conditions affecting the use of a block.

**automatic interlocking:** An interlocking which uses automatic signals.

**automatic signal:** An interlocking signal which can be established automatically by logic circuits which either evaluate the train's Destination Codes (Diverging) or Block Occupancy (Converging).

**Automatic Train Control System (ATC):** The system for automatically controlling the train movement, enforcing train safety, and directing train operations. ATC includes subsystems for Automatic Train Operation, Automatic Train Protection, and Automatic Train Supervision.

**Automatic Train Operation (ATO):** That subsystem within the ATC System which performs functions normally performed by the operator. Those functions are acceleration, deceleration, speed regulation, programmed stopping, and door control (in conjunction with ATP and the Train-to-Wayside Communication System).

**Automatic Train Protection (ATP):** That subsystem within the ATC System which enforces safe operation of the system. It imposes speed limits both to maintain safe train separation and to operate trains in accordance with civil speed restrictions. At interlockings, ATP ensures that train movement is permitted only when a route is available through the interlocking, and the switches are safely locked in position. In all cases where two or more trains request the use of a single segment of track or interlocking, the ATP prevents occupancy by more than one train.

**Automatic Train Supervision (ATS):** That subsystem within the ATC System which monitors the system status and provides the appropriate controls to direct the operation of trains in order to maintain traffic patterns and minimize the effect of train delays by controlling arrival and departure times, and by using Operations Control Center computer programs to accomplish minor schedule adjustments.

**aux call:** See - auxiliary switch operation

**auxiliary switch operation:** A method of power operating a switch machine by independent manual control without calling for a signal to clear.





## **B**

**ball:** The top section of the rail; the head (See also: base (of rail) and web).

**ballast:** The coarse gravel laid to form a bed for a railroad, for the purpose of holding track in line and surface.

**ballast regulator:** A machine for distributing equal amounts of ballast.

**base (of rail):** The bottom section of the rail (See also: ball and web).

**belly:** Any car or pair between others in a consist.

**berth:** The portion of track occupied by a train for loading and discharging passengers.

**berthing:** The precise positioning and stopping of a train at a passenger station platform.

**BIE:** *acronym:* Brakes In Emergency

**block:**

1. A length of track with defined limits on which train movements are governed by the automatic train protection signaling system or by instruction from Rail Operations Control Center (See also: absolute block, interlocking block, permissive block, switch block, and traffic block).
2. A yellow, 18" long, 2" thick, 4.5" wide on one end, and 6" wide on the other end, wooden wedge designed to be forced between an open switch point and the stock rail of a track switch, to hold the other switch point firmly against its stock rail.

**block box:** See - interlocking equipment box.

**block call:** A lock that ROCC initiates on a particular switch which prevents it from being thrown.

**block tag:** A serial numbered tag which is hung on a racked-out breaker during a power outage.

**blue flag:** A flag or signaling device that is placed on a rail vehicle indicating that workers are around or under the rail vehicle. When the flag is displayed, the rail vehicle cannot be moved or coupled to.

**blue flag protection:** A procedure that prevents access to a track, train, or other equipment stored in a rail yard or storage tracks.

**blue lantern:** A lamp that serves the same purpose as a blue flag that is used during low visibility situations.



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**blue tag:** A tag attached to the master controller of a railcar, or in the control area of equipment, to indicate that the equipment is not to be keyed up or moved.

**bobbing:** The track circuit action of falsely alternating indications of occupancy and vacancy.

**bomb threat:** Any form of communication which relays a threat to cause harm/injury/death or destruction to any person, place, or thing by the means of an explosive or an incendiary device as defined by the Bureau of Alcohol, Tobacco, and Firearms (ATF), a federal agency.

**bond:** A permanent joining of metallic parts to form an electrically conductive path to assure electrical continuity and capacity to conduct safely any current likely to be imposed (See also: cross bond, impedance bond, negative return bond and substation return bond).

**Brakes In Emergency (BIE):** Application of the emergency braking system.

**buggy:** A very light rail vehicle used for transporting long lengths of rail.

**bulkhead door:** The train door on the end of the car used for employee passage from car to car or for embarking and disembarking between stations.

**bumping post:** A structure at the end of the tracks to prevent cars from rolling off.

## C

**cab:** The compartment of any rail vehicle from which propulsion and braking are manually controlled.

**cab signal:** A signal in the Train Operator's cab which indicates prevailing speed commands, and conveys ATC System aspects. Also the electronically coded Audio Frequency signal transmitted from the track to the train for this purpose.

**call:** See - switch call

**car, revenue:** See - Class I vehicle.

**car, work:** See - Class II vehicle.

**cat walk:** A narrow, often elevated walkway, as on the sides of a bridge or in the flies above a theater stage. *slang for:* safety walk.

**center stop:** The most common, and the default, program station stop which berths the train at the center location of the platform. All eight-car and six-car trains always make this stop. Four-car and two-car trains are governed by the type of stop picked up from the 1200 foot (F2) and 484 foot (F3) ATO Marker pairs.



**central control:** See – Rail Operations Control Center (ROCC).

**CFR:** *acronym:* Code of Federal Regulations.

**chain:** A distance of one hundred (100) feet.

**chain marker:** A survey stationing marker located every chain along the tracks identifying the distance, in multiples of 100 feet, to the middle of the Metro Center platform (or to the most inbound end of the rail line, if the line does not pass through Metro Center). Track locations are expressed to the nearest foot by a letter representing the line, the track number, a hyphen, the nearest chain marker inbound from the location, a plus sign and the number of feet from that chain marker. (“C1-52+80” is the track location 80 feet outbound from the 52nd chain marker on track #1 of the “C” line, a location 5,280 feet from Metro Center.)

**Chief Safety Officer (CSO):** Head of the WMATA Safety Department

**circuit controller:** A device for opening and closing electric circuits, especially switch position circuits when operated by a rod connected to a switch point.

**civil speed limit:** For a given section of track, the maximum speed allowed as determined by the physical characteristics of the track structure and limited to ensure the comfort of passengers on trains and station platforms.

**clamp:** A lockable threaded device for clamping the base of a closed moveable switch point to the base of the adjacent stock rail.

**Class I vehicle:** Any rail vehicle designed to transport customers.

**Class II vehicle:** Any rail vehicle designed only for maintenance purposes.

**clear:**

1. A term used in conjunction with a definite action so as to release control from one person to another, or
2. The state of a Controlled Signal when the proceed/lunar aspect is displayed, or
3. While on mainline, safely outside the dynamic outline of a train or clearance envelope for trains or Rail equipment on the active track, or
4. Safely away from the moving parts of a track switch or electrical circuit, or
5. Beyond an identified location (clear work zone, clear signal A15-08)
6. The term “Clear” shall **not** be used in conjunction with radio communications as a means to respond to a directive.

**clearance point:** The location between diverging tracks of a turnout at which the Authority’s required vehicle clearance is achieved between diverging tracks. This point is usually defined by its distances (along each of the diverging tracks) from the PS.



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**clearance report:** A report made by the personnel participating in the LOTO, who will inform the power coordinator that all personnel and equipment are clear of the work area.

**close-in evacuation:** The process of pulling a train as close as possible, without coupling, to a train that is berthed on the platform. The customers are ushered through the bulkhead doors into the empty train and onto the platform through open doors.

**closing-in:** Operation of a following train toward a preceding train that is either stopped or running slower than the following train.

**code 34:** The radio code, for the situation characterized by a failure of the ROCS or a large section of the DTS and during which ROCC is unable to remotely control and monitor the system for more than a few minutes. The “Code 34” is declared by ROCC and announced by MOC. Local interlocking control panels are staffed by ATCS technicians and RTRA supervisors until the system is restored.

**collector shoe:** The carborne device designed to slide on the third rail to pick up DC propulsion current.

**collision:** Whenever a train comes into contact with another object from the front, rear or side, other than appropriate train couplings.

**common corridor:** The shared transportation Roadway such as where Metrorail runs in the median strip of an interstate highway or adjacent to or between railroad tracks.

**conditional fleeting:** An NX feature, by which a signal can be fledted for only one of the routes it governs.

**confined space:** A space that is large enough and so configured that an employee can bodily enter to perform work, has limited or restricted means for entry or exit and is not designed for continuous employee occupancy.

**consist:** The number, type and specific identity of cars that make up a Train.

**contractor:** A person or business entity that is hired by WMATA to perform work, but is not an employee of WMATA.

**controlled signal:** A wayside signal capable of displaying either a stop aspect or a proceed aspect, determined by fail-safe circuitry.

**controller:** A person with the authority for controlling mainline operations.

**converging route:** One, of two or more routes sharing a common exit point and requiring different switch positions for trailing moves over the same switch (See also: diverging route).



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**convoy:** A convoy is a pre-determined series of consists (each being either an individual Class II Vehicle or a work train), preferably with operable brake lights, including one lead consist, one tail consist, and any number of vehicles or work trains between them, intended to proceed to the same work area destination as a single unit sharing a convoy block.

**convoy block:** A convoy block is a section of track between two specific locations (limits) into which no other train or equipment is permitted to enter while it is occupied by a convoy.

**correspondence:** See - switch correspondence

**couple:** To connect two transit vehicles by pushing their aligned automatic couplers together.

**coupler:** A mechanical device on each end of a car used to connect one car to another.

**coverboard:** The insulated cover above (and in some cases, behind) the third rail to prevent inadvertent contact with the rail and to minimize snow and ice accumulation on it. The coverboard also serves as a third rail locator, especially in yards, when the level of snow is above the third rail.

**crank:** See - hand crank

**crib heater:** A heater (pan or tape) in the crib under switch rods to prevent accumulation of snow or ice.

**cross bond:** An electrical connection between center taps of impedance bonds on adjacent tracks used to balance negative propulsion return currents between tracks.

**cross tie:** One of the beams, usually made of wood, that are laid across a railroad bed to secure the rails, to maintain gauge, to cushion and to distribute stresses through the ballast.

**crossing:** A track structure used where one track intersects and crosses another at grade, consisting of four connected frogs.

**crossing gate:** The device which protects against collisions between roadway vehicles and rail vehicles at a grade crossing by obstructing roadway traffic usually with a gate, flashing lights and a bell.

**crossover:** Switches and tracks arranged to provide a route from one track to another (See also: diamond crossover, double crossover, and universal crossover).

**crotch:** See – pocket

**CTS:** *acronym:* Cable Transmission System.



**cut:** To separate pair(s) of cars from a consist.

## D

**Daily Safety Test (DST):** The operational test of the carborne speed command module prior to being permitted to operate in the automatic mode in revenue service.

**Data Transmission System (DTS):** The bi-directional, non-vital, digital communications system between the ROCC and the TCR.

**dead section:** A section of track, either within a track circuit or between two track circuits, the rails of which are not part of a track circuit.

**deadhead:** A non-revenue vehicle marked “Not In Service.”

**deadman control:** A control safety device that requires continuous pressure or activity; used to detect the inattention or disability of an operator.

**derail:** A track device used to prevent movement of rolling stock by forcing its wheels off the rail. The device uses a derail block on top of the running rail when in the “normal” position to force wheels off the rail. WMATA’s derails are numbered switches in a route and are controlled by switch machines. The derail must be in the “reverse” position, (i.e. in the cradle) to pass a train either direction through a route associated with its nearest signal or nearest track switch. The derail can be hand cranked but cannot be blocked or clamped like a switch.

**derail device:** A fixed or portable safety device designed to guide rail vehicles off the track. The device is used for protection and collision avoidance.

**derailment:** The unintentional removal of one or more train wheels from the running rail(s).

**designee:** Any person(s) assigned by a manager to act on their behalf.

**destination code:** The two digit (decimal) number used to identify a train’s terminal or non-revenue destination, dialed in by the operator and conveyed to ROCC via TWC and the DTS, used to control the carborne destination signs and automatic routing for the train (See also: train identity).

**destination sign:**

1. The automatic signs on the train, which indicate the destination of the train.
2. One or more fixed signs, in the last station platform before a diverging junction, visible from the platform and the operator’s cab, which indicate the destination of the train.



**diamond crossover:** A double crossover in which two (concurrent) crossover tracks intersect at a diamond crossing.

**dispatch:** To start a train into passenger service from a terminal, yard or intermediate location.

**dispatch loop:** A loop of single conductor, encapsulated in a rubber hose and laid parallel to the running rails used for the dispatch receiver's train TWC signal reception.

**diverging route:**

1. One, of two or more routes sharing a common entrance point and requiring different switch positions for facing moves over the same switch (See also: converging route).
2. A route which includes a facing move over a switch in its "reverse" position, usually departing from the tangent alignment of the switch.

**double crossover:** A pair of crossovers, one of the facing point type and another of the trailing point type, located in close proximity between the same two tracks. These two crossovers may be located either successively (universal crossover), or concurrently (diamond crossover). Note: Some definitions of double crossover require that the two crossovers intersect, thus excluding the universal crossover.

**double-ended switches:** Two track switches, which are so interconnected with each other as to share control and indication circuits. The two double-ended switches are numbered with the same switch number, with a suffix letter "A" or "B" attached to distinguish them. For example, "71A" and "71B" are double-ended switches.

**downstream:** The area or section of track which, for a given direction of travel, will be reached after passing a specified reference location. Used in the same sense as the AAR term "in advance of."

**DPS:** *acronym:* Drainage Pumping Station.

**dragging equipment detector:** A device installed on the tracks to detect items dragged by a rail vehicle.

**dump (the brakes):** Emergency application of brakes causing a train to stop abruptly, possibly causing flats.

**dwell:** The elapsed time measured from train berthed to the instant it resumes moving.

**dynamic braking:** A method of train braking where kinetic energy from train movement generates current at the traction motors, and is dissipated by a resistor grid.



**dynamic outline:** An outline of the cross sectional area, above and beside the tracks, which will be occupied by a train passing through a vertical plane which is perpendicular to the track. A passing train will collide with any object or person within this outline. This cross sectional area is much wider on curved track than on tangent track, because the middle of the car body protrudes inside the curve and the ends of the car protrude outside the curve.

## E

**edgelights:** The lights located along the platform edge which flash to indicate a train approach.

**emergency:** Any condition which can or has resulted in harm to customers or employees; damage to equipment or property; a service disruption; or any combination of these circumstances.

**emergency brake:** Irrevocable, unmodulated full service braking to a stop.

**emergency door:** The car's center door equipped with a self-evacuation mechanism.

**emergency in the common corridor:** An intrusion of either WMATA equipment, railroad equipment or highway vehicles into the roadway of the other; or a fire, derailment, or other event that could impede or endanger operations.

**emergency stop:** The stopping of a train by emergency brake application which cannot be released until the train has stopped.

**emergency trip switch:** A facility for emergency de-energization of the third rail, marked by a blue light, every 800 feet on the Roadway.

**emergency, extended:** An emergency that has not been resolved prior to the arrival of the mobile power crew(s) at the involved power substation and/or tiebreaker station(s).

**emergency, short duration:** An emergency in which the cause of removal of third rail power has been corrected prior to the arrival of the mobile power crew at the designated power substation and/or tiebreaker station and report to the ROCC Supervisor that they are in position.

**energized:** When third rail power is on.

**Engineering Modification Instruction (EMI):** A document provided by the OPER engineers with detailed installation or modification instructions which is circulated through other interested offices for approval. EMIs are designated by an assigned number and are tracked by the originating engineer's office.

**environmental system:** A rail vehicle or station heating, ventilation and air conditioning system (See – HVAC).





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**escort:** A WMATA employee responsible for the safe movement of personnel through and to non-roadway work areas and facilities, and must comply with all WMATA policies and procedures

**ETS:** *acronym:* Emergency Trip Switch.

**exclusive rights:** A section of the track that is restricted for use by one group.

**Exclusive Track Occupancy (ETO):** Exclusive Track Occupancy is when the authority to permit train and track equipment to move into or through any given work limits rests solely with the RWIC. This authority is transferred to the RWIC from the ROCC.

**Exclusive Track Occupancy (ETO) Block Work Zone:** Multi-station work zones where ETO procedures are in effect. Additional protection is provided by reducing the speed of all vehicles and track equipment. Vehicles proceed through the block zone at no more than 35 mph. Operators will receive specific instruction from on-site RTRA personnel. This unique protection applies to and accesses **ONE TRACK AT A TIME**.

**express train:** A revenue train designated to skip one or more passenger station stops, usually to make up headway.

**extended emergency:** An emergency that has not been resolved prior to the arrival of the Mobile Power Crew(s) at the involved power substation and/or tiebreaker station(s).

## **F**

**F&I:** *acronym:* Fire and Intrusion (alarm system).

**facing:** Observing a switch layout or turnout from the point of switch with the frog further downstream.

**fail-safe:** A design criterion of the ATP subsystem and an inherent characteristic of a system or circuit which ensures that any malfunction or failure which may be anticipated and which affects safety will cause the system or controlled function of the circuit to revert to a (more restrictive condition of automatic operation or other) state known to be safe.

**field side:** The side of the roadway opposite the third rail.

**fixed signal:** A mounted signal located along the track. A signal directs the movement of rail traffic.

**flag:** A rectangular piece of cloth, of distinctive color (blue, green, red or yellow) used as a signal usually for approaching trains; for daylight use only (See also: lantern).



**Flagging Protection:** The use of flags, lights, lanterns, and/or Roadway Flag Person used by work crews for protection where track is to be worked upon or obstructed as determined by proper authority.

**Flagging Run Through:** Any time a train or rail equipment fails to abide by the direction of the Roadway Flag Person to come to a stop and continues to proceed into the work zone.

**Flammable Vapor Sensing Devices (FVD):** Flammable vapor sensing devices are located along the roadway in areas where the possibility of a gasoline spill or flammable gas leak exists. These sensors, when activated, send alarms to the Operations Control Center (ROCC) indicating two separate concentration levels of flammable vapor.

**flange:** The vertical projection along the inner rim of the train wheel which is used in conjunction with another, on the wheel of the opposite rail, to guide the train laterally along the running rails.

**flangeway:** The opening through track structures which provides a passageway for the wheel flanges.

**flashing blue alarm:** One hazardous chemical detector has activated at a station.

**flashing lunar:** A lunar aspect, which is flashing approximately once per second on a 50% duty cycle and which indicates to the train operator; to “proceed,” through an interlocked route with at least one facing point switch in the reverse position. Note: The flashing capability is installed only on select signals.

**flashing yellow alarm:** A second hazardous chemical detector has activated at the same station within 10 minutes of the original activation.

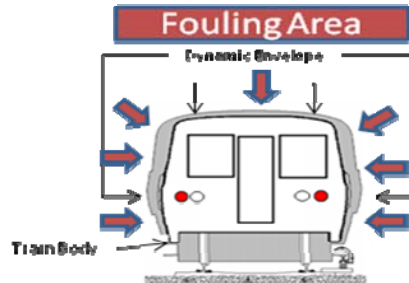
**fleeting:** A method of route control in which a route request is not canceled by the passage of a train, thus permitting safe automatic following moves over the same route.

**foul:** To occupy the fouling section of a turnout with a rail vehicle.

**Foul Time (FT):** A method of Roadway protection in which all trains and/or track equipment are STOPPED. The RWIC requests ROCC to stop all traffic until the RWIC reports clear of the track. This is used only for short time periods (approximately 3 minutes or less) in specific segments of track such as work areas, blind spots and no clearance zones.



**fouling a track:** The placement of an individual or equipment in such proximity to a track that the individual or equipment could be struck by a moving train or on-track equipment.



**fouling point:** The location in a turnout back of the frog, at or beyond the clearance point of a fouling section, at which insulated joints are placed.

**FRA:** *acronym:* Federal Railroad Administration, a agency of D.O.T. with jurisdiction over matters of railroad safety and research.

**frog:** A track structure used at the intersection of two running rails to provide support for wheels and flangeways, thus permitting wheels on either rail to cross the other. One frog is required with each turnout and four for each crossing.

**FTA:** *acronym:* Federal Transit Administration (formerly UMTA, a branch of DOT).

**FVD Alarm:** Indicates a concentration level of flammable vapor of 60%.

**FVD Warning:** Indicates a concentration level of flammable vapor of 20%.

## G

**gang leader:** A gang leader is a RWIC qualified employee who leads a work gang within the work limits but is subordinate to the RWIC who holds the track rights.

**gap:** See - third rail gap

**gap train:** A train stored on a pocket track or tail track for possible insertion into (a gap in) the schedule if another train must be removed from service or if additional service is required.

**gapped train:** A stationary, de-energized, train located within a third rail gap. Subsequent movement of the train requires the use of a stinger or a recovery vehicle.

**General Orders and Track Rights System (GOTRS):** A mainframe computer program that is used by WMATA employees only to enter track rights request in accordance with OAP 100-9.



**grade:** The slope of incline or decline (ratio of change in elevation to distance) on the tracks represented as a percentage.

**grade crossing:** 1. A location where a roadway crosses the tracks at grade.  
2. Where a two tracks cross each other at grade.

**guard rail:** A rail or other structure fastened parallel with the running rails of a track and used to prevent wheels from being derailed; or to prevent their flanges from striking points of switches or frogs or to prevent a derailed train from leaving the track roadway (See also: restraining rail).

**guard train:** A train which immediately precedes or follows a consist containing work cars to protect revenue trains from possible collision in case of a work train pull-apart.

**guarded switch:** A track switch fitted with a guard rail.

**guarded turnout:** A guarded switch, especially one through which the movable point on the side of the branch track is reinforced to serve as a continuation of the guard rail through the turnout.

## H

**hand crank:** The special tool designed for the manual operation of a switch machine. Also the action of using such a tool.

**hand signal:** A signal given by the motion or position of a person's hand and arm. A light shall be used in areas of low visibility.

**hazard:** Any real or potential condition that can cause injury or death or damage to or loss of equipment or property.

**headway:** The time separation between two trains traveling in the same direction on the same track, as measured from the time the head of the first train passes a reference point until the head of the second train passes the same reference point.

**Hi-Rail Vehicle:** A truck or automobile with retractable flanged wheels that permit it to be used on either the roads or tracks.

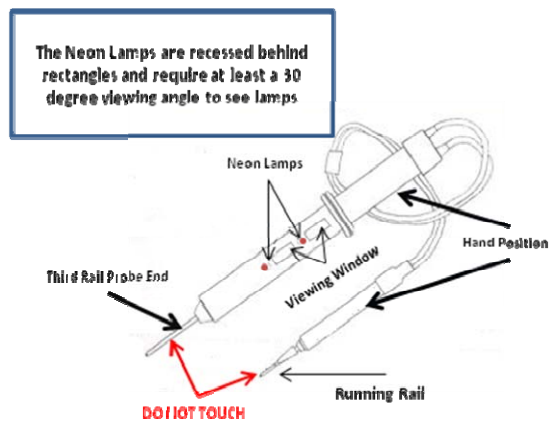
**home signal:** A controlled signal located at the entrance to one or more interlocked routes or blocks to govern trains entering or using those routes or blocks.



**hot spots:** Hot spots are locations on the railroad where additional Roadway Worker Protection is required. These physical locations include a variety of conditions:

1. Curves with limited visibility.
2. Tunnels with limited and close clearance.
3. Track locations with heavy outside noise.
4. Track locations with limited or no clearance.
5. Bridge locations with limited or no clearance.
6. Track locations with limited or no visibility due to obstructions.

**hot stick:** A voltage testing device used to verify third rail power outages, or the use of the device.



**hot zone:** An area or suspected area that is contaminated by nuclear, biological or chemical agents and should NOT be entered by personnel unless they are fully protected, trained and equipped.

**HVAC:** *acronym:* Heating, Ventilation, and Air Conditioning. A heating, ventilation and air conditioning system for rail vehicles and stations (See – environmental system).



## I

**IDW:** *acronym:* Intrusion, Detection and Warning

**impedance bond:** A copper, single-turn, center-tapped coil of low resistance, wound with toroid coils for inductively coupling train detection, speed command and TWC audio frequencies, as required. These are installed between the running rails of WMATA mainline tracks for one or more of the following reasons (See also: Wee-Z-Bond):

- a. To provide a path for negative propulsion currents around IJs and/or from running rails to cross bonds or SSR cables.
- b. To delineate the boundaries of AF track circuits.
- c. To inductively connect AF train detection signals and/or speed commands and/or door control signals between running rails and ATP transmitter and/or receiver modules.
- d. To inductively connect TWC signals between running rails and TWC modules via ATP modules.

**Inaccessible Track (IT):** A section of track where a physical barrier has been placed to prevent trains and/or track equipment from entering the work area. (i.e. derailleurs, barricade, rail out, etc.).

**incident:** An unforeseen event or occurrence which does not result in injury or property damage.

**Incident Command Post (ICP):** An area where the Incident Commander, the On-Scene Commander and the RTRA IC Liaison gather to manage emergency response.

**Incident Command System:** A standardized on-scene emergency management program that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures and communications operating within a common organizational structure, specifically designed to aid in management of resources.

**Incident Commander (IC):** Senior non-WMATA Fire or Police Department Official, or Federal Official, who is controlling and coordinating all activities of the incident while non-WMATA Fire, Police, Federal Department personnel are involved and will coordinate these activities with WMATA's On-Scene Commander typically from the Command Post.

**indication:**

1. The specific "operating instruction" information conveyed by a signal aspect.
2. A DTS message from the TCR to ROCC or a TWC message from the train to the TCR which carries information concerning the status of some device or system.



**Individual Train Detection (ITD):** A method where an individual provides for their own protection. The individual detects approaching trains and moves to a place of safety before the train arrives. For Lone Workers, this method of detection may ONLY be used under circumstances strictly defined in the RWPM.

**inhibit:** To prevent or delay an action such as the clearing of an automatic signal.

**inspection report:** A report resulting from the inspection of the wayside when a LOTO key holder and/or piggy backer is absent during restoration and/or a piggy backer failing to make a clearance report at the scheduled stop time. The report is made by the Power Coordinator who advises ROCC and MOC of the results of the inspections, status of personnel, equipment, and work area.

**insulated joint:** A rail joint which is electrically insulated to arrest the flow of current from one rail end to the other.

**interlocked signals:** Controlled signals which are interconnected with other signals and other vital interlocked devices.

**interlocking:** An arrangement of track and signals that permits trains and track equipment to safely change tracks.

**interlocking block:** A contiguous section of track within interlocking limits which may contain one or more track switches or track circuits or both.

**interlocking equipment box:** A fire-extinguisher style box for storage of switch blocks, cranks, hammers and switch point clamps, as required, near the switch(es) in interlockings and yards.

**interlocking limits:** The trackage in an interlocking, the boundaries of which are defined by the insulated joints at the extreme opposing home signals.

**interlocking operator:** The Rail Operations (RTRA) employee assigned to the yard control room (tower) to operate the yard interlocking control panel and oversee all yard operations..

**interlocking signal:** A fixed signal controlling the entrance to an interlocking.

**intermediate boundary fence:** A five (5) foot high, plastic chain fence which is positioned ten (10) feet from the end of the cross ties along sections of Metrorail above ground roadway. Where constructed, it separates Metro property into roadway and NON-roadway territory. Individuals on the track side of the Intermediate boundary fence are considered “on” the roadway; individuals on the non-track side of the Intermediate boundary fence are considered “off” the roadway.



**Intrusion, Detection And Warning (IDW):** Consists of breakable cables which are attached to the chain link fences which separate the Metrorail Tracks, Railroad Tracks, or Vehicle Traffic Road, along the Metrorail Roadway; typeover boxes which are mounted at intervals to the fence posts; control panels located in the Train Control Rooms; and Train Alarm CRT's located in the Operations Control Center (ROCC). The IDW system will indicate the location of an intrusion of WMATA Equipment, Railroad Equipment, or Road Vehicles which impact or penetrate the fence and intrude into the Roadway of the other. In addition, the IDW is tied to the Train Control Room to initiate zeros Deed commands in track circuits in the affected area to stop trains in the immediate vicinity.

## J

**junction:** A location where train routes converge and diverge.

## K

**kicker rail:** A short third rail section, sometimes energized by a separate traction feeder breaker.

**kink:** A small irregularity in track alignment caused by excessive compression in the rails.

**kiosk:** The octagonal structure which serves as the station manager's office/booth and the hub of communications for a Metrorail station.

## L

**ladder track:** A layout which uses a series of turnouts to provide access to any of several parallel yard tracks.

**lantern:** A portable, battery powered, free-standing, domed, omni-directional, lamp device with a lens of a distinctive color (blue, green, red or amber) used as a signal, usually for approaching trains.

**limiting speed:** The ATP speed displayed in the train operators cab (See also: regulating speed).

**local control panel:** The interlocking control panel for an interlocking or yard, engraved with a track diagram representing the interlocking under control and fitted with control buttons and displays. It may be installed in either the TCR, the blockhouse or the yard control room (tower).

**lockout device:** A physical lock used to hold an energy isolating device in the safe position. This device may also prevent the energizing of a machine or equipment. The device should require a key or combination to remove.





**lockout/tagout procedure:** A procedure involving the practice of using tags to increase the visibility and awareness that equipment is not to be energized and using keyed security devices to prevent accidental or unexpected activation of electrical equipment.

**lone worker:** A RWIC qualified single Roadway worker who provides for their own protection. This individual is not a member of a work crew. A lone worker is not engaged in a common task with another Roadway worker.

**long stop:** The programmed station stopping profile which positions entering two-car trains and four-car trains with the head of the train at the leaving end of the station platform.

**loss of shunt:** A momentary and transient occurrence, due to wheel bounce, scalloped rail, improperly bonded frog or other unusual condition, during which a track circuit fails to detect a train continuously while it is rolling through the circuit.

**lunar:** The bluish, nearly white color (also called lunar white) of the Metrorail fixed signal aspect which indicates “proceed,” also that aspect.

## M

**main track:** See – mainline track

**mainline track:** All tracks on the operating railroad, except yards and terminals.

**Maintenance Commander (MC):** Appointed by MOC and is responsible for the coordination of all of the maintenance activities through the WMATA (OSC) at the incident scene, except for Car Maintenance.

**maintenance of way track:** A segment of track not under the control of ROCC or Tower Operator. This track is where employees, trains, railroad maintenance machines and/or equipment are permitted to move under local supervision. Maintenance of Way Tracks do require appropriate Roadway Worker Protection.

**manual control point:** The converging/diverging location, or fourth switch, of a manual terminal operation.

**manual switch operation:** Operation of a switch by other than the application of control power.

**manual terminal operation:** A method of controlling a terminal interlocking whereby the predetermined position of three switches are blocked/clamped and the position of the fourth switch is changed and blocked/clamped as needed for each train movement through the interlocking.



**married pair:** Two transit cars, an “A” car and a “B” car, which are semi-permanently coupled to each other and which share certain common equipment.

**Maximum Authorized Speed (MAS):** That speed which is most restrictive to include: Limiting Speed, operating speeds specified in Operating Rules, Safety Rules, Standard Operating Procedures and/or Operating and Restriction Notices; and speeds issued by verbal instructions of supervisory and ROCC personnel. This definition shall not preclude Mode 2, Level 2 operation of trains.

**medium speed:** A speed not exceeding 40 miles per hour.

**mezzanine:** The station entrance level which contains the fare vendors, fare gates, and kiosk.

**mobile work gang:** A moving group of two or more workers.

**Maintenance Operation Center (MOC):** Maintenance Operation Center, the facility adjacent to ROCC from which all Metrorail maintenance activities are coordinated and monitored.

**Mode 1:**

1. Operating mode - Train operation in ATO with ATP.
2. Terminal mode - The automatic signal mode for turnback moves at a terminal by which the Outbound Trains are routed to track 1 and the inbound trains are turned back from track 1.

**Mode 2:**

1. Operating mode - Train operation with train under manual (Train Operator) control with ATP.
2. Terminal mode - The automatic signal mode for turnback moves at a terminal by which the outbound trains are routed to track 2 and the inbound trains are turned back from track 2.

**Mode 2 Level 1:** Manual with Speed Commands - Train operation with train under manual (train operator) control with operation monitored and protected by the ATP system.

**Mode 2 Level 2:** Manual with Zero Speed Commands - Train operation with train under manual (train operator) control with operation partially monitored and protected by the ATP system. Train is operated at restricted speed (15 mph or as directed by ROCC) and an absolute or permissive block must be established on mainline. This is the normal operating mode in yards.



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- Mode 3:**
1. Operating mode - (Manual with ATP Cut Out) - Train operation under manual (train operator) control without ATP monitoring and protection. This mode is not allowed unless passengers are off-loaded at the first available station and an absolute block or permissive block is established to allow train movement.
  2. Terminal Mode - The automatic signal mode at a terminal for turnback moves which crosses over outbound trains and turns back inbound trains straight through. If the exit of the preferred outbound route is occupied, Mode 3 can route outbound trains straight through to the vacant track and cross over the train on its inbound move.

**MSRPH:** *acronym:* Metrorail Safety Rules and Procedures Handbook

**MTPD:** *acronym:* Metro Transit Police Department.

**MTPD Forward Liaison:** MTPD employee appointed by MTPD to direct and support activities at the incident scene, and carries out the direction of the IC and OSC, with guidance from the RTRA Forward Liaison. Liaison shall be identified by an armband that states "Liaison".

**mushroom:** The train operator's emergency brake control.

## N

**National Incident Management System (NIMS):** A federally mandated system that provides a consistent nationwide approach for federal, state, local, private sector and non-governmental agencies to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents or events, regardless of size or complexity.

**negative return:** Related to the return of 750 VDC train propulsion current to the TPSS.

**negative return bond:** A type of rail bond designed to carry heavy negative propulsion current at impedance bonds, rail joints, frogs and switch point rails.

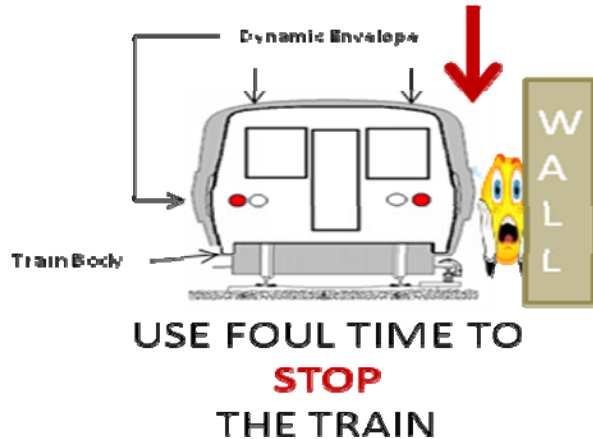
**negative return rail:** A running rail which is electrically connected by means of negative return bonds to a SSR, also referred to as "Propulsion Return Rail." Signal rails of power frequency track circuits and series track circuits are NOT negative return rails.

**next train sign:** An illuminated sign on Station platforms which are outbound from the terminal turnback interlocking to indicate to passengers from which track the next train will depart.



**no clearance:** Areas on the Roadway where there is no safe area or distance between trains or rail equipment and workers.

## NO CLEARANCE ZONE



**non-revenue train:** Any train in test, maintenance, emergency or inspection service, which may not be used by the public.

- normal:**
1. ATS Speed - One of the four (maximum, normal, reduced and retarded) programmed ATS speeds available at a TWC transmitter, included as part of PL2 and PL6.
  2. Direction of Traffic - For a given track, the direction in which all regularly scheduled service are conducted. For a given terminal track outbound of the crossover, normal is the same direction as on the same track, inbound of the crossover. For pocket tracks, the outbound direction. The opposite is "Reverse."
  3. Point - The switch point which supports train wheels when a train passes over the switch in the normal position. The opposite is "Reverse."
  4. Position of a Derail - The derailing (on-the-rail) position. The opposite is "Reverse."
  5. Position of a Switch - The predetermined position arbitrarily defined by the track plans and control circuits as "Normal" alignment. The opposite is "Reverse."
  6. Route -
    - a. A route that results in normal running.
    - b. A route through an interlocking with all switches aligned in their defined, normal switch position(s).
  7. Running - Train movement on the right hand track, which is in the normal direction of traffic. The opposite is "Reverse."

**normal traffic:** Trains moving in the usual direction as specified by the operating rules.

**NRB:** *acronym:* Non-Reporting Block



**NX:** A system of interlocking control which automatically aligns switches and clears signals to establish interlocked routes by eNit selection. The basic NX involves four non-vital relay logic circuits; route storage, route initiation, route completion and route check.

## O

**OAP:** Operations Administrative Procedure, a structured set of guidelines, administrative policies and procedures, for actions in OPER.

**obstruction:** Something that interferes, especially with the operation of switch points.

**occupancy:** The presence of a train in a track circuit or the track circuit resultant state achieved by a train occupying the circuit.

**On-Scene Commander (OSC):** The first MTPD Officer or Official that arrives at the scene of the incident will be the OSC and control WMATA resources and assist the IC in managing the scene. The OSC Commander may be appointed by ROCC until the arrival of the MTPD. OSC shall be identified by an armband that states "OSC".

**On-Track Safety:** The active practice of maintaining Roadway worker safety. This includes:

- Freedom from the danger of being struck by a moving train and/or track equipment.
- Freedom from the danger of energy sources which move rail vehicles on the Roadway.

**operator:** That person on board a rail vehicle having direct and immediate control of the movement of the vehicle.

**opposing route:** Either of two routes which require opposite directions of running on the same interlocking block.

**opposing signals:** Two signals which govern movements in opposite directions on the same track.

**opposing traffic:** The direction of traffic, between interlockings, opposite and toward the exit point of a desired route.

**order , permanent:** The establishment of, or a change to, a rule or procedure that takes effect upon issuance and will become a part of the next update of the MSRPH.

**order, temporary:** A change to a rule or procedure that will expire after a set period of time.

**overspeed alarm:** An audible alarm in the train operator's cab to announce the activation of the overspeed control, when operating Mode 2.



**overspeed protection:** The carborne ATP equipment which applies a penalty brake if the speed exceeds the ATP speed limit.

## **P**

**package, suspicious:** Any package, based on the totality of the circumstances, which may not belong in the environment in which it has been located. Furthermore, any action or circumstance that makes the package suspicious; e.g., packages that are witnessed to have been purposely abandoned, backpacks or bags left in a secure area, and items that by their mere existence cannot be logically explained.

**packages/items, unattended:** Any item, which when looking at the totality of the circumstances, would normally be present in the environment in which the item was found; e.g., a briefcase left in a conference room or a beverage cooler at a football game.

**performance level (PL):** A combination of train acceleration rate (one of two) and ATS speed command (one of four programmed speeds) which are requested by ATS and transmitted to the carborne ATO equipment via TWC, and which affects train run time between stations. Eight levels designated PL1 through PL8 may be selected from ROCC.

**permissive block:** A permissive block is a section of clear track ahead of a train in the established direction of traffic up to a specific point (limit) into which no other train, vehicle or track obstruction is permitted.

**Personal Protective Equipment (PPE):** Equipment or gear designed for protective use in environments contaminated by WMD. Ordinary industrial protective equipment, in most cases, will NOT protect its user from personal contamination by WMD agents.

**physical barrier:** A switch that has been clamped/blocked, a derailer aligned, a barricade or actual removal of rail to prevent access to the working limits. This is secured with an effective securing device.

**physical characteristics:** The layout and conditions of the Roadway. This includes switches, signals, stations, track conditions, obstructions, blind spots, etc.

**piggyback:** A term used to describe the procedure which allows additional work gangs to work in the work area of a person holding rights to the work area under a third rail power red tag outage, supervisory outage or no power outage.

**piggybacking:** An independent work gang under the supervision of a gang leader. This gang is working within the authorized working limits of a RWIC. The gang leader is under the authority of the RWIC.



**pilot:** A qualified employee assigned to ride in the cab of a Class II vehicle to guide the operator and communicate with ROCC.

**platform:** A fixed boarding location which may be within a station for patrons or elsewhere along the roadway for employees.

**pocket:** An interlocking arrangement, also referred to as a crotch layout, in which a third track is connected between two relatively parallel outer tracks by three switches, of which two are double-ended.

**point clamp:** See - switch point clamp

**point of switch (PS):** The exact track location where the tapered, movable end of the switch points are located (There are slight differences in theoretical PS and actual PS).

**portal:** The locations where trains enter and exit tunnels.

**power coordinator:** A qualified WMATA employee responsible for executing LOTO procedures.

**power frequency track circuit:** A track circuit, energized by alternating current, of the 60 Hz power frequency, also referred to as an AC track circuit.

**proceed method:** Operating from anywhere other than the lead car, moving at a speed no greater than 25 mph for class I vehicles, 30 mph for class II vehicles.

**program station stop (PSS):** The automatic time-distance profile, initiated by wayside ATO markers, which causes a train to decelerate, under closed-loop braking, smoothly and berth at a predetermined location within the platform limits (See also: center stop, long stop, short stop and skip stop).

**prohibit exits:** A lock that ROCC initiates on a particular signal. Its function is to prevent the signal from indicating a clear block ahead.

**propulsion:** The propelling force of the train.

**public safety emergency:** Any incident involving the response of public safety personnel.

**pull-apart:** The separation of a train at the location of the mechanical couplers while the train is in motion or starting up from a stopped position without any manipulation of the uncoupling controls by the Train Operator or at the semi-permanent couplers between married car units. It is usually accompanied by damage to the mechanical coupler or the semi-permanent coupler and its associated draft gear.



**pushbutton box:** See - wayside route selection pushbutton.

## Q

**qualified person:** The worker has successfully completed training and demonstrated the knowledge and ability to perform their duties. WMATA will maintain the appropriate standards and records. Roadway workers shall be required to re-qualify.

## R

**rack-out:** To remove an electrical circuit breaker from its installed position in a cubicle, for maintenance or so that it cannot be inadvertently closed.

**Rail Operations Control Center (ROCC):** The center designated to control the movement of trains and other track equipment. ROCC shall operate in accordance with the WMATA Rail Operating Rules.

**Rail Operations Supervisor:** A supervisor in the Office of Rail Transportation assigned to control and monitor train and stations operations.

**Rail Service Adjustment (RSA):** A temporary adjustment to the Metrorail operating schedule in order to accommodate maintenance or construction activities on the Metrorail main line during revenue service.

**recovery train:** A train used to couple to a disabled train for the purpose of either pushing or pulling the disabled train off the line (See also: rescue train).

**red alarm:** A third hazardous chemical detector has activated within 10 minutes at the same station.

**Red Tag:** Third rail power outage where the circuit breaker is physically removed from the power circuit and a red tag is issued to implement lockout/tag-out procedures.

**Red Tag Third Rail Power Outage:** A procedure for removal of energy from the third rail which requires that track feeder breakers which feed a specific section of third rail be removed from their operating cubicles and specific verification and coordination procedures involving the OCC and MOC and the red tag holder (See also: Supervisory Third Rail Power Outage).

**reduced speed:** Any speed less than the normal operating speed as specified in the rules or by ROCC (See also: restricted speed).

**regenerative braking:** Braking mode of electric trains, whereby the motors act as generators as with the dynamic braking but, instead of being converted into heat, the current is fed back to the supply.





**regulating speed:** The ATS speed displayed in the train operators cab (See also: limiting speed).

**Remote Terminal Unit (RTU):** The modem communications device installed in the TCR, which acts as the interface unit for DTS and which transfers train control and station support function status and requests, to and from ROCC, respectively.

**rescue train:** A train used to transport passengers evacuated from another train (See also: recovery train).

**restorable fleeting:** A feature of the NX route control logic which is used when a train operator selects, by means of the wayside pushbutton box, a route which conflicts with an already established and fleeted route. This feature stores the fleeted route before establishing the requested route. After the train has cleared the interlocking, the stored fleeted route is established and fleeted.

**restraining rail:** A special purpose guard rail designed to bear against the back side of wheel flanges on the inside rail of sharp curves in order to reduce undue pressure and head wear on the outer rail.

**restricted speed:** Restricted speed means trains not exceeding 15 mph. This speed allows the vehicle operator to be prepared to stop within ½ the range of visibility. The operator is expected to look out for Roadway workers, obstructions, broken rail and misaligned switches.

**return rail:** See - negative return rail

**revenue:** Money paid in fares.

**revenue hours:** The hours when revenue trains are in service.

**revenue service:** The operation of revenue trains or the transportation of passengers who have paid a fare.

**revenue system:** The portion of the Metro system on which revenue service is conducted.

**revenue train:** Any train in transit service on main track, which may be used by the public.

**reverse:** The opposite of normal for switch position, traffic direction, derail position, point, route and running.

**reverse route:** A route which results in reverse running.

**reverse running:** Train movement forward on the left hand track, which is opposed to the normal direction of traffic.



**reverse traffic:** Trains moving against the normal direction.

**roadway:** Any location where roadway worker protection is required:

- On at-grade track, it is all areas between the roadway fences, except where an intermediate boundary fence exists.
- On aerial structures, it is all areas between hand railings to include all safety walks.
- In tunnel areas, it is all areas between tunnel walls to include all safety walk areas and open shafts and ancillary areas.
- In transition areas, it includes fence to fence, wall to wall, railing to railing, fence to wall, fence to railing, and wall to railing.
- In yards, it includes all ballasted areas and areas with embedded track including maintenance of way tracks. Embedded tracks within maintenance facilities are not considered part of the roadway; however, carwash tracks are included. Station platforms are not considered part of the roadway, nor are the walkways beyond the station platform endgates protected by handrails. However, any maintenance or construction, the use of tools, ladders, scaffolds or lifts that have the potential for **fouling the track** requires a RWIC to use Roadway worker protection in accordance with the RWPM, even if performed behind the hand rails. Individuals are considered off the roadway if they are on the non-track side of the intermediate boundary fence.
- For WMATA employees, walkways protected by handrails beyond the station platform endgates are not considered part of the WMATA Roadway. All non-WMATA employees must be escorted and be granted permission by ROCC to go beyond endgates.

**Roadway Flag Person (RFP):** A qualified employee designated by the RWIC to direct or restrict the movement of trains. Roadway Flag Persons shall be equipped to properly provide proper warnings. Their SOLE duty is to look out for approaching trains and/or track equipment. From a place of safety, Roadway Flag Persons shall signal trains to **STOP** before entering the working limits. Roadway Flag Persons will not permit the movement of trains and/or track equipment into the working limits unless authorized by the RWIC.

**roadway hazard:** The existence of an abnormal condition on or near the tracks which could impair safe train movement. The alarm for this condition is provided by the IDW system via DTS to ROCC.

**roadway job safety briefing:** The RWIC shall provide a briefing with all workers pertaining to the on-track protection provided. The briefing covers all safety aspects of the working environment, the duties involved and the defined working limits on the Roadway.



**roadway maintenance machine (RMM):** A device powered by any means of energy other than hand power. These devices are being used on or near rail track(s). They are for maintenance, repair, construction, or inspection of track, bridges, railway, signal, communications, or electric traction systems.

**roadway worker:** Any employee or contractor whose duties could potentially cause them to foul the Roadway.

**roadway worker in charge (RWIC):** A qualified employee responsible for the Roadway safety for all workers and work gangs within their working limits.

**Roadway Worker Protection Manual (RWPM):** Handbook that establishes specific responsibilities for operating departments and roadway workers.

**route:** A specific continuous track path in a given direction from one controlled signal to another (See also: converging route, diverging route and reverse route).

**route request:** A non-vital electrical or electronic message (DTS, local control panel or wayside route selection pushbutton) at an interlocking TCR requesting the establishment of a desired route.

**route segment:** A defined portion of a route consisting of contiguous blocks.

**routine maintenance:** Preventive or corrective maintenance actions that have an approved written procedure and can be performed without effecting revenue service.

**RTRA Coordinator:** A rail operations employee, qualified in Roadway procedures as outlined in this manual, who, under the direction of the RWIC, gives verbal instructions to each train or rail equipment operator entering into an ETO Block Work Zone.

**RTRA Forward Liaison:** WMATA RTRA personnel assigned by ROCC to work with MTPD Forward Liaison to direct and support activities at the incident scene. Liaison shall be identified by an armband that states "Liaison".

**RTRA IC Liaison:** WMATA RTRA employee assigned by ROCC to work with OSC in the Incident Command post and provide guidance and assistance to the OSC and IC on restoring service and securing WMATA resources.

**rules and instructions:** Rules and instructions issued and approved by WMATA, which must be obeyed by all employees.

**run number:** See - train number

**running rails:** Rails comprising the track upon which a train moves.



## S

**S sign:** The wayside sign displaying the letter “S” in reflective white on green background at the track location where PSS begins. This is either 2700' or 1200' in approach of the center of the platform.

**S&I:** *acronym:* service and inspection (yard).

**safe zone:** An area that has been determined to be free of secondary devices and out of the hazardous zone, clear of any station entrances, escalators, elevators, vent shafts, emergency exits where dangerous fumes may escape to the atmosphere. If practical, a safe zone should be up-wind at 1,500 feet from any point of danger.

**safety rails:** Fixed barrier which, under normal conditions, prevents individuals from fouling the track.

**safety speed limit:** The maximum speed at which a train can safely negotiate a given section of track. The safety speed limit is set to minimize potential passenger injury.

**safety walk:** A narrow walkway adjacent to the tracks, providing clearance outside the dynamic outline, usually raised above the tracks in tunnels.

**shoe box:** The enclosure mounted behind the Third Rail which houses the main fuse for a SMC and the snowmelter heating elements it supplies.

**shop apron:** A concrete or asphalt area between shop doors and ballasted tracks.

**short duration emergency:** An emergency in which the cause of removal of third rail power has been corrected prior to the arrival of the Mobile Power Crew at the designated power substation and/or tiebreaker station and report to the ROCC Supervisor that they are in position.

**short stop:** The programmed station stop profile which positions entering two-car trains and four-car trains with the head of the train at the center of the station platform.

**shorting bar:** The center tapped, rail to rail, 1000 kcmil cable shunt just inside the insulated joints at an interlocking signal location which provides rail to rail balance for the negative return current entering and exiting the interlocking and provides an additional length of inductive coupling for the two foot loop audio frequencies.

**shorting bar plate:** The metal plate which serves as the center tap for a shorting bar and which connects the shorting bar to the equalizing leads.



**shunt:** A Safety-approved wire with clamping devices on both ends which shows track occupancy. With proper installation, shunts:

- displays track occupancy to ROCC, and
- removes speed commands from class 1 rail vehicles

**shunt strap:** A jumper for shunting rail to rail to simulate the presence of a train axle (See also: soft shunt).

**signal:** An appliance which conveys information governing train movement (See also: cab signal, controlled signal, fixed signal, hand signal, interlocked signal, turnback signal and wayside signal).

**signal aspect:** See - aspect.

**signal head:** The appliance consisting of the housing, lamp assemblies, lamps, lenses, hoods and associated signal transformers, which is mounted either on a mast or wall.

**signal indication:** See – indication

**signal rail:** A running rail which carries low voltage electrical signals used for the detection, and possibly control, of rolling stock carried thereon.

**signal repeater:** A wayside signal which warns a train operator that he/she is in approach of an interlocking signal that has less than the required sight distance. When the repeater signal is displaying an amber yellow aspect, an operator is expected to reduce train speed to no more than 5 mph when passing the repeater signal, and be prepared to stop at the interlocking signal. When the repeater signal is displaying lunar white aspect: Mainline - operate in accordance with cab signals. Yard - operate at a maximum speed of 15 mph or as posted in yard operations; whichever is less.

**single track:** The operation using only one mainline track for trains traveling in either direction by alternating the direction of traffic when vacant.

**Site Specific Work Plan (SSWP):** Describes the construction and/or installation and associated schedule of work to be performed at specific locations where track usage or other interface with the operating rail road is required.

**skip stop:** The operating procedure or command which causes a train to pass a scheduled station-stop platform intentionally, without stopping.

**slow speed:** A speed not exceeding 15 mph.



**snowmelter:** The heating system on switches which uses calrods along the stock rail, pan heaters under switch rods and in some cases heater tape. Snowmelters are installed on all above ground switch layouts and layouts near portals such as those at A11, G03 & K99. The heater tape on the third rail is an unrelated system maintained by the power branch of SMNT.

**snowmelter case:** An enclosure, which houses the snowmelter control contactor, current sensing indication devices (relays or hall effect) and fusing for the switch heater elements of one, two or three switches.

**soft shunt:** A shunt strap with 0.06Ω resistance used for verification of shunting sensitivity by simulating a “worst case” train.

**speed command:** The ATP command selected according to the control line diagrams and consisting of a code rated audio frequency (4450Hz or 5525Hz).

**speed command loop:** A loop of single conductor, encapsulated in a rubber hose and laid parallel to the running rails, usually in an AC track circuit for the transmission of speed commands.

**speed limit:** See - ATC speed limit, ATO speed limit, Civil speed limit and Safety speed limit.

**speed restriction:** A given speed less than the normal operating speed for a section of track or rail vehicle/equipment. This speed is imposed by verbal instructions, written notices (i.e. RSA's or general orders), flagging procedures and/or speed commands issued by ROCC to mitigate special situations.

**SRO:** *acronym:* speed readouts.

**staging area:** An area designated close to the incident scene where resources and personnel await assignments.

**staging area manager:** MTPD employee responsible for allowing responders access to the incident scene and recording their access

**stationary work gang:** A work gang of two or more Roadway workers, working within a fixed location within working limits.

**stinger:** A portable insulated pole used to "reach" from an existing third rail power source to the collector shoe of the electric train to energize it in instances where the shoes of the train are not contacting the third rail.

**stock rail:** The running rail against which the switch point must bear or against which the derail rests.



**substation:** See - traction power substation

**substation return:** the electrical connection for returning propulsion current to the traction power substation. The connection is usually made at the center tap of an impedance bond.

**substation return bond:**

1. An electrical connection between the center tap of an impedance bond and a negative propulsion return bus of a TPSS.
2. The impedance bond so connected.

**supervisory third rail power outage:** A third rail power outage which may be implemented from ROCC for work which might result in incidental contact with the third rail. work on, or which requires contact with, the third rail requires a red tag third rail power outage.

**switch block:** a wedge shaped wooden block, designed to be forced between an open switch point and the stock rail of a track switch, to hold the other switch point firmly against its stock rail for safe train passage when the ATC equipment is unable to provide an interlocked route.

**switch call:** The request for a particular switch position as registered by the TCR logic.

**switch correspondence:** Agreement between the called-for alignment of the switch and the actual alignment of the switch. Also, the picked “WCR” relay state achieved if the two switch call relays and the two switch position relays agree.

**switch guard:** A guard rail ahead of a switch to hold wheels in correct alignment when approaching the switch.

**switch heater:**

1. See - snowmelters (The “switch heater” designation was given in the late 1980s to differentiate ATC snowmelters from the third rail heaters).
2. A resistor installed in switch machines, which is usually energized by 110 VAC to prevent condensation.

**switch layout:**

1. See - turnout.
2. A switch machine, and its required associated equipment such as switch junction box, tie straps, connecting rods and hardware which are provided by the ATC contractor to connect, operate and detect the switch points of a turnout.

**switch machine:** A device which performs the mechanical function of controlling the movement of switch points or a derail from one position to the other. The machine may be operated electrically or manually.

**switch point:** A movable, tapered, running rail the point of which is designed to fit against the stock rail to guide and support the wheel of a train through a turnout.



**switch point clamp:** A lockable device for clamping the base of a closed switch point to the base of the adjacent stock rail.

**switch rod:** A rod connecting the two switch points, by which their relative position is maintained. The switch rod is suspended in the crib below the top of the cross ties. The length and weight of the switch points generally determine the number of switch rods installed. All WMATA switch rods are insulated to electrically isolate the points from each other. The switch rods are numbered. The optional front rod is number zero (#0). The switch operating rod is connected to the #1 switch rod, which is also called the head rod. Approaching the switch heel, the rod numbers increase sequentially.

## T

**tail track:** The portion of track from a bumping post or other end-of-track location to the first interlocking special trackwork location on that track.

**tap:** To make physical contact with a worker, so as not to cause harm, to notify such worker of the approach of a train or rail vehicle.

**TB:** *acronym:* turnback

**Temporary Speed Restriction (TSR) plug coupler:** The electrical coupler on an AF track circuit module by which temporary speed restrictions are installed on the mainline. The couplers allow for one of four speed restriction states to be installed: normal, medium, slow or stop.

**terminal:** A station and its associated turnback interlocking which is designated as the terminus of a passenger Line.

**terminal mode:** A selectable automatic turnback operation feature at a terminal (See also: mode 1, mode 2 and mode 3).

**third rail:** The bus bar, an assembly of special, isolated, non-running rail and its supports and coverboards, which is installed alongside a track and which carries high voltage electrical energy for the propulsion of trains on that track. The third rail voltage is approximately +750VDC with respect to the running rail(s) which are used for negative return of propulsion current. Also referred to as “propulsion rail” or “contact rail.”

**third rail contact shoe:** See - collector shoe and coverboard.

**third rail disconnect hand switch:** A hand operated electrical switch for isolating a specific section of third rail (YCR) in a yard from other sections fed by the same breaker.





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**third rail gap:** The track location between sections of third rail where no third rail is present. This location is designed to be of sufficient length as to not be bridged by a train and is used as a limit for either a supervisory third rail power outage or a red tag third rail power outage.

**third rail heat tape:** The heating element attached to the above ground third rails.

**third rail power outage:** Either a supervisory third rail power outage or a red tag third rail power outage.

**through routing:** A special “NX” feature at TCR locations which control two separated Interlockings whereby; An exit can be selected on the downstream end of the second interlocking after an entrance has been selected at the upstream end of the first interlocking and the “NX” relay logic will establish both routes required to satisfy the train movement through the desired entrance and exit selected.

**tie:** See - cross tie.

**tiebreaker:** An electrical circuit breaker which can connect two busses of different sources, used in stations (normally open) when a redundant utility feeder is not operational and used in a TBS (normally closed) to connect adjacent third rails.

**tiebreaker station:** The facility which houses DC track feeder breakers.

**total isolation:** A method of troubleshooting that involves separation of electrical circuits and air lines in order to divide a consist into independent units still joined together by the hooks.

**tower:** The facility overlooking a yard and which contains the yard control machine (See also: yard control room).

**TPSS:** *acronym:* Traction Power Substation

**track:** The space between the rails and a space of not less than 8 feet outside each rail.

**track circuit:** An electrical or electronic circuit of which one or both rail(s) of a defined section of track are employed as conductors, used to detect the presence of trains by detecting the shunting of the running rails. Some types of track circuits also detect breaks in the running rail and/or provide cab signals (See also: power frequency track circuit).

**track equipment:** Any machinery that is used on or near the track.



**track inspection:** An examination of the area and tracks along the roadway. When a train operator is instructed to perform a track inspection from on board a train, the train operator shall:

- a. change to mode 2 operation
- b. proceed at restricted speed (absolute/permissive block procedures if applicable)
- c. operate with caution and be alert for any unusual conditions
- d. report any unusual conditions to ROCC
- e.. return to normal operation when clear of the affected area or at the next station as instructed by ROCC

**track inspection (first train):** a visual examination, from the cab, by the train operator, of the area and tracks along the roadway, operating in mode 2, level 1, reporting any abnormalities to ROCC.

**trackbed:** The surface area, of and adjacent to the track, which is within the clearance envelope or which includes a no clearance area.

**traction power:** The +750 VDC third rail power system used for train propulsion.

**traction power fault:** A condition that occurs when a metallic object bridges the third rail and a running rail. It will also occur in cases of a grounded shoe beam, a broken or grounded third rail insulator or a third rail feeder cable fire.

**Traction Power Substation (TPSS):** The facility which transforms and rectifies local utility high voltage alternating current to 750 Volts Direct Current (VDC).

**Traction Power Tiebreaker Station (TBS):** The facility containing track feeder breakers to connect or disconnect gapped sections of third rails to a DC bus. This facility does not transform or rectify utility high voltage, but connects third rails together via the bus.

**traffic:** The prescribed direction of train operations in a section of track between interlockings or between consecutive signals. The direction of traffic for a section of track is locked and cannot be changed when a block in that section is occupied or a signal is cleared for a route into that section.

**traffic block:** A contiguous section of track between interlockings on which the prescribed direction of running can be reversed only when it is unoccupied and no routes are established for entry into it.

**trailed switch:** A switch forced over by the wheel flanges of a train which made a trailing movement while the switch was not in the correct position.

**trailing movement:** A movement of a train over the points of a switch which face in the direction in which the train is moving.



**trailing point switch:** A switch, over which trains must make a trailing movement for the route established.

**Train Approach Warning (TAW):** The use of Watchman/Lookouts to establish on-track protection. Their duty is to give warning to workers of approaching trains and/or track equipment. The warning should be given in ample time for the workers to move to, and remain in, a place of safety 15 seconds before the arrival of trains or rail vehicles.

**Train Control Room (TCR):** A room located in a passenger station or at some other strategic point to house wayside ATC equipment.

**train coordination:** A method of establishing working limits on track upon which a train holds exclusive authority to move whereby the train yields that authority to a Roadway Worker in Charge (RWIC).

**train destination:** Part of the Train ID, the two digit (decimal) number used to identify a train's destination.

**Train Identity (ID):** The code assigned to a train, which contains the train destination, train number and train length.

**train line:** The continuous line of brake pipe extending between cars from the first to the last.

**train number:** Part of the train ID, the three digit (decimal) number used to identify a train and its schedule, conveyed to and controlled by ROCC via TWC.

**train operator:** The qualified Authority employee aboard a rail vehicle having direct and immediate control of the vehicle.

**train pull-apart:** The separation of a train at the location of the mechanical couplers while the train is in motion or starting up from a stopped position without any manipulation of the uncoupling controls by the Train Operator or at the semi-permanent couplers between married car units. Usually accompanied by damage to the mechanical coupler or the semi-permanent coupler and their associated draft gear

**train separation:** The vital ATP feature which prevents collisions and which ensures that a following train does not overtake the train ahead of it.

**Train To Wayside Communication (TWC):** The non-vital, bi-directional, serial, digital data transfer communication, between train and the tracks using an FSK message at 9800Hz (9650-9950) at fixed track locations. TWC is used at all passenger platforms, on the approach to diverging automatic signals, on the approach to above ground platforms, in pocket tracks and some other locations.



**train, work:** Class II vehicle.

**transfer of command:** A formal face to face reassignment of command from one individual to another.

**truck:** On transit cars, one of the two complete assemblies which includes axles, wheels, brakes, traction motor, collector shoes, etc. and which provides support, mobility and guidance for the car.

**TSR Coupler:** *acronym:* Temporary Speed Restriction (TSR) Plug Coupler.

**tuck:** The top edge at the tapered end of the Switch Point, being under the ball of the stock rail.

**Turnback (TB) Sign:** The wayside sign at the turnback point, displaying “TB” in reflective white on a green background.

**turnback operation:** The train operation procedure of reversing ends immediately after exiting interlocking limits and accepting another route through the same interlocking.

**turnback signal:** A simulated controlled wayside signal located at a turnback point, when approached in its “non-cleared” state used to initiate automatic turnback operation through an interlocking, by interrupting the speed commands which would otherwise be transmitted for the block. The simulated signal track location is marked by a turnback sign.

- turnout:**
1. An arrangement of a track switch and frog by which trains may be diverted from one track to another. The turnout number (i.e. #8 at most emergency crossovers) is the ratio of the length of Tangent Track to the space between the tangent track and the branch track.
  2. An interlocking layout containing only one switch, in which one track diverges into two or two tracks converge into one.

## U

**unattended packages/items:** Any item, which when looking at the totality of the circumstances, would normally be present in the environment in which the item was found; e.g., a briefcase left in a conference room or a beverage cooler at a football game.

**undesired uncoupling:** The separation of the train at the mechanical couplers while the train is in motion or when starting up from a stopped position without any manipulation of the uncoupling controls by the Train Operator. Usually this type of uncoupling or train separation will not cause any damage to the mechanical couplers or the electric coupler heads.

**universal crossover:** A double crossover which has a facing point crossover and a trailing point crossover installed successively such that they do not intersect.



**unknown substance:** A release or spill which presents no adverse health symptoms, no smell, no perceived or obvious threat, no evidence of tampering, and not located or positioned in a manner that indicates an attempt to conceal its presence.

**unoccupied:** Not occupied by a train also the state of a track circuit not indicating occupancy.

**unsafe:** Any condition which endangers human life or property.

## V

**vacancy:** The normal track circuit state maintained until shunted by a train.

**vehicle flagging protection:** The use of flags, lights, lanterns, and flagger used by work crews for protection where track is to be worked upon or obstructed as determined by proper authority.

**vehicle flag person (VFP):** A qualified employee who is assigned to flag a rail vehicle.

**vehicle, rail:** Any vehicle designed to or capable of traversing on the running rails.

**VRE:** *acronym:* Virginia Railway Express.

## W

**wash track:** A shop track or yard lead equipped with machines for washing transit cars.

**watchman/lookout:** A qualified employee who provides warning to Roadway workers of approaching trains and/or track equipment. A Watchmen/Lookout's sole duty is to warn workers to move to, and remain in, a place of safety 15 seconds before the arrival of trains or rail vehicles.

**wayside:** 1. That portion of the ATC system which is outside of the OCCB.  
2. Any area adjacent to and including the track roadway, except passenger station platforms.

**wayside route selection pushbutton:** A device available to operators ten feet in approach to automatic signals which permits operators to initiate a route by pushbutton.

**wayside signal:** A device alongside the track which displays a visual aspect to the operators of approaching trains.



**Weapons Of Mass Destruction (WMD):** Nuclear, biological and chemical weapons that were developed to kill incapacitate or injure personnel, animals and/or plant life in a military application.

1. Biological Weapons of Mass Destruction (BW) - Weapons capable of being released to produce incapacitating or lethal disease. The effects of biological weapons may not be discovered for hours after their release.
2. Chemical Weapons of Mass Destruction (CW) - Liquid, aerosol or vapor chemical agent weapons which, if absorbed through the skin or lungs are capable of injuring, incapacitating or killing humans in large numbers.
3. Nuclear Weapons of Mass Destruction - Weapons capable of nuclear detonation or release of radioactive isotopes to create a contaminated scene.

**web (of the rail):** The thin vertical section of the rail between the ball (head) and the base.

**wee-z bond:** A two piece impedance bond manufactured by GRS and used for the GRS ATP AF track circuit. The name *wee-z* is from *very small-impedance* since the single turn winding has a very low impedance to all frequencies not tuned.

**WMATA:** *acronym:* Washington Metropolitan Area Transit Authority.

**work crew/gang:** Two or more railroad workers organized to work together on a common task; including the RWIC.

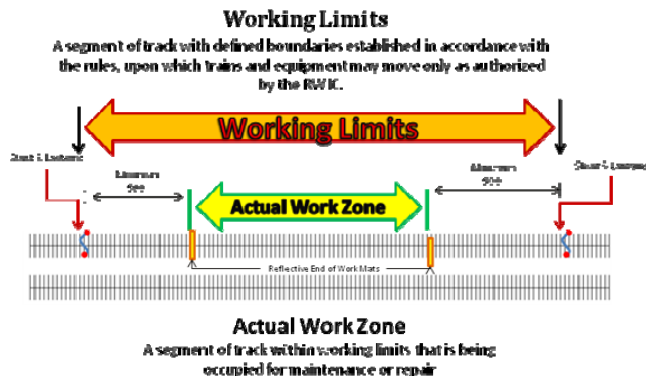
**work zone:** A segment of track within working limits that is being occupied for maintenance or repair.

**work zone authorization:** The written authorization designed to convey rights to obstruct or use a designated section of track between specified points and for a specified period of time with or without the removal of third rail power or signal power.

**work zone speed restriction:** Automated speed restrictions to slow the approach of Class I rail vehicles before they arrive at the work zone.



**working limits:** A segment of track with defined boundaries established in accordance with the rules. The RWIC is the only authorized individual to permit the movement of trains and track equipment through the working limits.



**wrong rail:** Trains or rail equipment that travel in a direction which is opposite of normal rail traffic.

**WSAD:** *acronym:* Warning Strobe Alarm Device: The third rail safety device which provides work crews with an alarm in the form of both siren and strobe light if the third rail to which it is connected becomes energized. After confirmation of a power outage, the device is connected between the de-energized third rail and the negative return rail. The device alarms crews if the third rail is energized or if the device is accidentally disconnected or knocked over.



## X, Y, Z

**yard:** A system of tracks used for connecting and storing trains. Vehicle movements in the yard are under the authority of the tower operator.

**yard contact rail (YCR):** A defined section of third rail in a yard.

**yard control machine:** The interlocking control panel installed on a cabinet in the yard control room for monitoring and controlling train control functions for the yard.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

### METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK

**yard control room:** The room containing the yard control machine, communications console and other panels and equipment for monitoring and controlling propulsion power and other yard functions. Commonly referred to as the “Tower.”

**yard lead:** A length of track connecting the yard to the mainline.

**yard speed:** Prepared to stop within one-half the range of vision short of train, obstruction, or switch improperly aligned, looking out for broken rail, operating in yard mode not exceeding 10 mph.

**YCR:** *acronym:* Yard Contact Rail.





**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

**METRORAIL SAFETY RULES AND PROCEDURES HANDBOOK**

# Track Maps

(This page is in lieu of a divider Tab)

# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY



**DEPARTMENT OF RAIL • RAIL OPERATIONS DELIVERY**

## **SYSTEM WIDE MAINLINE TRACK MAINTENANCE DATA**

## TSSM Systemwide Turnout and Switch Machine Summary Report

### #8 Main Line & Connecting Leads

Line	Goal	Actual	Remain	% Compl
A	29	29	0	100.0%
B	35	25	10	71.4%
C	25	17	8	68.0%
D	24	10	14	41.7%
E	22	8	14	36.4%
F	16	8	8	50.0%
J	8	2	6	25.0%
K	19	15	4	78.9%
<b>Total</b>	<b>178</b>	<b>114</b>	<b>64</b>	<b>64.0%</b>

### #8 Yard Line & Secondary Tracks

Line	Goal	Actual	Remain	% Compl
A99	17	10	7	58.8%
B99	7	5	2	71.4%
B98	4	4	0	100.0%
D99	23	2	21	8.7%
E99	53	9	44	17.0%
F99	21	18	3	85.7%
C99	36	11	25	30.6%
K99	28	5	23	17.9%
<b>Total</b>	<b>189</b>	<b>64</b>	<b>125</b>	<b>33.9%</b>

<b>Grand Total</b>	<b>367</b>	<b>178</b>	<b>189</b>	<b>48.50%</b>
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### #6, 10, 15 Main Line & Connecting Leads

Line	Goal	Actual	Remain	% Compl
A	8	4	4	50.0%
B	16	12	4	75.0%
C	10	10	0	100.0%
D	8	8	0	100.0%
E	13	10	3	76.9%
F	10	0	10	0.0%
G & G98	15	11	4	73.3%
J	4	0	4	0.0%
K	9	1	8	11.1%
<b>Total</b>	<b>93</b>	<b>56</b>	<b>37</b>	<b>60.2%</b>

### #6, 10, 15 Yard Line & Secondary Tracks

Line	Goal	Actual	Remain	% Compl
A99	25	0	25	0.0%
B99	39	0	39	0.0%
B98	20	12	8	60.0%
D99	7	0	7	0.0%
E99	21	0	21	0.0%
F99	8	0	8	0.0%
C99	29	0	29	0.0%
K99	19	1	18	5.3%
<b>Total</b>	<b>168</b>	<b>13</b>	<b>155</b>	<b>7.7%</b>

### US&S M3 Switch Machines Main Line

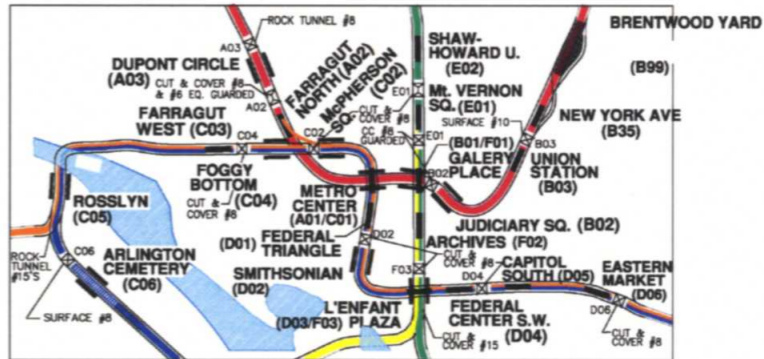
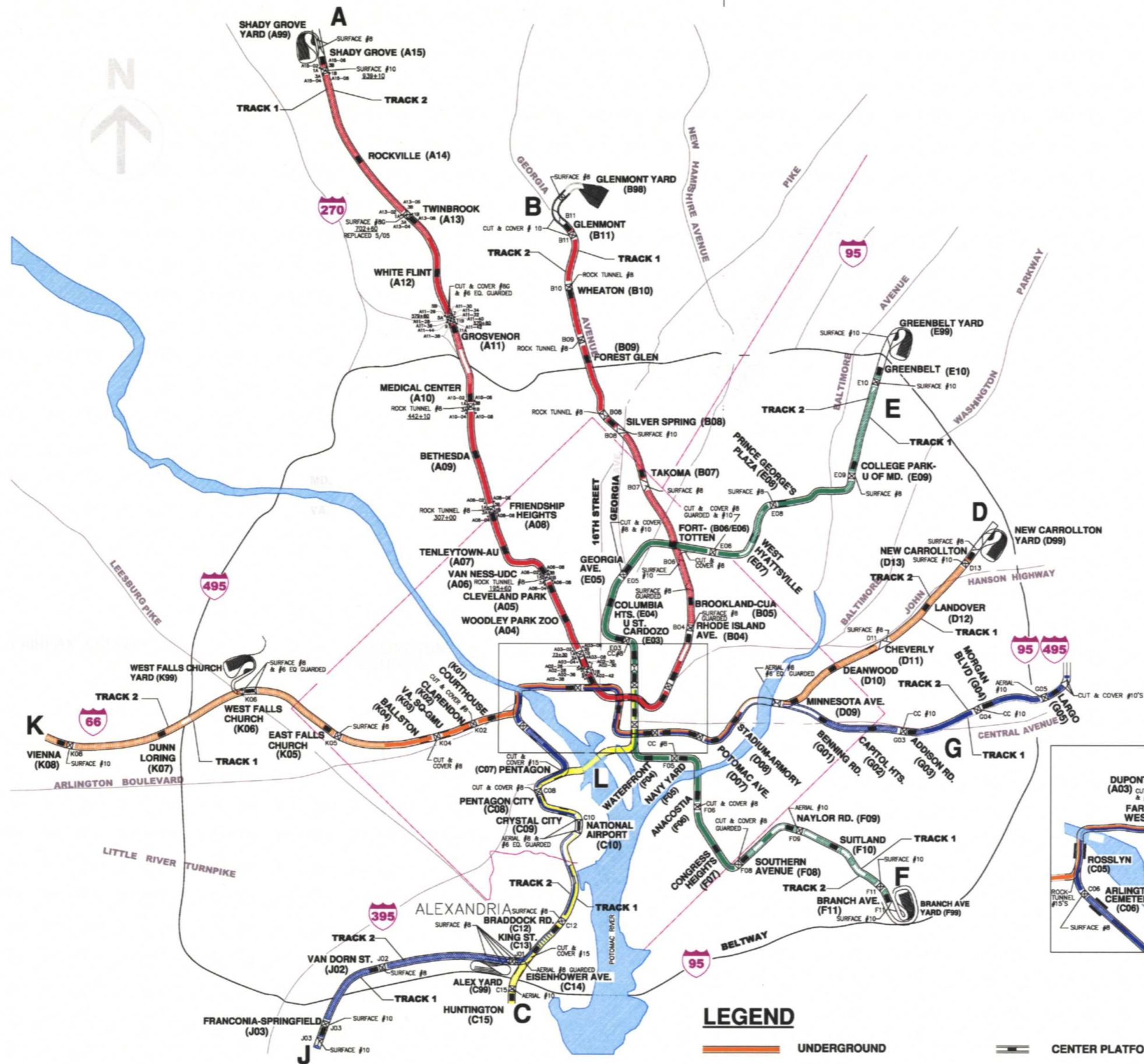
Line	Goal	Actual	Remain	% Compl
A	43	19	24	44.2%
B	62	48	14	77.4%
C	36	19	17	52.8%
D	32	8	24	25.0%
E	36	19	17	52.8%
F	26	4	22	15.4%
G & G98	15	11	4	73.3%
J	21	13	8	61.9%
K	29	15	14	51.7%
<b>Total</b>	<b>300</b>	<b>156</b>	<b>144</b>	<b>52.0%</b>

### #6 Yard Line & Secondary Tracks

Line	Goal	Actual	Remain	% Compl
A99	25	25	0	100.0%
B99	39	39	0	100.0%
B98	12	12	0	100.0%
D99	7	7	0	100.0%
E99	15	15	0	100.0%
F99	0	0	0	0.0%
C99	29	29	0	100.0%
K99	19	19	0	100.0%
<b>Total</b>	<b>146</b>	<b>146</b>	<b>0</b>	<b>100.0%</b>

### #6 Main Line Tracks

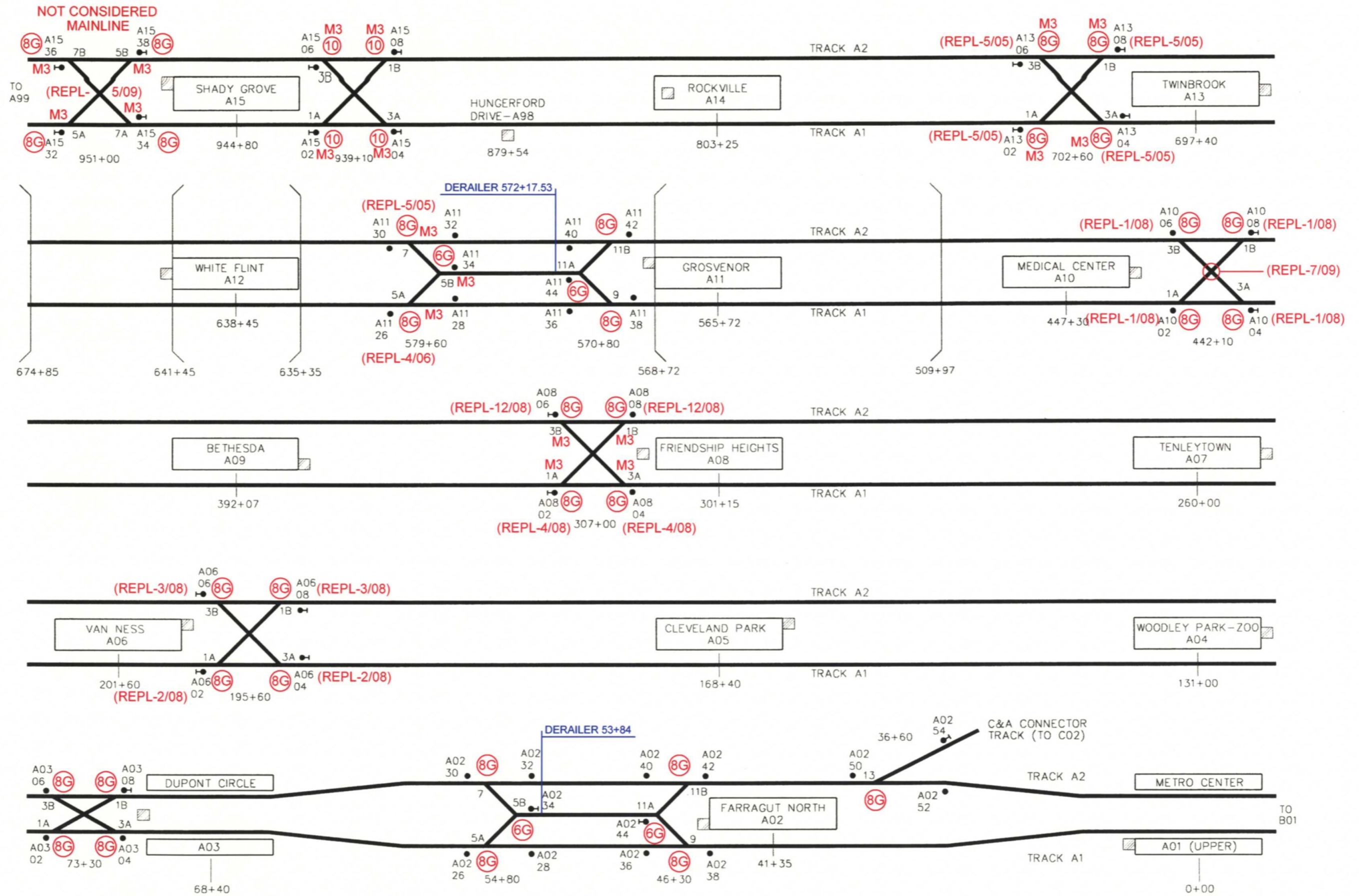
Line	Goal	Actual	Remain	% Compl
A	4	4	0	100.0%
B	0	0	0	0.0%
C	0	0	0	0.0%
D	2	2	0	100.0%
E	2	2	0	100.0%
F	0	0	0	0.0%
J	0	0	0	0.0%
K	1	1	0	100.0%
<b>Total</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>100.0%</b>



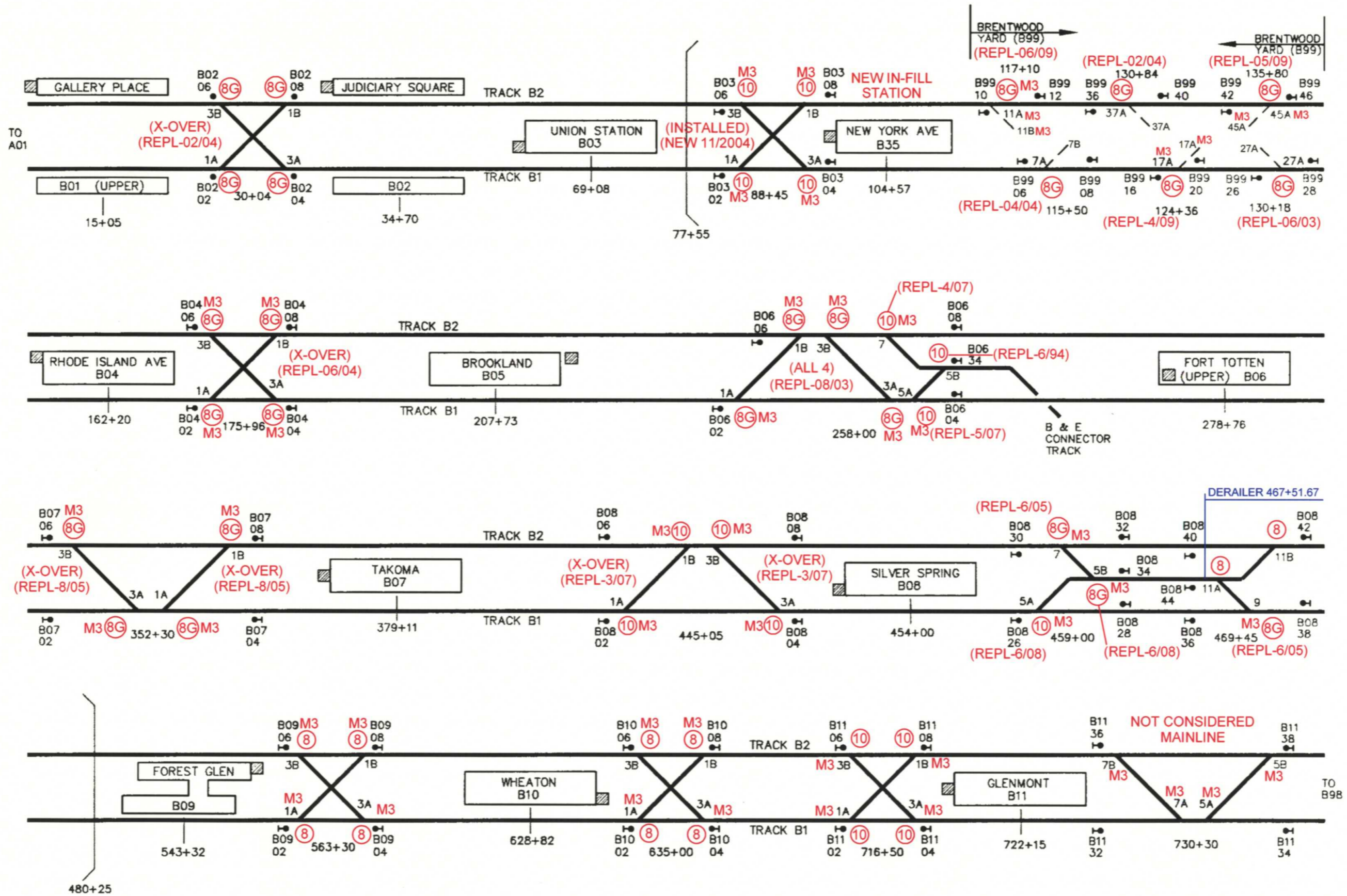
**LEGEND**

- |  |                       |  |                            |  |             |
|--|-----------------------|--|----------------------------|--|-------------|
|  | UNDERGROUND           |  | CENTER PLATFORM STATION    |  | YELLOW LINE |
|  | AT GRADE              |  | DOUBLE CROSSOVER           |  | BLUE LINE   |
|  | AERIAL                |  | SINGLE CROSSOVER           |  | GREEN LINE  |
|  | UNDER CONSTRUCTION    |  | DOUBLE EQUILATERAL TURNOUT |  | RED LINE    |
|  | SIDE PLATFORM STATION |  | TURNOUT                    |  | ORANGE LINE |

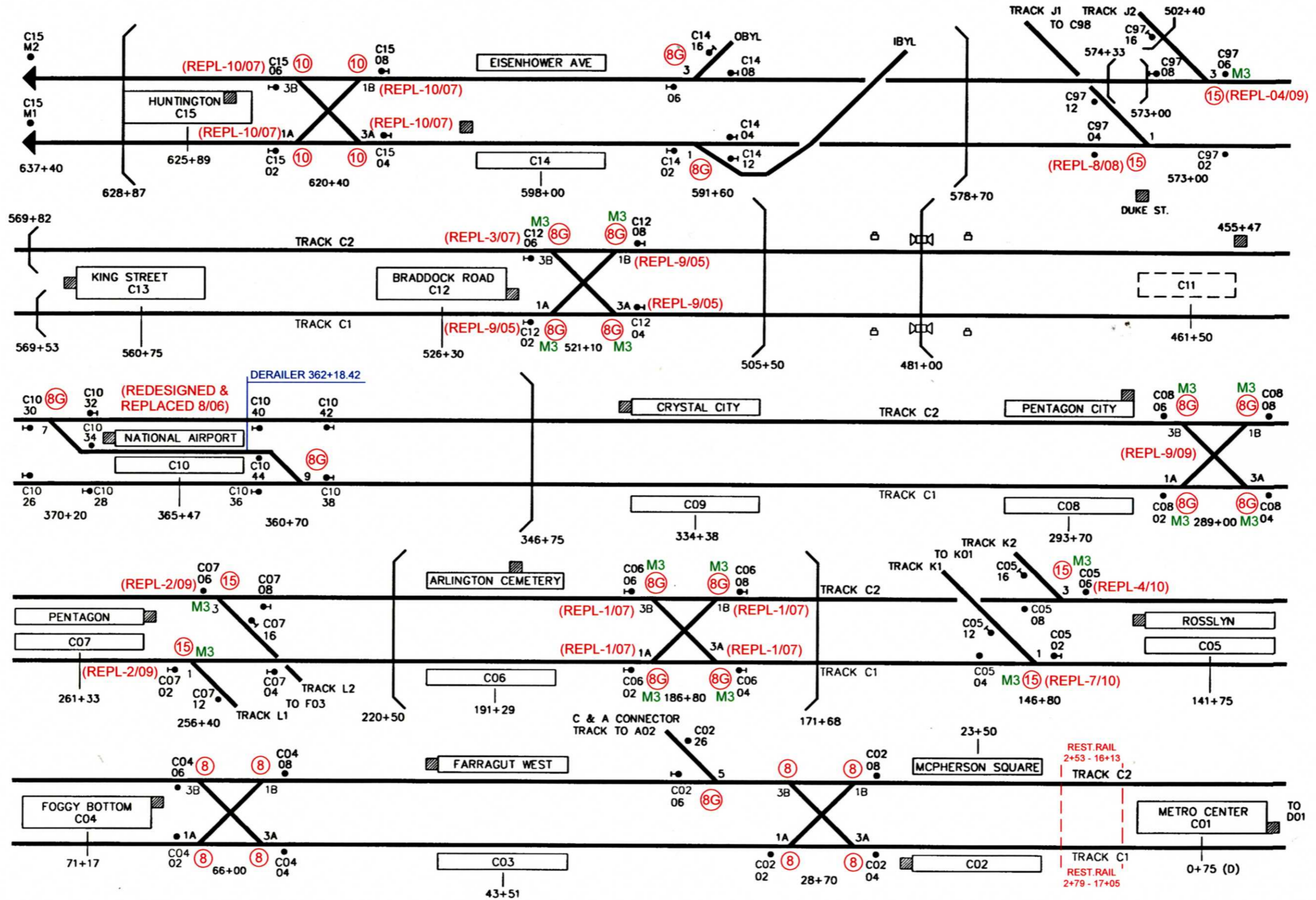
# MAINLINE "A" (RED) LINE



# MAINLINE "B" (RED) LINE

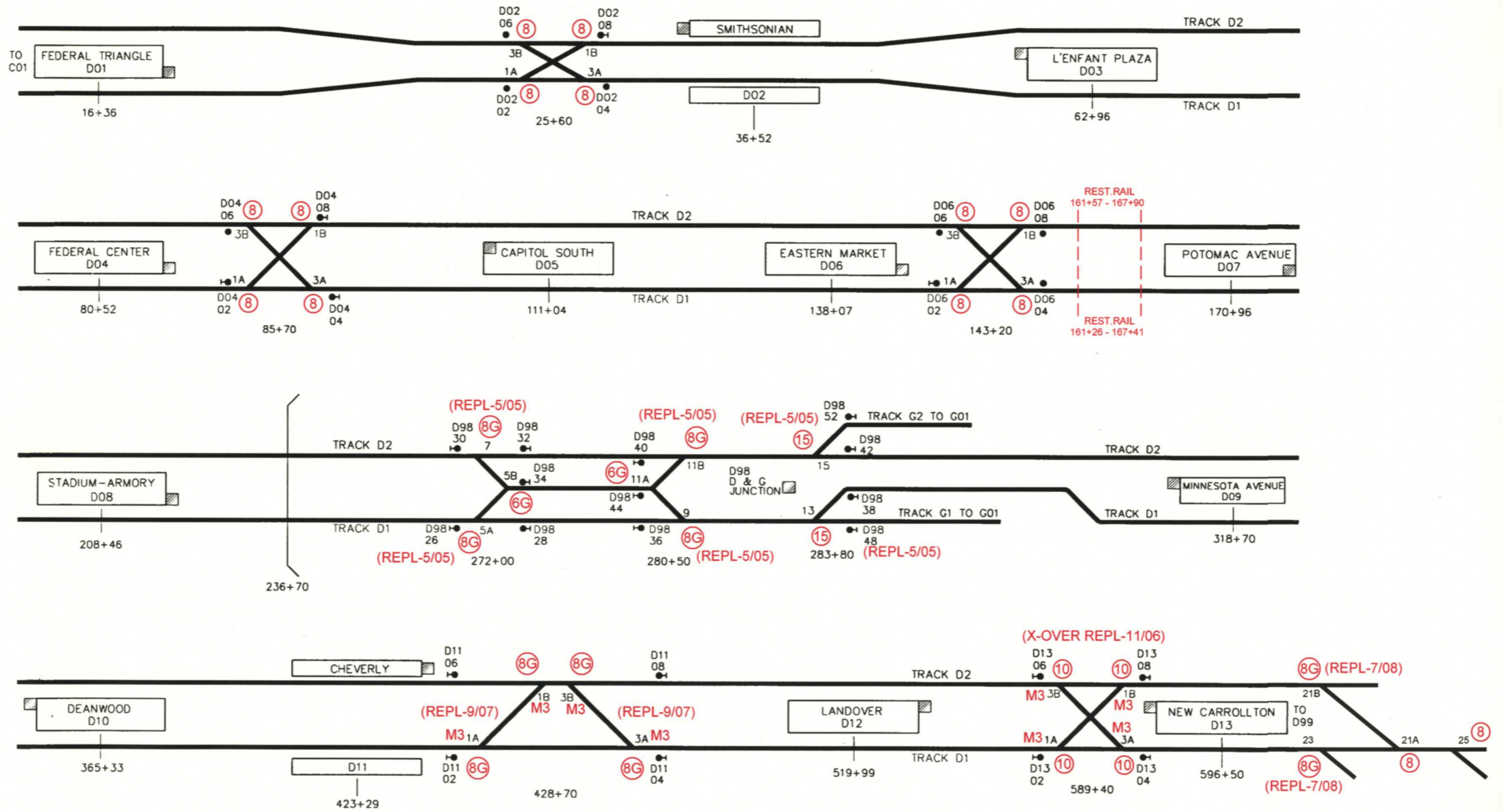


# MAINLINE "C" (BLUE/ORANGE/YELLOW) LINE

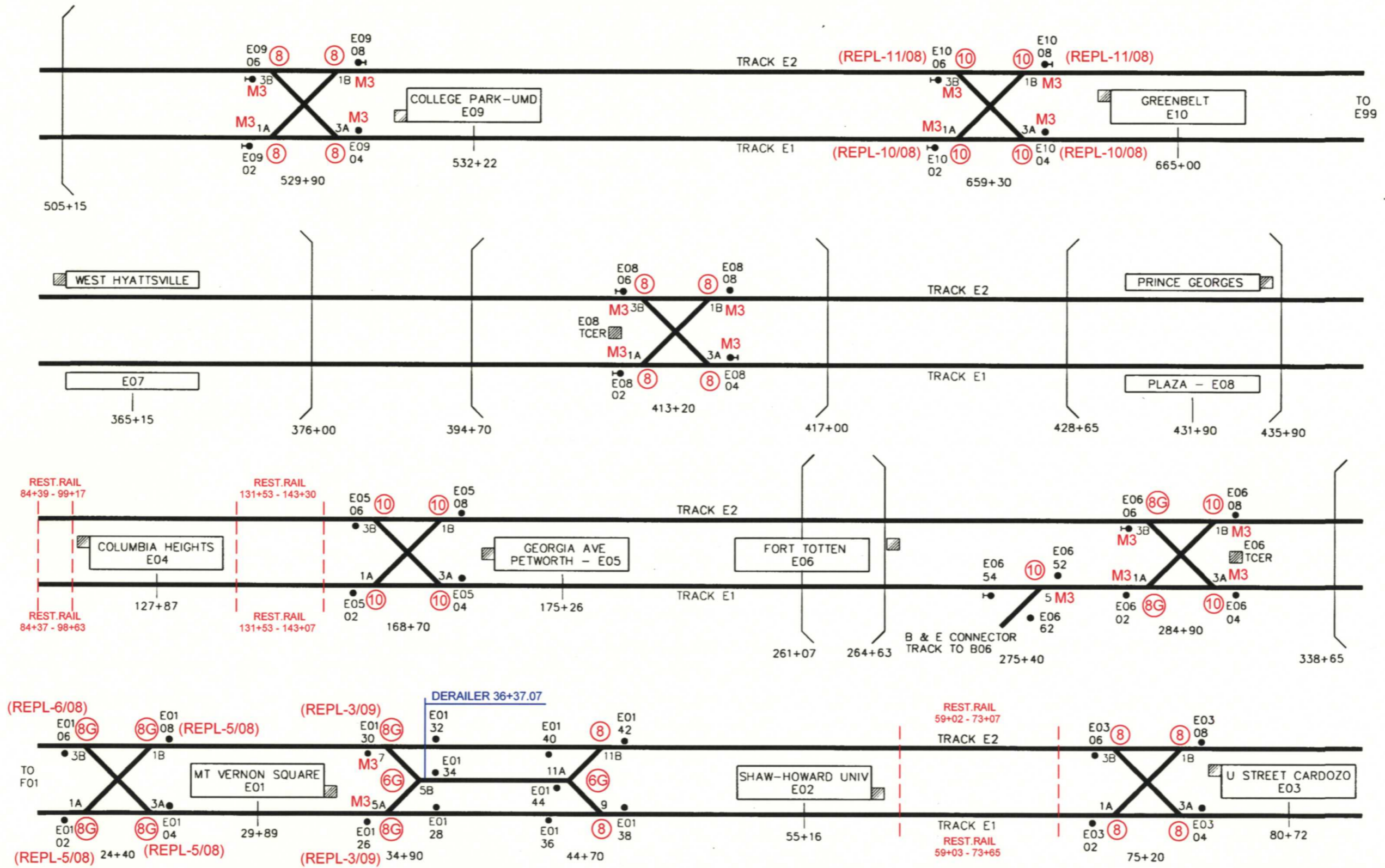




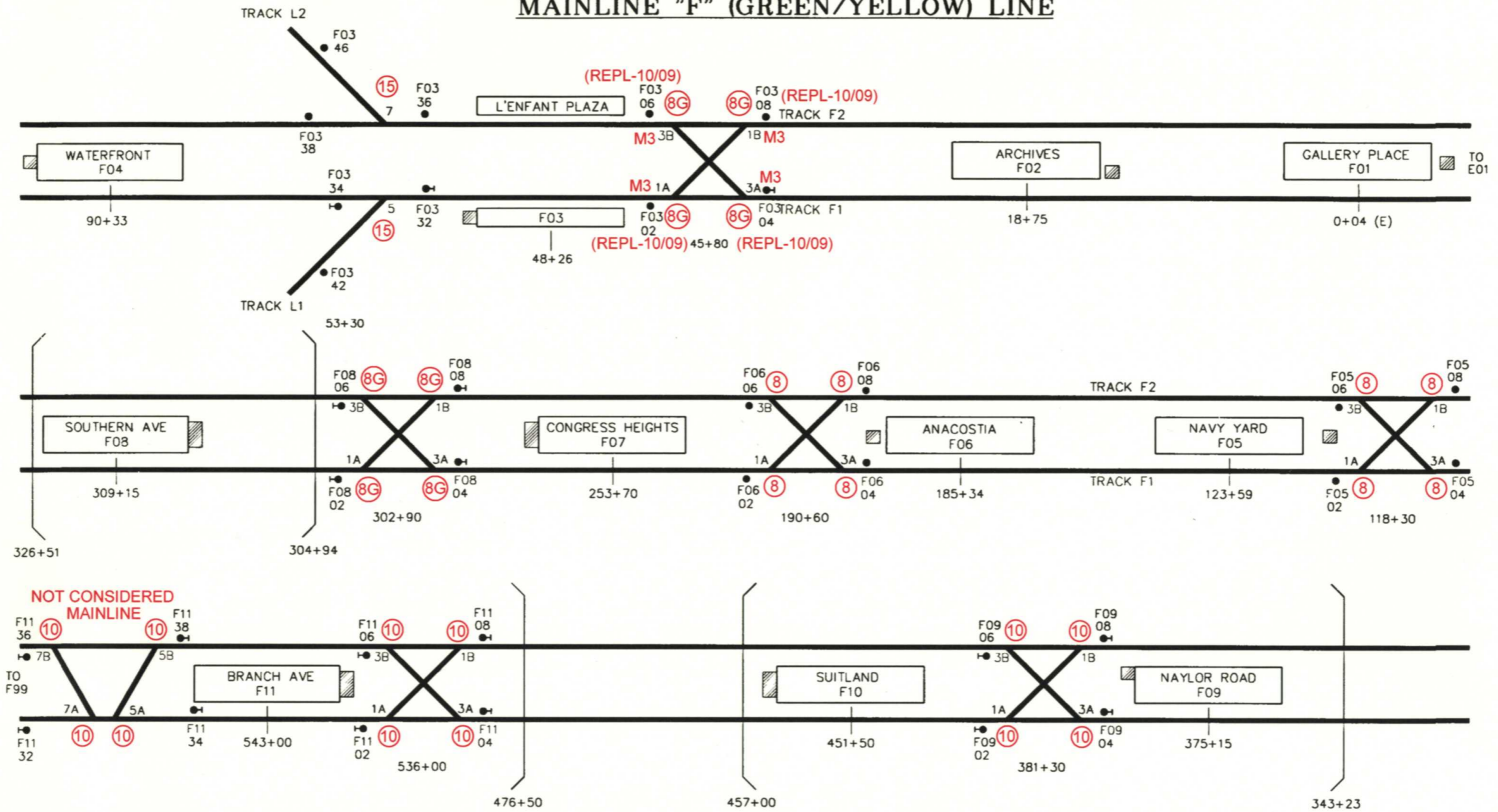
# MAINLINE "D" (BLUE/ORANGE) LINE



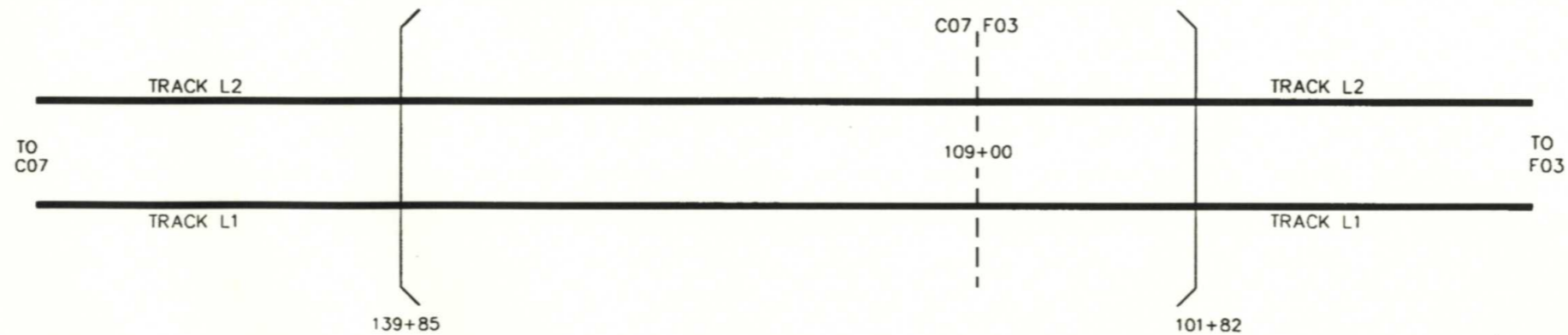
# MAINLINE "E" (GREEN/YELLOW) LINE



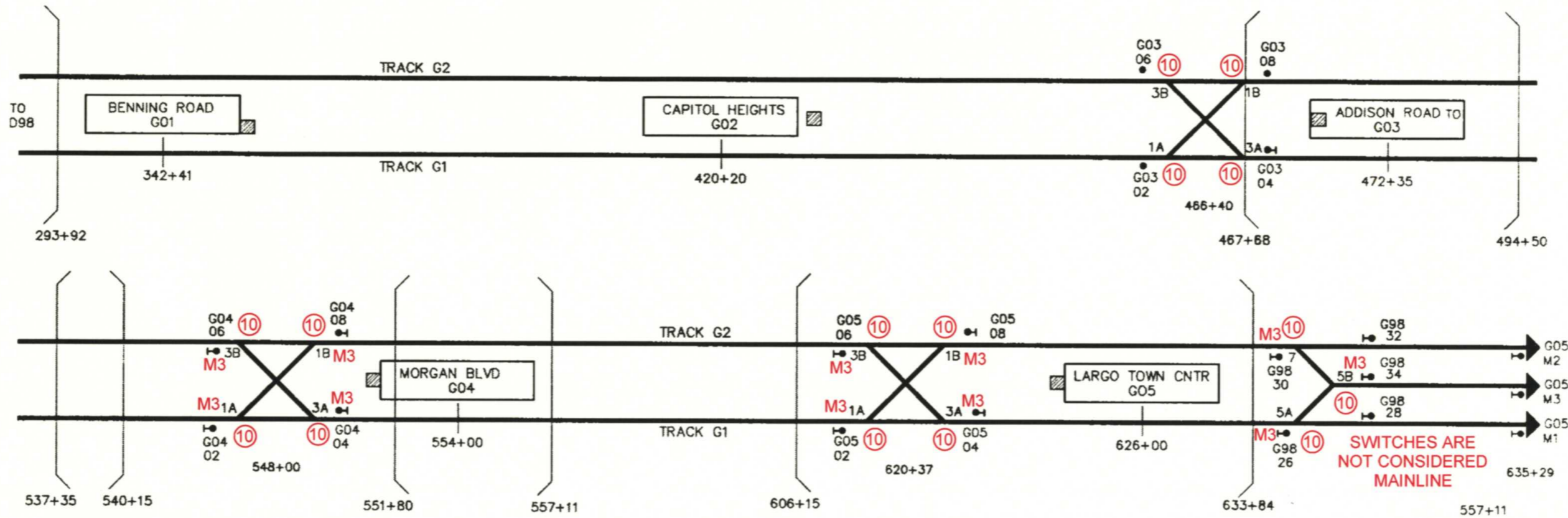
## MAINLINE "F" (GREEN/YELLOW) LINE



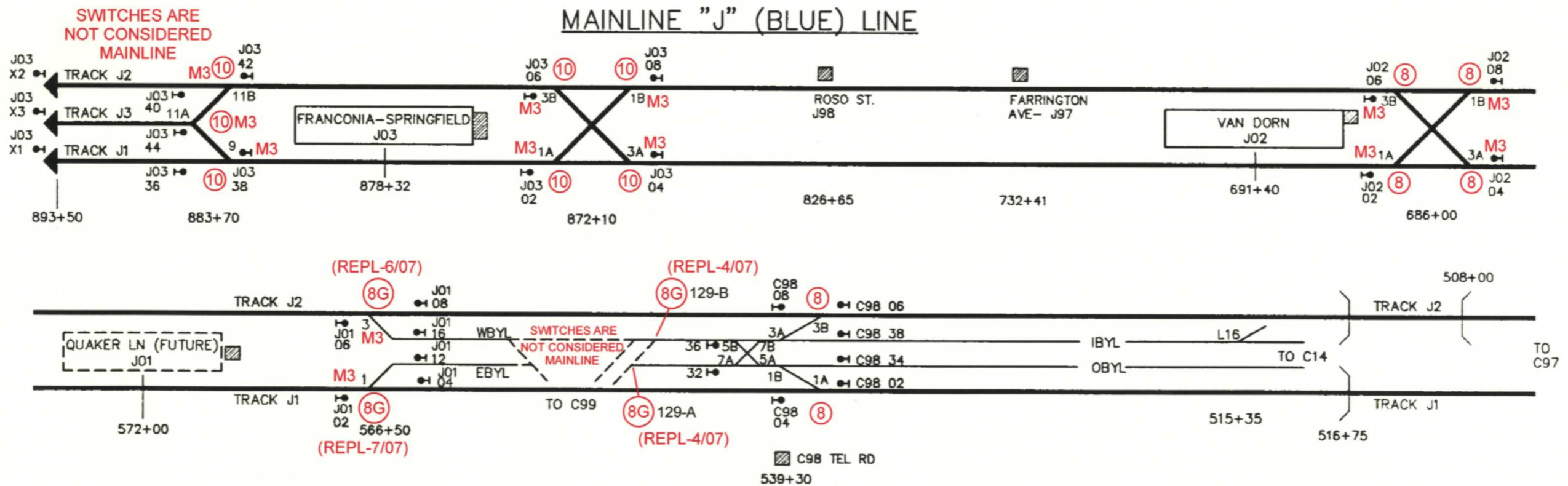
## MAINLINE "L" (YELLOW) LINE



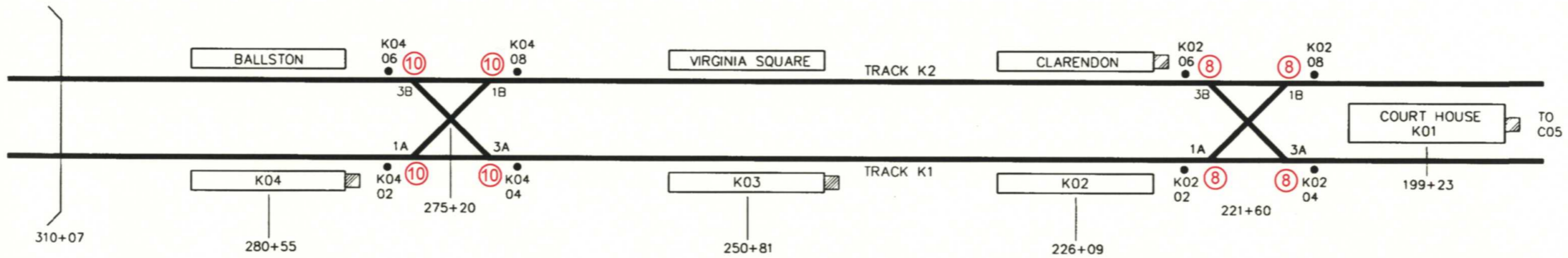
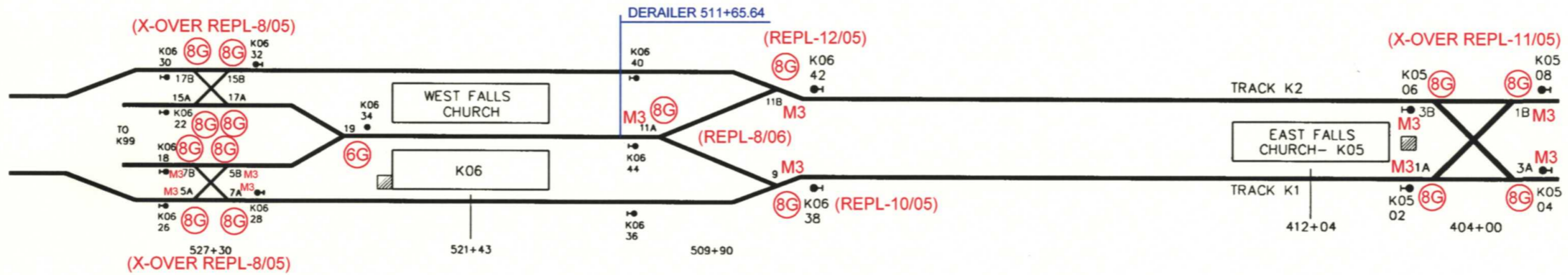
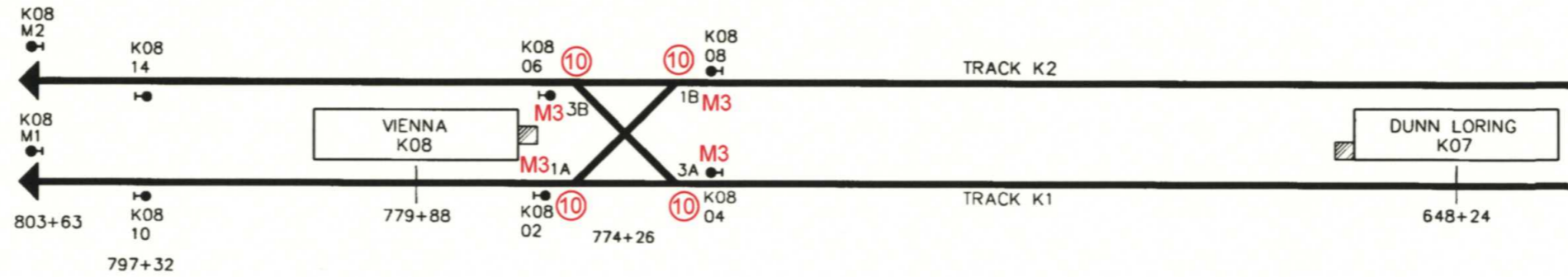
### MAINLINE "G" (BLUE) LINE

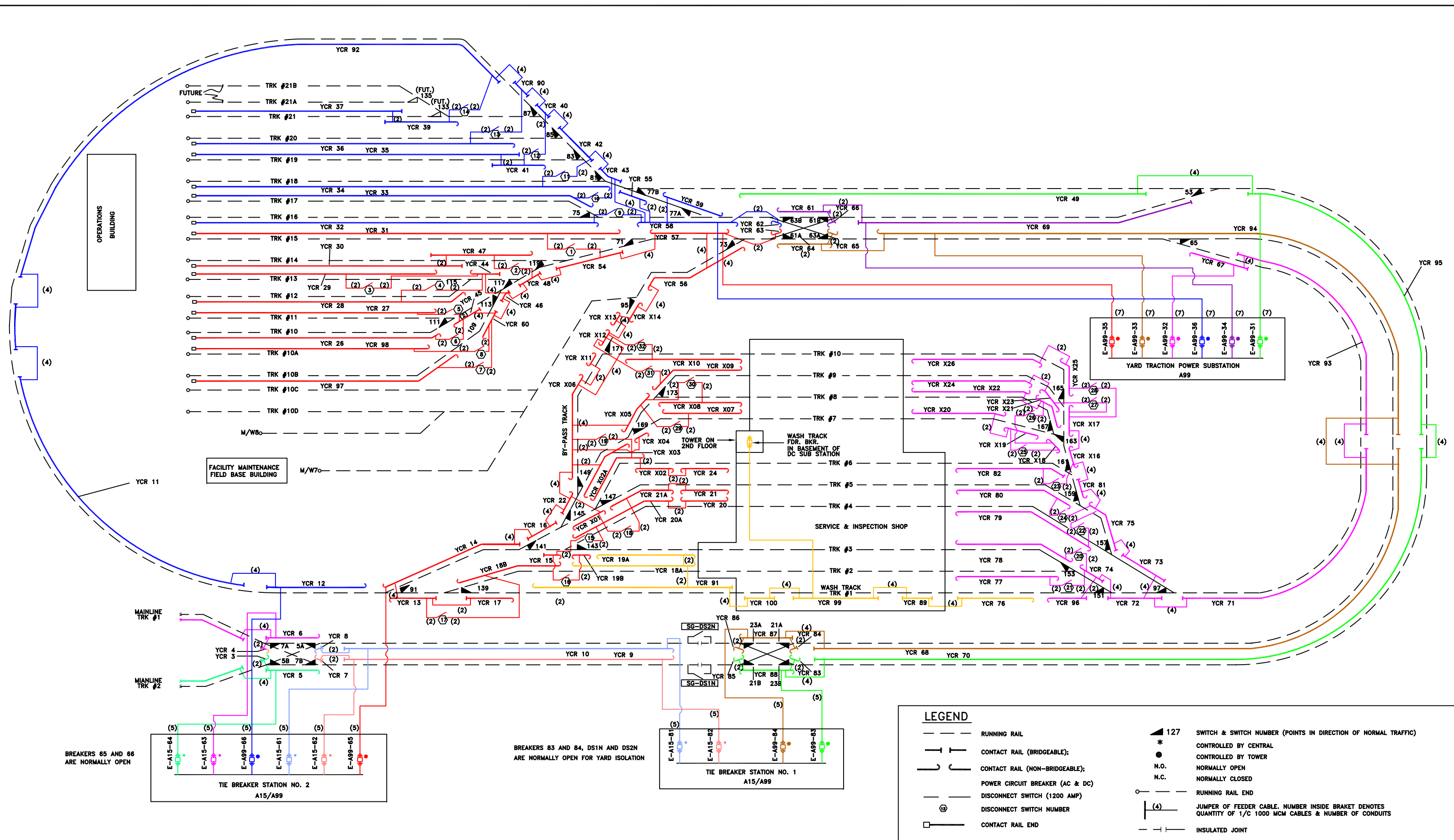


### MAINLINE "J" (BLUE) LINE



# MAINLINE "K" (ORANGE) LINE





BREAKERS 65 AND 66 ARE NORMALLY OPEN

BREAKERS 83 AND 84, DS1N AND DS2N ARE NORMALLY OPEN FOR YARD ISOLATION

**LEGEND**

- RUNNING RAIL
- CONTACT RAIL (BRIDGEABLE);
- CONTACT RAIL (NON-BRIDGEABLE);
- POWER CIRCUIT BREAKER (AC & DC)
- DISCONNECT SWITCH (1200 AMP)
- Ⓢ DISCONNECT SWITCH NUMBER
- CONTACT RAIL END
- ▲ 127 SWITCH & SWITCH NUMBER (POINTS IN DIRECTION OF NORMAL TRAFFIC)
- \* CONTROLLED BY CENTRAL
- CONTROLLED BY TOWER
- N.O. NORMALLY OPEN
- N.C. NORMALLY CLOSED
- --- RUNNING RAIL END
- (4) JUMPER OF FEEDER CABLE. NUMBER INSIDE BRACKET DENOTES QUANTITY OF 1/C 1000 MCM CABLES & NUMBER OF CONDUITS
- INSULATED JOINT

DESIGNED	H. OVIEDO	2/7/08
DATE		
DRAWN	R. HOOKER	2/7/08
DATE		
CHECKED	L. ARCHER	2/7/08
DATE		
APPROVED	M. OUATTARA	2/7/08
DATE		

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS			
REV NO	DATE	BY	DESCRIPTION
A	2/7/08	HO	YARD REDESIGN

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ENCP ENGINEERING & CAPITAL PROJECTS

APPROVED \_\_\_\_\_

COLIN A. MEYERS

TITLE:

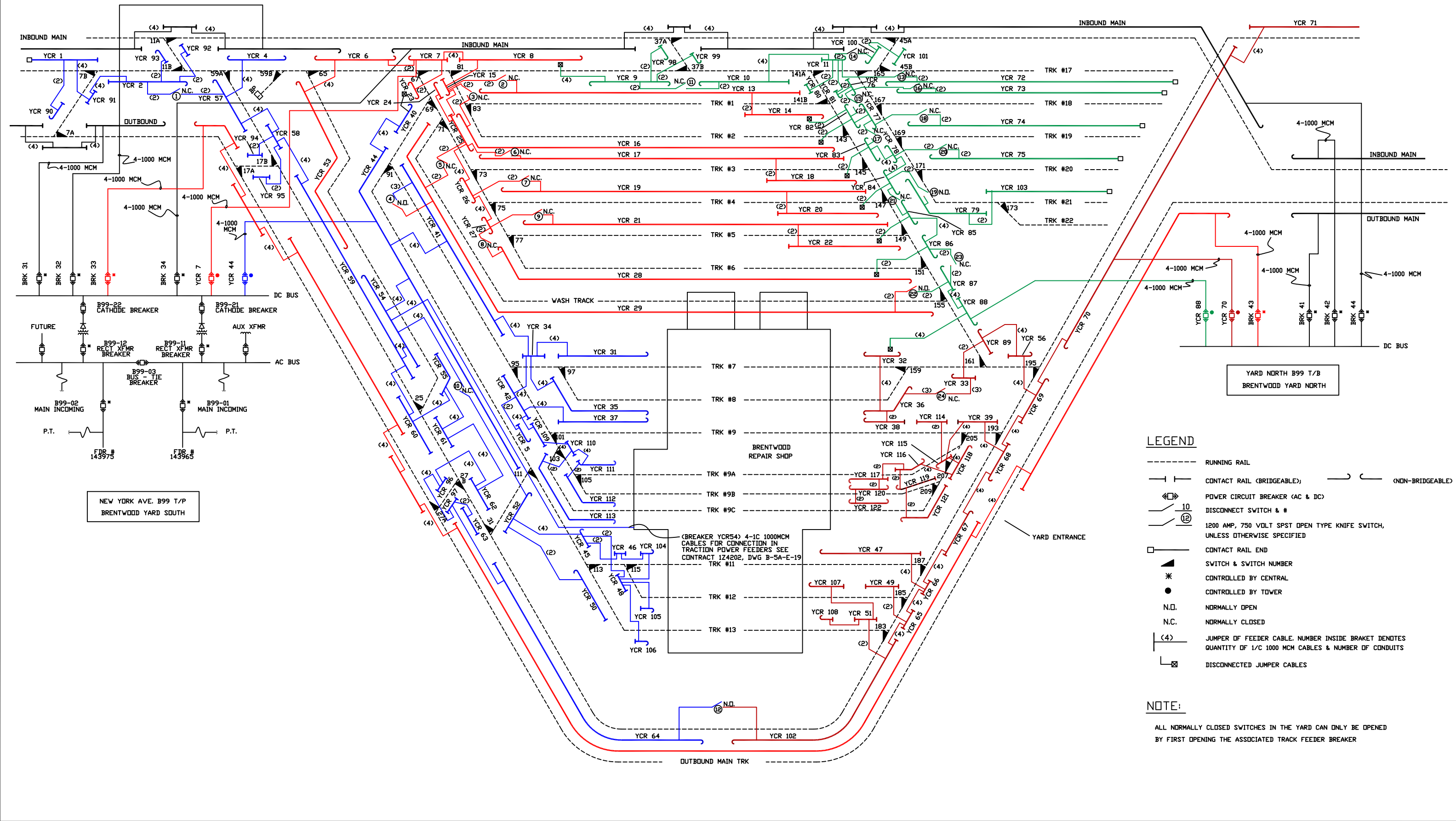
ELECTRIFICATION SINGLE LINE DIAGRAM

SHADY GROVE SERVICE & INSPECTION YARD

SCALE: NONE

DRAWING NO: CRS-E01

SHT NO:



NEW YORK AVE. B99 T/P  
BRENTWOOD YARD SOUTH

YARD NORTH B99 T/B  
BRENTWOOD YARD NORTH

**LEGEND**

- RUNNING RAIL
- CONTACT RAIL (BRIDGEABLE); --- (NON-BRIDGEABLE)
- ☐ POWER CIRCUIT BREAKER (AC & DC)
- ⊞ DISCONNECT SWITCH & #
- ⊞ 10 1200 AMP, 750 VOLT SPST OPEN TYPE KNIFE SWITCH, UNLESS OTHERWISE SPECIFIED
- ☐ CONTACT RAIL END
- ▲ SWITCH & SWITCH NUMBER
- \* CONTROLLED BY CENTRAL
- CONTROLLED BY TOWER
- N.O. NORMALLY OPEN
- N.C. NORMALLY CLOSED
- (4) JUMPER OF FEEDER CABLE. NUMBER INSIDE BRACKET DENOTES QUANTITY OF 1/C 1000 MCM CABLES & NUMBER OF CONDUITS
- ⊞ DISCONNECTED JUMPER CABLES

**NOTE:**

ALL NORMALLY CLOSED SWITCHES IN THE YARD CAN ONLY BE OPENED BY FIRST OPENING THE ASSOCIATED TRACK FEEDER BREAKER

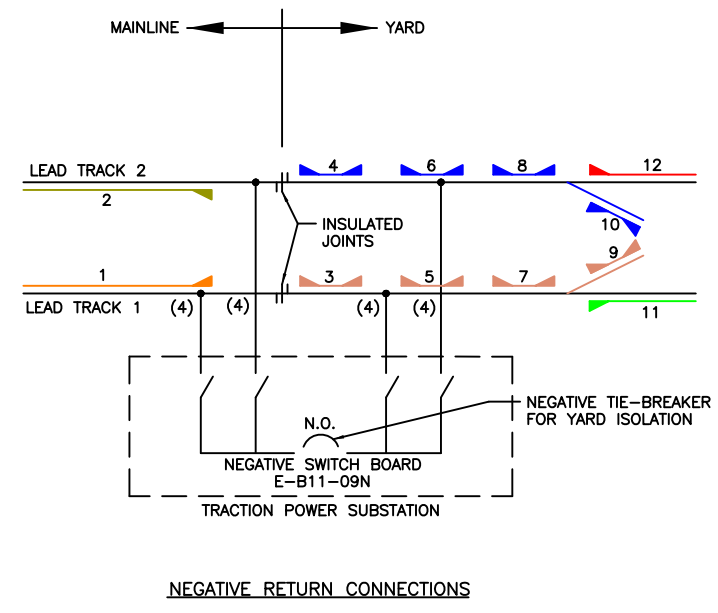
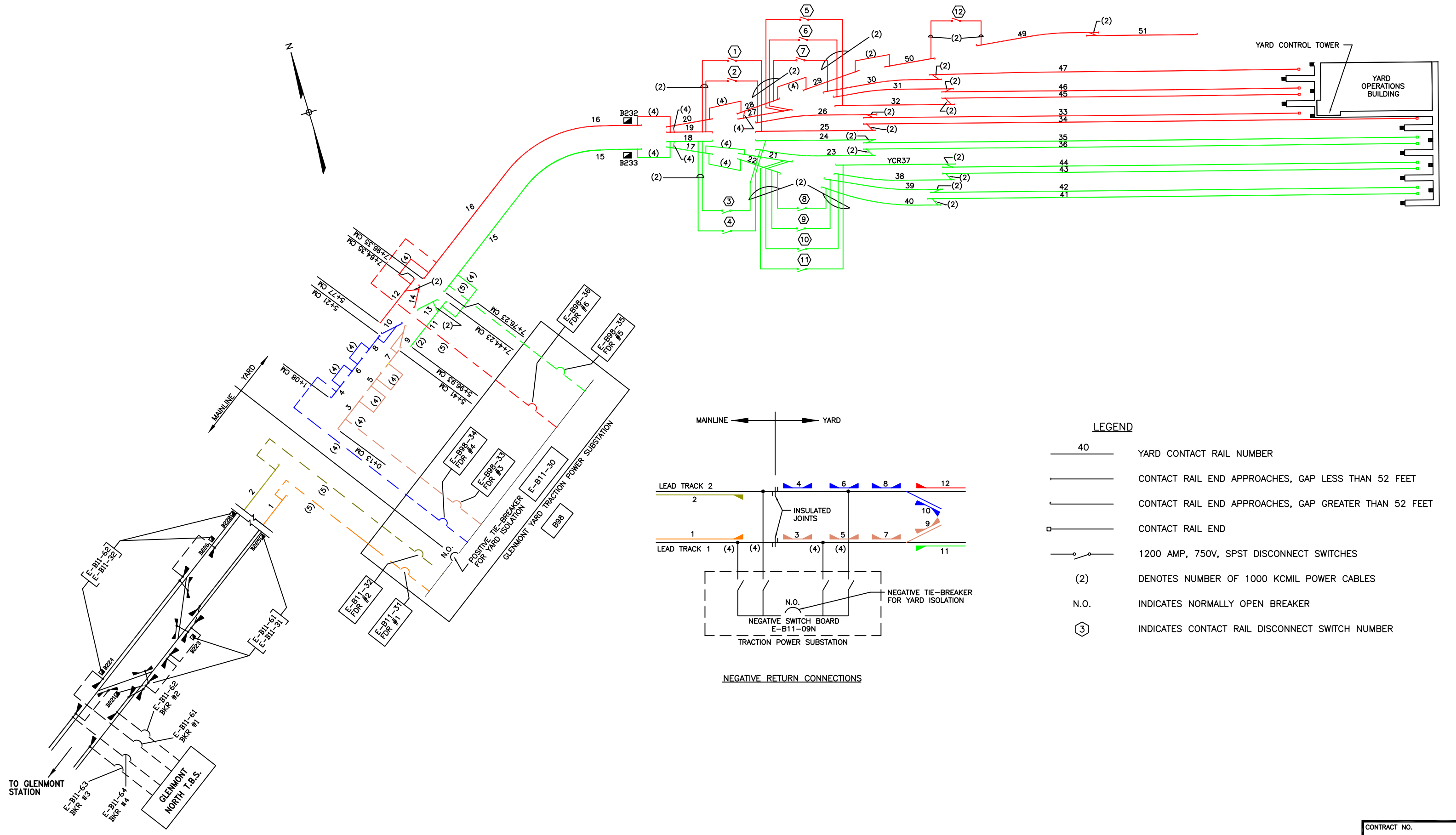
DESIGNED		DATE		REFERENCE DRAWINGS		DATE		BY		DESCRIPTION	
H. OMEDO	5/19/08			NUMBER	DESCRIPTION	DATE	BY	DATE	BY	DESCRIPTION	
R. HOOKER	5/19/08					5/19/08	HO			REV A -- REVISED PER CONTRACT FN5147	
L. ARCHER	5/19/08										

**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
OFFICE OF ENGINEERING SUPPORT SERVICES

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
DIRECTOR

**ELECTRIFICATION SINGLE LINE DIAGRAM  
BRENTWOOD MAJOR REPAIR YARD**

SCALE: NONE DRAWING NO.: CRS-E09



- LEGEND**
- 40 YARD CONTACT RAIL NUMBER
  - CONTACT RAIL END APPROACHES, GAP LESS THAN 52 FEET
  - CONTACT RAIL END APPROACHES, GAP GREATER THAN 52 FEET
  - CONTACT RAIL END
  - 1200 AMP, 750V, SPST DISCONNECT SWITCHES
  - (2) DENOTES NUMBER OF 1000 KCMIL POWER CABLES
  - N.O. INDICATES NORMALLY OPEN BREAKER
  - 3 INDICATES CONTACT RAIL DISCONNECT SWITCH NUMBER

DESIGNED O.RAVARRA  
 DRAWN R.HOOKER  
 CHECKED W.VLISMAS  
 APPROVED L.DREIBAND

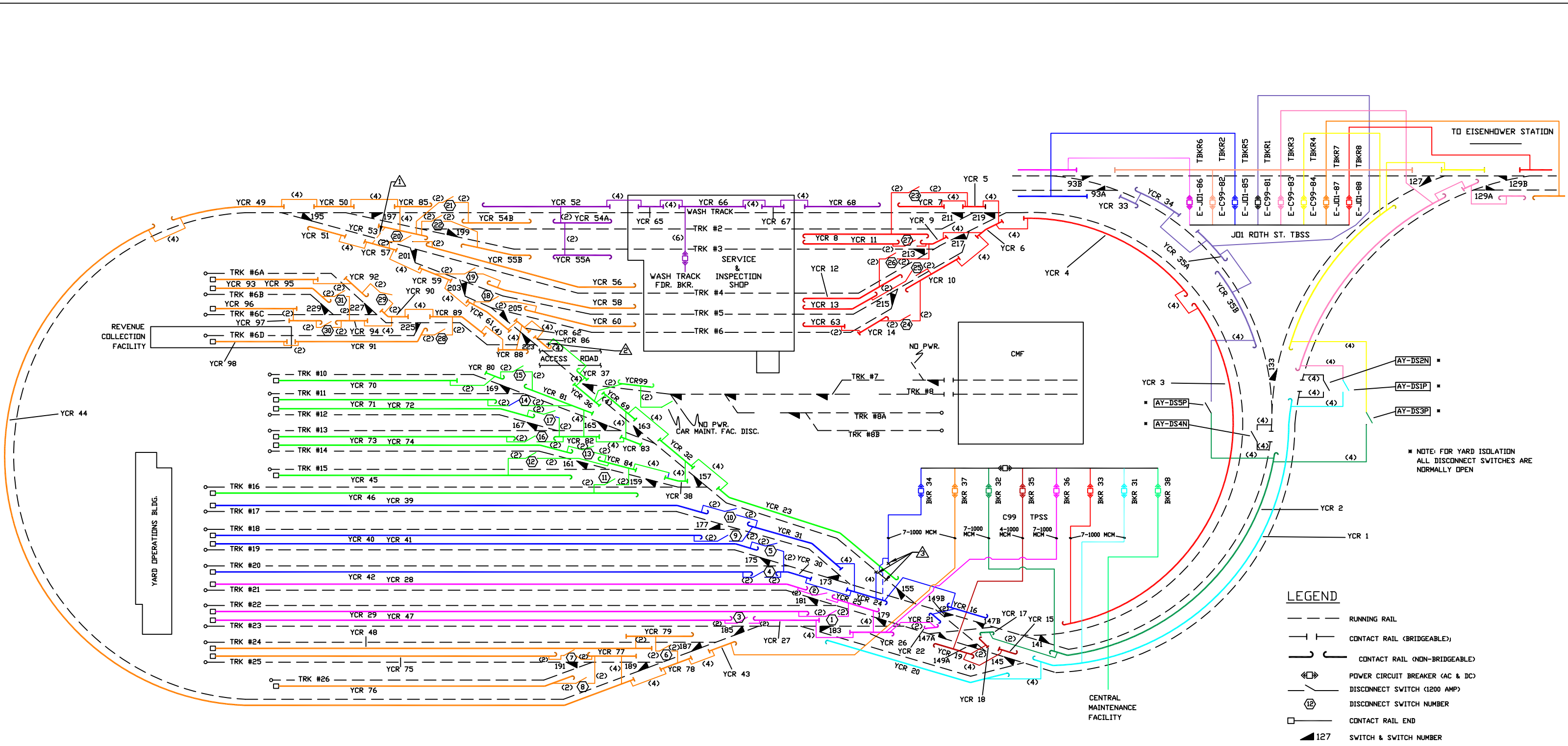
REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION
8/17/00	RJH	ADDED MAINLINE SECTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
 DE LEUW, CATHER & COMPANY  
 SECTION DESIGNER  
 SUBMITTED BY \_\_\_\_\_

CONTACT RAIL  
 GLENMONT STORAGE YARD  
 SINGLE LINE DIAGRAM  
 SCALE NONE  
 DRAWING NO. CRS-E-12  
 CONTRACT NO. \_\_\_\_\_





NOTES FOR TEMPORARY CONFIGURATION ONLY:

- ⚠ CLAMP 4-JB CALES TO YCR57, AND CLAMP THE OTHER END OF 4-JB CABLES TO YCR53.
- ⚠ DISCONNECT STUB UPS AND PIGTAILS AT YCR86 AS INDICATED.
- ⚠ DISCONNECT AND REMOVE FOUR FEEDER CABLES AT YCR23 STUB UPS AS INDICATED. LEAVE REMAINING THREE CABLES CONNECTED TO YCR24.

4. — GREEN TRACK IS DE-ENERGIZED.

## TEMPORARY CONFIGURATION FEBRUARY 11, 2006

- LEGEND**
- — — — — RUNNING RAIL
  - | — | — CONTACT RAIL (BRIDGEABLE)
  - | — | — CONTACT RAIL (NON-BRIDGEABLE)
  - ⊞ POWER CIRCUIT BREAKER (AC & DC)
  - ⊞ DISCONNECT SWITCH (1200 AMP)
  - ⊞ DISCONNECT SWITCH NUMBER
  - CONTACT RAIL END
  - ▲ 127 SWITCH & SWITCH NUMBER
  - \* CONTROLLED BY CENTRAL
  - CONTROLLED BY TOWER
  - N.D. NORMALLY OPEN
  - N.C. NORMALLY CLOSED
  - — — — — — RUNNING RAIL END
  - (4) — — — — JUMPER OF FEEDER CABLE. NUMBER INSIDE BRACKET DENOTES QUANTITY OF 1/2 1000 MCM CABLES & NUMBER OF CONDUITS
  - | — | — INSULATED JOINT

DESIGNED	S. PAIMPALIL 10/27/93		REFERENCE DRAWINGS		REVISIONS		
	DATE		NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
DRAWN	D. GORDON	10/27/93			2/3/05	RJH	REMOVED CABLES BETWEEN YCR'S 200 AND 210
CHECKED	S. AKHUND	10/27/93			2/11/08	HD	TEMPORARY CONFIGURATION
APPROVED	L. PIPER	10/27/93					

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

THAYER  
ENTERPRISES  
INCORPORATED  
301 680-9487

APPROVED \_\_\_\_\_

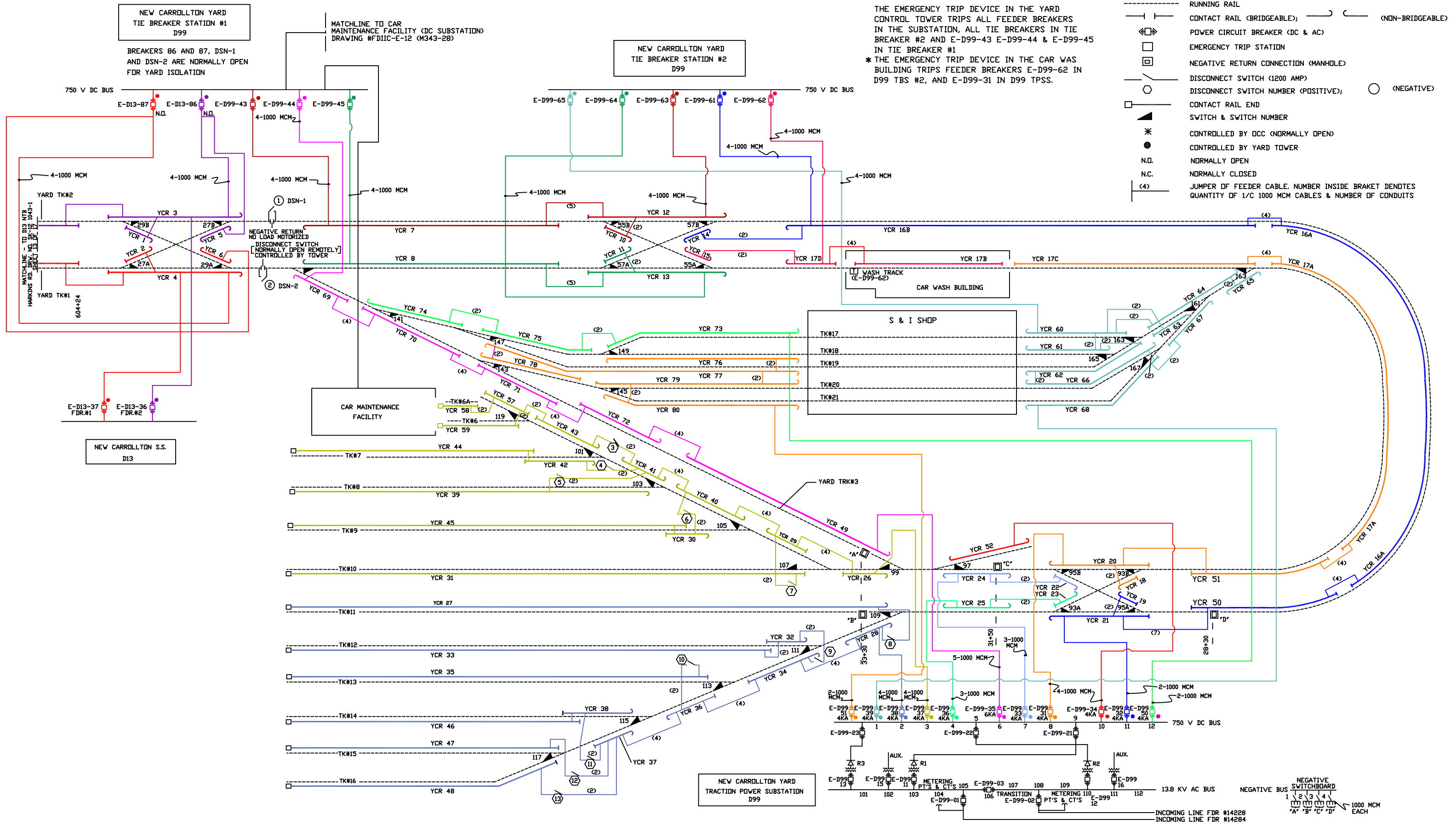
ELECTRIFICATION SINGLE LINE DIAGRAM ALEXANDRIA SERVICE & INSPECTION YARD	
SCALE	NONE
DRAWING NO.	

# EMERGENCY TRIP

THE EMERGENCY TRIP DEVICE IN THE YARD CONTROL TOWER TRIPS ALL FEEDER BREAKERS IN THE SUBSTATION, ALL TIE BREAKERS IN TIE BREAKER #2 AND E-D99-43 E-D99-44 & E-D99-45 IN TIE BREAKER #1  
 \* THE EMERGENCY TRIP DEVICE IN THE CAR WAS BUILDING TRIPS FEEDER BREAKERS E-D99-62 IN D99 TBS #2, AND E-D99-31 IN D99 TPSS.

## LEGEND

- RUNNING RAIL
- CONTACT RAIL (BRIDGEABLE) --- (NON-BRIDGEABLE)
- ⊠ POWER CIRCUIT BREAKER (DC & AC)
- ⊞ EMERGENCY TRIP STATION
- ⊞ NEGATIVE RETURN CONNECTION (MANHOLE)
- ⊞ DISCONNECT SWITCH (1200 AMP)
- ⊞ DISCONNECT SWITCH NUMBER (POSITIVE) ⊞ (NEGATIVE)
- ⊞ CONTACT RAIL END
- ▲ SWITCH & SWITCH NUMBER
- \* CONTROLLED BY OCC (NORMALLY OPEN)
- CONTROLLED BY YARD TOWER
- N.D. NORMALLY OPEN
- N.C. NORMALLY CLOSED
- (4) JUMPER OF FEEDER CABLE. NUMBER INSIDE BRACKET DENOTES QUANTITY OF 1/C 1000 MCM CABLES & NUMBER OF CONDUITS

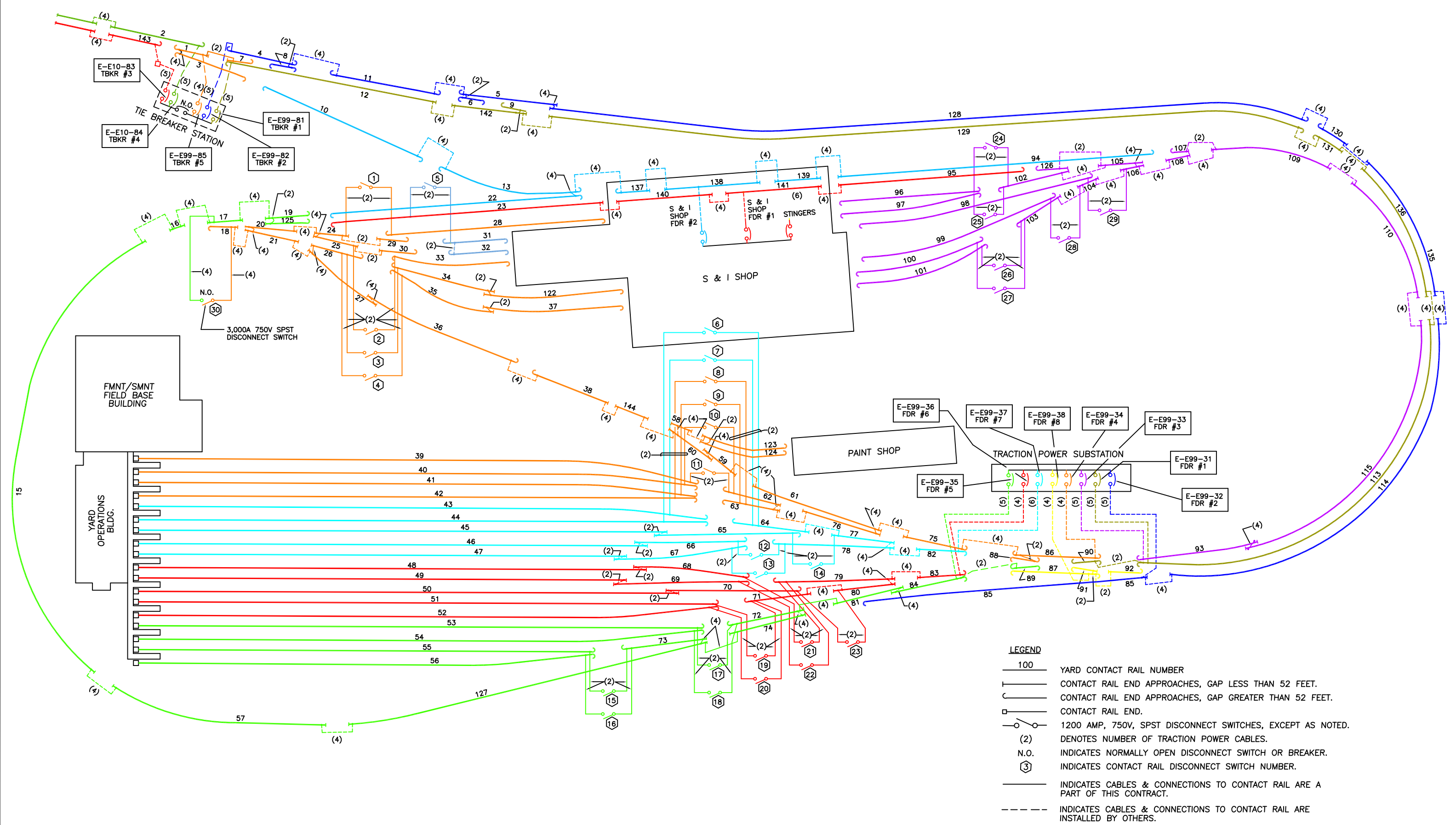


DESIGNED	DATE	REFERENCE DRAWINGS		REVISIONS		
		NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
E. ZISCHKAU	1/27/06					
R. HOOKER	1/27/06			1/27/06	RJH	ADDED S & I SHOP
S. PAIMPALIL	1/27/06					
M. QUATTARA	1/27/06					

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
 PDEC PLANNING-DEVELOPMENT-ENGINEERING-CONSTRUCTION

TITLE:  
 ELECTRIFICATION SINGLE LINE DIAGRAM  
 NEW CARROLLTON STORAGE YARD

SCALE: NONE DRAWING NO: CRS-E-22 SHT NO:



- LEGEND**
- 100 YARD CONTACT RAIL NUMBER
  - CONTACT RAIL END APPROACHES, GAP LESS THAN 52 FEET.
  - CONTACT RAIL END APPROACHES, GAP GREATER THAN 52 FEET.
  - CONTACT RAIL END.
  - 1200 AMP, 750V, SPST DISCONNECT SWITCHES, EXCEPT AS NOTED.
  - (2) DENOTES NUMBER OF TRACTION POWER CABLES.
  - N.O. INDICATES NORMALLY OPEN DISCONNECT SWITCH OR BREAKER.
  - INDICATES CONTACT RAIL DISCONNECT SWITCH NUMBER.
  - INDICATES CABLES & CONNECTIONS TO CONTACT RAIL ARE A PART OF THIS CONTRACT.
  - INDICATES CABLES & CONNECTIONS TO CONTACT RAIL ARE INSTALLED BY OTHERS.

CONTRACT NO.  
CONTRACT

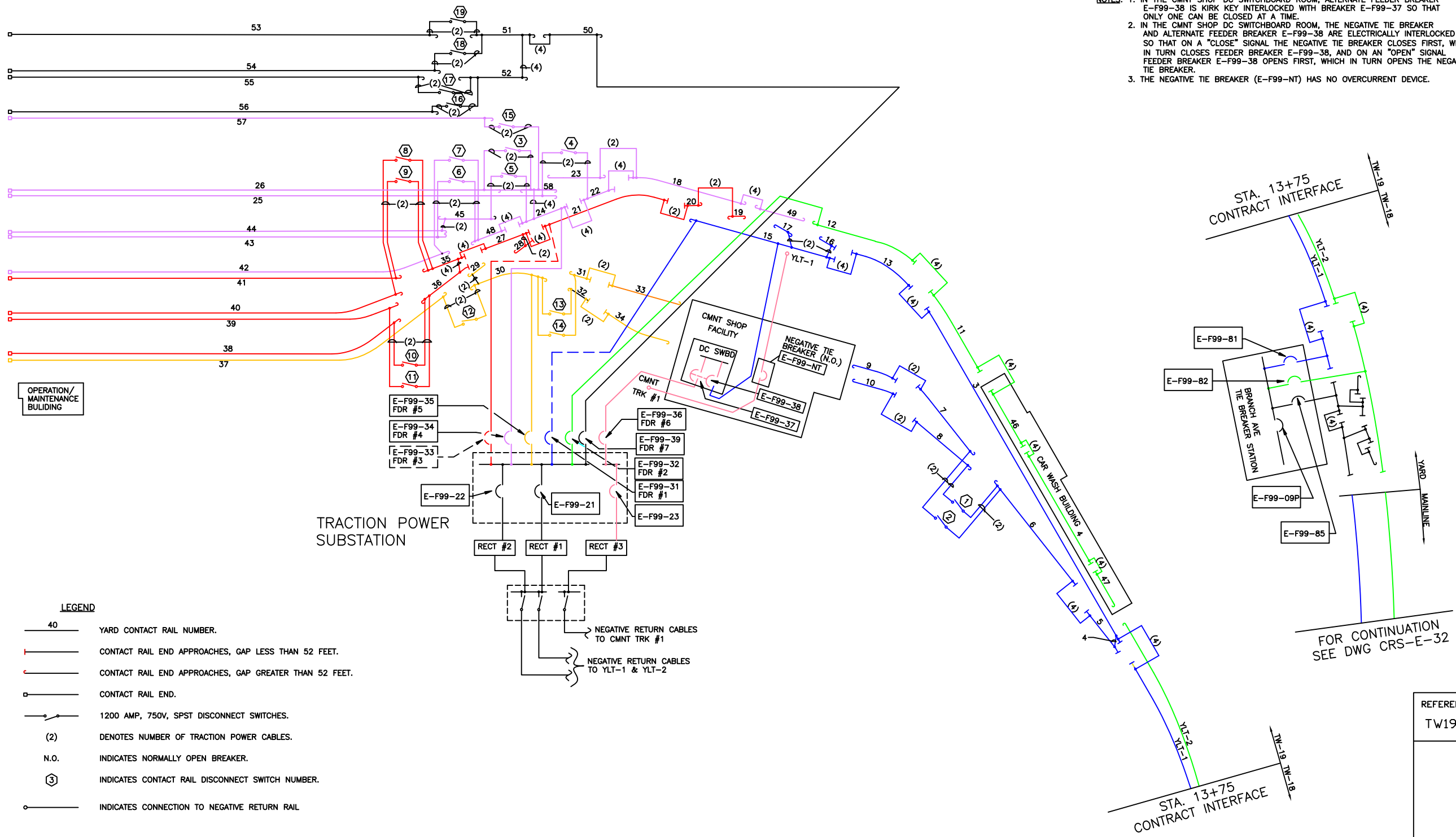
DESIGNED O. RAVARRA 7/98  
DATE  
DRAWN R. HOOKER 7/98  
DATE  
CHECKED W. VLISMAS 7/98  
DATE  
APPROVED L. DREIBAND 7/98  
DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS				
DATE	BY	REV	DESCRIPTION	
2/11/08	OR	A	DRAWING CORRECTION	

**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
**DE LEUW, CATHER & COMPANY**  
SECTION DESIGNER  
SUBMITTED BY \_\_\_\_\_

**ELECTRIFICATION SINGLE LINE DIAGRAM**  
**GREENBELT YARD**  
SCALE NONE  
DRAWING NO.



NOTES: 1. IN THE CMNT SHOP DC SWITCHBOARD ROOM, ALTERNATE FEEDER BREAKER E-F99-38 IS KIRK KEY INTERLOCKED WITH BREAKER E-F99-37 SO THAT ONLY ONE CAN BE CLOSED AT A TIME.  
 2. IN THE CMNT SHOP DC SWITCHBOARD ROOM, THE NEGATIVE TIE BREAKER AND ALTERNATE FEEDER BREAKER E-F99-38 ARE ELECTRICALLY INTERLOCKED SO THAT ON A "CLOSE" SIGNAL THE NEGATIVE TIE BREAKER CLOSSES FIRST, WHICH IN TURN CLOSSES FEEDER BREAKER E-F99-38, AND ON AN "OPEN" SIGNAL FEEDER BREAKER E-F99-38 OPENS FIRST, WHICH IN TURN OPENS THE NEGATIVE TIE BREAKER.  
 3. THE NEGATIVE TIE BREAKER (E-F99-NT) HAS NO OVERCURRENT DEVICE.

- LEGEND**
- 40 YARD CONTACT RAIL NUMBER.
  - CONTACT RAIL END APPROACHES, GAP LESS THAN 52 FEET.
  - CONTACT RAIL END APPROACHES, GAP GREATER THAN 52 FEET.
  - CONTACT RAIL END.
  - 1200 AMP, 750V, SPST DISCONNECT SWITCHES.
  - (2) DENOTES NUMBER OF TRACTION POWER CABLES.
  - N.O. INDICATES NORMALLY OPEN BREAKER.
  - INDICATES CONTACT RAIL DISCONNECT SWITCH NUMBER.
  - INDICATES CONNECTION TO NEGATIVE RETURN RAIL

FOR CONTINUATION  
SEE DWG CRS-E-32

REFERENCE CONTRACT DRAWING #  
TW19-CR-17/M1014-940



**WASHINGTON METROPOLITAN AREA  
TRANSIT AUTHORITY**  
**BRANCH AVENUE STORAGE YARD**

**PRIME CONTRACTOR:**  
**THE CLARK CONSTRUCTION GROUP**  
7500 OLD GEORGETOWN RD  
BETHESDA, MD 20816-6196

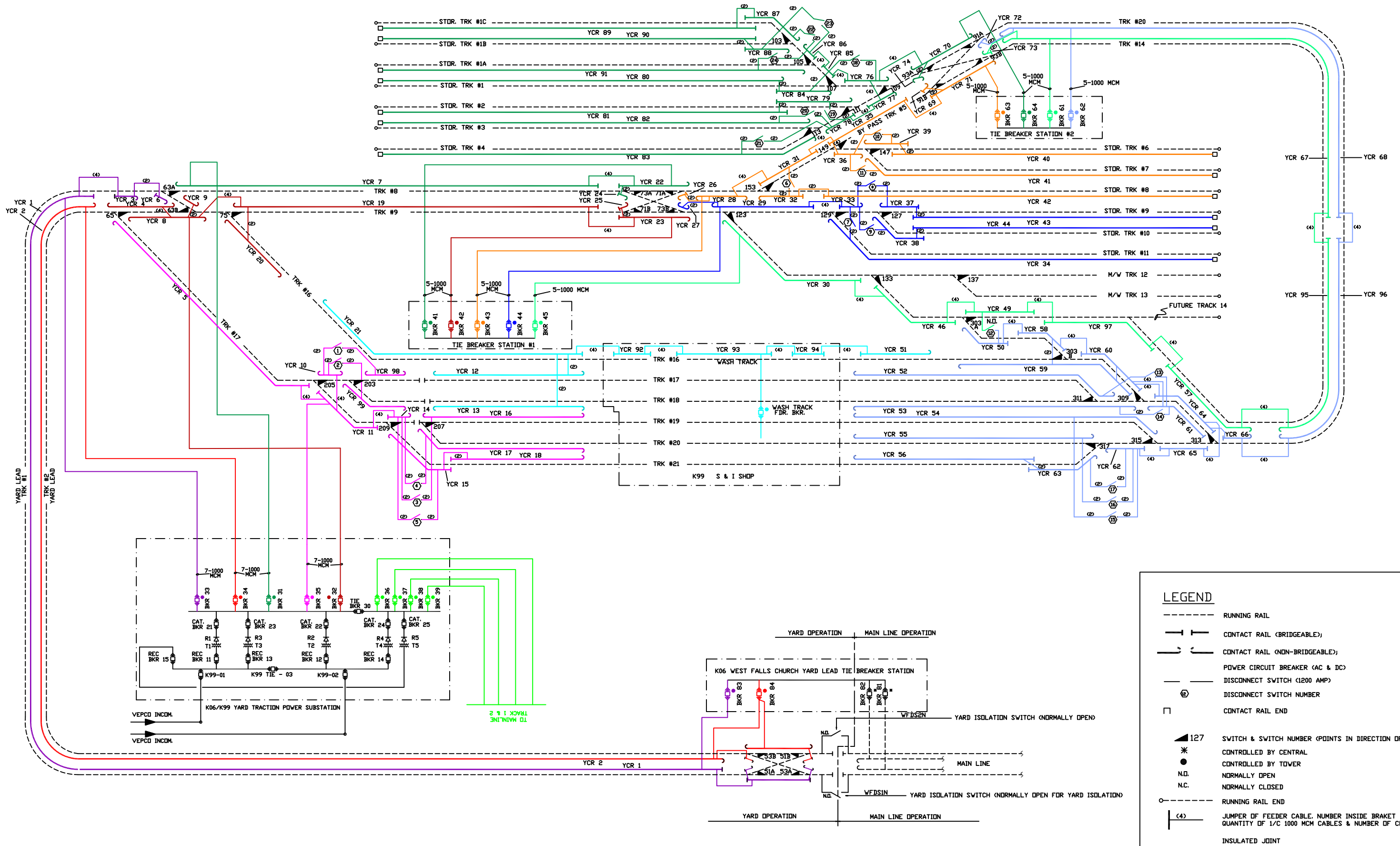
**SUB-CONTRACTOR:**  
**FISCHBACH & MOORE ELECTRIC LLC**  
7941 WOODRUFF COURT  
SUITE 101  
SPRINGFIELD, VA 22151  
703-321-1750- VOICE  
703-321-1756- FAX

REVISIONS			
NO.	DESCRIPTION	BY	DATE
A	WASH ROAD, EMI 220147	RJH	7-28-03

Layout:	Date:
CONTRACT/JCS	12-18-01
Drawn:	Date:
JCS	12-18-01
Checked:	Date:
CFD	1-21-02
Submitted:	Date:
SFG	1-21-02
Specification Section & Title	
VARIOUS	

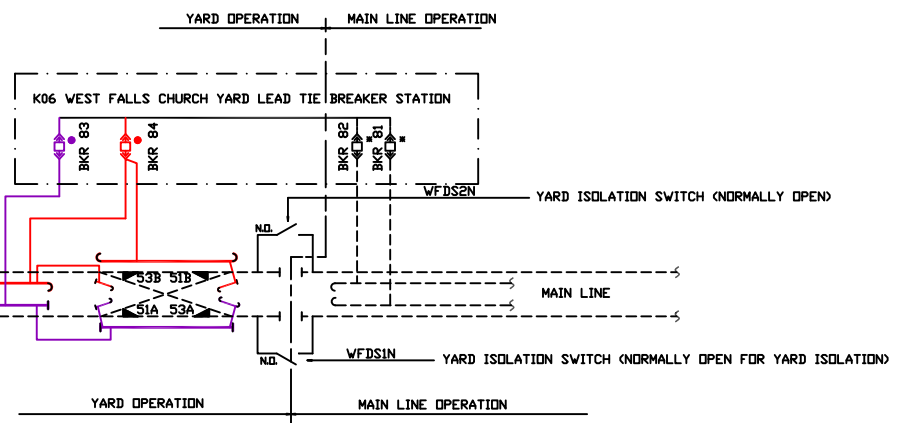
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**BRANCH AVENUE STORAGE YARD**  
TRACTION POWER  
SINGLE LINE DIAGRAM

**CONTRACT NO:**  
1F0111  
**SCALE:** NTS  
**DRAWING NO:**  
CRS-E-32A  
**SHEET NO:**



**LEGEND**

- RUNNING RAIL
- |— CONTACT RAIL (BRIDGEABLE)
- | CONTACT RAIL (NON-BRIDGEABLE)
- POWER CIRCUIT BREAKER (AC & DC)
- DISCONNECT SWITCH (1200 AMP)
- Ⓜ DISCONNECT SWITCH NUMBER
- CONTACT RAIL END
- ▲ 127 SWITCH & SWITCH NUMBER (POINTS IN DIRECTION OF NORMAL TRAFFIC)
- \* CONTROLLED BY CENTRAL
- CONTROLLED BY TOWER
- N.O. NORMALLY OPEN
- N.C. NORMALLY CLOSED
- RUNNING RAIL END
- (4) JUMPER OF FEEDER CABLE. NUMBER INSIDE BRACKET DENOTES QUANTITY OF 1/C 1000 MCM CABLES & NUMBER OF CONDUITS
- INSULATED JOINT



DESIGNED	S. PAIMPALIL	6/19/08	REFERENCE DRAWINGS		REVISIONS	
DATE			NUMBER	DESCRIPTION	REV NO	DATE
DRAWN	R. HOOKER	6/19/08			A	6/19/08
DATE						
CHECKED	O. RAVARRA	6/19/08				
DATE						
APPROVED	M. OUATTARA	6/19/08				
DATE						

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
 ENCP ENGINEERING & CAPITAL PROJECTS  
 APPROVED COLIN A. MEYERS

TITLE: ELECTRIFICATION SINGLE LINE DIAGRAM  
 WEST FALLS CHURCH MAJOR REPAIR SHOP & YARD  
 SCALE: NONE DRAWING NO: CRS-E-38 SHT NO:

# Acknowledgements

(This page is in lieu of a divider Tab)





**ACKNOWLEDGEMENTS  
RAIL RULE BOOK COMMITTEE**

Charles Dziduch  
**Rail Rule Book Committee Chair**

Troy Lloyd  
**Rail Rule Book Committee Vice Chair**

Brian D. Clarke, MBA  
**Rail Rule Book Custodian**

**Rail Rule Book Committee Members**

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Tracey Stokes  
Curtis Zeigler



# System Safety and Environmental Management Material Safety Data Sheet Review Request

Return this form to Chemical Safety Liaison Officer at Carmen Turner Facility.  
Email to [kbest@wmata.com](mailto:kbest@wmata.com) or Fax to 240-487-3673  
**Attach clear copy of current MSDS**



## Please Provide the Following Information

<b>Today's Date:</b>	<b>Requesting Dept.:</b>	<b>Contact Location:</b>
<b>Contact Name:</b>		<b>Phone:</b>
<b>Location(s) where product will be stored:</b>		
<b>Material Status:</b> <i>(check all that apply)</i>	In Use ___ New Material ___ For Testing	
<b>Is this item for contractor use??</b>	___ Yes ___ No Contractor Name: Contract No.:	
<b>Will this be a Stock or non-stock item?</b>		
<b>Trade Name as shown on MSDS:</b>		
<b>WMATA Stock No.:</b>		
<b>SARP MSDS No.:</b>		
<b>Give name and MSDS number of existing product that this will replace:</b>		
<b>Why is replacement necessary?</b>		
<b>Where will product be used?</b>		
<b>Description of use:</b>		
<b>How will product be applied?</b>		
<b>Size of Container:</b>		
<b>Quantity used per week:</b>		
<b>Physical State of Product:</b>	Aerosol Spray ___ Gas ___ Liquid ___ Paste/Cream ___ Pellets Powder ___ Solid ___ Other ___ <i>(Please specify)</i>	
<b>Manufacturer's Name, Phone No. &amp; web address:</b>		
<b>Vendor's Name &amp; Phone No.:</b>		
<b>Best Time to Contact You (Requestor):</b>		
<b>Comments:</b>		



# METRO PROJECT

## DAILY REPORT—LABOR, MATERIAL & EQUIPMENT

Date \_\_\_\_\_ 20\_\_\_\_ Day \_\_\_\_\_

Contractor \_\_\_\_\_

IMPORTANT: This form must be submitted not later than the day following date work was performed.

Order for Service No. \_\_\_\_\_

Contract No. \_\_\_\_\_

Contract Modification No. \_\_\_\_\_

Report No. \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

The following work was performed this date requiring use of the Labor Force, Materials, Equipment, Special Forces and Services listed hereon:

DESCRIPTION OF WORK PERFORMED:

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---



---

Certified Correct By \_\_\_\_\_

Date \_\_\_\_\_

Contractor & Representative

LABOR				EQUIPMENT			
Name	Craft	Class	Hours	Make	Model	Description	Hours
			OT				
			ST				
			OT				
			ST				
			OT				
			ST				
			OT				
			ST				
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			ST				
			OT				
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			OT				
			ST				

### MATERIALS, SPECIAL FORCES AND SERVICES

Quantity	Unit	Description

For Engineer's Use

Hours Worked Verified By \_\_\_\_\_

Field Staff member

APPROVED AS TO SUBSTANCE

By \_\_\_\_\_ Date \_\_\_\_\_

Resident Engineer



Washington Metropolitan Area Transit Authority

**PREVENTIVE MAINTENANCE  
INSPECTION**

for

**35kV AC  
WESTINGHOUSE LOAD BREAK  
INTERRUPTER SWITCH TYPE WLI  
INSTALLED AT C99 TP  
(for S&I SHOP DC POWER)  
728/1090 DAY INSPECTION**

**PMI**



Washington Metropolitan Area Transit Authority

**SYSTEMS MAINTENANCE BRANCH**

PREVENTIVE MAINTENANCE INSTRUCTION (PMI)

**35kV AC  
WESTINGHOUSE LOAD BREAK  
INTERRUPTER SWITCH TYPE WLI  
INSTALLED AT C99 TP  
(for S&I SHOP DC POWER)  
728/1090 DAY INSPECTION**

REVISION NUMBER \_\_\_\_\_

REVISION DATE 9/28/2012

APPROVALS:

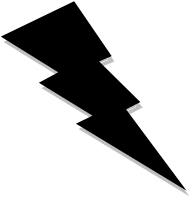
\_\_\_\_\_  
TSSM - POWER SUPERINTENDENT DATE

\_\_\_\_\_  
TIES - CENI DEPUTY CHIEF ENGINEER - POWER DATE

\_\_\_\_\_  
TSSM - GENERAL SUPERINTENDENT DATE

REVIEWED BY: E Rose

# WARNING



**Hazardous voltages and high speed moving parts may cause death, serious personal injury or equipment damage. Always follow Red Tag Procedures. De-energize the equipment before maintenance. Maintenance should be performed only by qualified personnel. Follow all safety instructions.**

# WARNING



**Failure to maintain the equipment could result in death, serious injury or equipment failure, and can prevent successful functioning of the connected apparatus.**

# WARNING



**Maintenance must be performed only by qualified persons as defined by the section “Qualified Person” in this procedure.**

## **QUALIFIED PERSON**

For the purpose of this Preventive Maintenance Inspection, a qualified person is person who is familiar with the installation, construction, operation, and maintenance of the equipment and the hazards involved. In addition, this person has the following qualifications:

1. Is trained and authorized to energize, de-energize, ground, tag and clear circuits and equipment in accordance with established procedures and safety practices.
2. Is trained in the proper care and use of protective equipment such as rubber gloves, hard hat, safety glasses and face shields and flash clothing in accordance with established safety practices.
3. Is trained in rendering first aid and CPR.
4. Is trained in the use and care of high voltage test equipment.

### **Suggested Reference Material for additional training purposes includes:**

OSHA STANDARDS 29CFR 1910 Occupational Safety and Health Standards  
1910 Subpart J General Environmental Controls - 1910.147 Lockout / Tagout  
1910 Subpart R – Special Industries 1910.269 Electric Power Generation, Transmission and Distribution

- 1910.269 (a) General
- 1910.269 (b) Medical services and first aid
- 1910.269 (c) Job briefing
- 1910.269 (d) Lockout/Tagout
- 1910.269 (e) Enclosed spaces
- 1910.269 (h) Ladders, platforms, step bolts, and manhole steps
- 1910.269 (i) Hand and portable power tools
- 1910.269 (k) materials handling and storage
- 1910.269 (l) Working on or near exposed energized parts
- 1910.269 (m) Deenergizing lines and equipment for employee protection
- 1910.269 (n) Grounding for the protection of employees
- 1910.269 (o) Testing and test facilities
- 1910.269 (t) Underground electrical installations
- 1910.269 (u) Substations
- 1910.269 (x) Definitions
- 1910.269 Appendix E Reference Documents

## **SUGGESTED ADDITIONAL SAFETY REFERENCES MATERIAL**

WMATA Metrorail Safety Rules and Procedures Handbook, SOP 28, SOP 39

ANSI/NFPA 70E – Standard for Electrical Safety In The Workplace, Article 130, Arc Flash Hazard Awareness, Analysis, Determination of Flash Protection Boundaries and Requirement for Personal Protection Equipment (PPE)

ANSI-C2/IEEE-C2 Section 43 - Minimum Approach Distance to Energized Parts

ASTM F496 - Standard Specification for In-Service Care of Insulating Gloves and Sleeves

ASTM F696 - Standard Specification for Leather Protectors for Rubber Insulating Gloves and Mittens

ASTM F855 - Standard Specification for Temporary Grounding Systems to Be Used on De-Energized Electrical Power Lines and Equipment

National Institute for Occupational Safety and Health (NIOSH), Electrical Safety Training Booklet, free down load at [www.cdc.gov/niosh/docs/2002-123/2002-123a.html](http://www.cdc.gov/niosh/docs/2002-123/2002-123a.html)

## **SUGGESTED TECHNICAL REFERENCE MATERIAL**

Westinghouse	Load Break Interrupter Switch Type WLI Installation, Operation and Maintenance Instruction Booklet
NETA	Maintenance Testing Specifications For Electrical Power Distribution Equipment
ANSI/IEEE Std. 100	IEEE Standard Dictionary of Electrical and Electronics Terms
ANSI/IEEE Std. 902	Guide for Maintenance, Operation and Safety of Industrial and Commercial Power Systems
ANSI/NFPA 70B	Recommended Practice for Electric Equipment Maintenance
ANSI/IEEE Std. 902	Guide for Maintenance, Operation and Safety of Industrial and Commercial Power Systems
NEMA B4	Guidelines for Inspection and Preventive Maintenance of Circuit Breakers in Commercial and Industrial Applications



## 35 kV AC WESTINGHOUSE NO-LOAD INTERRUPTER SWITCH TYPE WLI

### 1.0 INTRODUCTION

1. Prior to performing this PMI procedure conduct a job briefing outlining any safety concerns and potential hazards. Inform the MOC of procedure to be performed. Have on hand a copy of this procedure along with the required PMI Data Sheets, the required equipment listed in 3.0 of this procedure, a copy of the specific Manufacturer's Maintenance Manual 31-935, the electrical schematics and wiring diagrams of C99 TPSS.
2. This PMI is written for the two 34.5KV Westinghouse type WLI Load Interrupter Switches installed in the WMATA C99 TP for C99 S&I shop TB in a duplex switchgear assembly configuration. (Fig. 1, 2)
3. The C99 TPSS duplex switchgear configuration consist of two Westinghouse load Interrupter switches 35KV, type WLI with a common load side bus to feed Rectifier transformer # 3. Rectifier transformer breakers 11 and 12 supply 34.5KV to the two switches. Key interlocks A1, A3 and A4 are supplied to prevent paralleling the incoming sources, and to prevent opening the front door of each vertical section containing one of the two switches unless both rectifier transformer breakers and both switches are locked open.
4. C99 TP Westinghouse WLI switches are **NO-LOAD** switches, and are Kirk Key interlocked to each other and to the associated rectifier transformer breaker to prevent switches to be open under load and to prevent both switches from being closed at the same time. Under no circumstances both switches should be closed at the time to supply power to the rectifier #3 feeding the S&I shop TB.
5. Performance of this PMI will require a scheduled Red Tag power outage for C99TP Breakers 11, 12, 21, 22, 23 and the entire Alexandria S&I Shop TB Substation. Refer to the attached Alexandria Yard C99 TP single line drawing (Figure 1), to be used only for this preventive maintenance procedure.
6. The purpose of performing this PMI is to reduce hazards to life and property that can result from failure or malfunction of electrical systems and equipment. Effective PMI can aid in reducing unscheduled outages by identifying, through regular service intervals, equipment conditions and irregularities which can cause malfunctions or equipment failure.
7. PMI of the Westinghouse 34.5 kV AC load interrupter switch type WLI will include an inspection, cleaning, checking and an overall evaluation of the cubicle and the load break switch and associated components and high voltage fuses (if applicable). As necessary, adjustments should be made to insure operation and/or alignments are within manufacturer's stated tolerances.



Fig. 1 WESTINGHOUSE 34.5KV LOAD INTERRUPTER SWITCH TYPE WLI

**Westinghouse** 

**WLI Load Interrupter Switchgear**

Built on Order # **BA-58Q00CNL**  
 Drawing # **CN-796A57A02**

Switch Style **4893A0IG06**

KV Rating		Ampere Rating	
Nominal	34.5	Continuous	600
Maximum	38.0	Interrupting	600
B.I.L.	150	Momentary	40,000
		Fault Close	30,000

**Westinghouse Electric Corp.  
 Distribution Equipment Div.  
 Cincinnati, Ohio U.S.A.**

Fig. 2 Westinghouse WLI Load Interrupter Switch

## 2.0 SAFETY

1. Read and understand these instructions before attempting any assembly, operation, or maintenance of the switch. Do not attempt to operate a connected WLI switch until the rectifier transformer breakers 11 and 12 have been open and rack out, and switches are disconnected from all electric power sources.
2. Do not attempt to close both WLI switches at the same time except as part of an interlock maintenance check when all power has been removed from the line and load sides of the switchgear.
3. All personnel shall follow all the accepted safety practices and procedures while performing this PMI and exercise appropriate caution. Warnings are included to alert the technician to tests and measurements that warrant special care and attention.
4. Ground leads or their equivalent should be attached to both sides of the switch. Make certain that safety grounds are properly in-place on both the jaw and hinge sides of the switch before working inside the switch cubicle or on the switch.
5. There are several interlocks on the switches. Under **NO** circumstances should they be made inoperative when the switch is *in service*, as they are designed to provide personnel protection as well as electric system operational integrity.
6. Never energize the switch without the arc chutes and barriers installed in place.
7. Make sure all safety interlocks are working properly prior to energizing.
8. Never install fuses with a rating greater than that listed on the switch nameplate.

# CAUTION



All test equipment used must have been provided by WMATA and must carry current test certification.

# CAUTION

**DO NOT REMOVE COVERS OR OPEN DOORS OR WORK ON EQUIPMENT UNLESS POWER HAS BEEN TURNED OFF AND ALL CIRCUITS DE-ENERGIZED AND/OR PROPERLY DISCONNECTED/GROUNDED.**

**DISCONNECT, DE-ENERGIZE, LOCK-OUT AND PROPERLY GROUND CIRCUIT(S) BEFORE WORKING ON EQUIPMENT.**

**USE PROPER SAFETY PRECAUTIONS WHEN WORKING ON THIS EQUIPMENT.**

**SOME PROCEDURES REQUIRE WORK AROUND MOVING PARTS, e.g. OPERATING HANDLE, CHAIN AND SPROCKET, STORED ENERGY MECHANISM, etc. TO AVOID PERSONAL INJURY, EXTREME CAUTION MUST BE EXERCISED TO STAY CLEAR (HEAD, HANDS, ETC.) OF THE PATH OF THESE MOVING PARTS AND SWITCH CONTACTS WHILE PERFORMING THIS PMI.**

## **3.0 EQUIPMENT**

1. Switching suit with rubber gloves (with clean leather protectors)
2. Insulated fuse pullers
3. Digital multi meter
4. Flashlight
5. Specific Manufacturer's technical manual
6. Lint-free rags or cleaning wipes
7. Vacuum and non-conductive hose
8. Scotch-Brite pads / file
9. Cleaning solvent
10. Sand paper and paint
11. Micro-ohm meter
12. Lubricating grease, D50H15 or equivalent (R91-50-0015)
13. Contact grease, D50H47, Westinghouse Graphite grease 53701AN or equivalent (R91-50-0014)
14. Light machine oil/Spray lubricant
15. Standard hand tools and ruler
16. 2/0 AWG Trifurcated Safety Ground Sets (Two Sets)

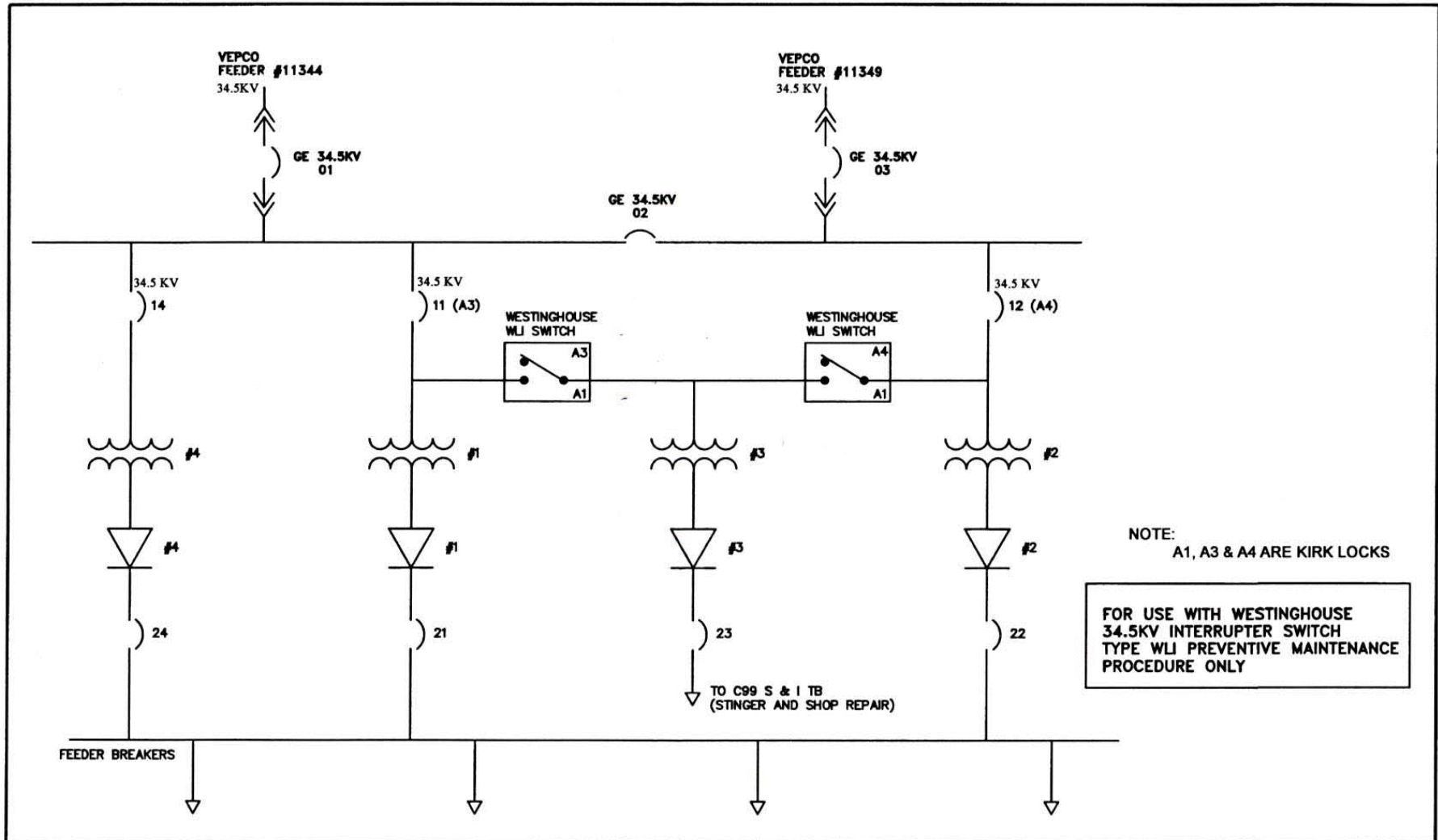
18. 2/0 AWG Safety Grounding Jumpers (Two Sets)
19. PMI calibration stickers
20. High Voltage Gloves

#### 4.0 SWITCHGEAR DE-ENERGIZATION

Prior to beginning the PMI, switching procedure and operational verification listed below should be performed. Complete the PMI Data Sheet tabulation as you progress through this procedure.

The switches are **NO LOAD** switches, both rectifier transformer breakers must be open and racked out; key interlocks are provided so that both interrupter switches must be open and locked before either enclosure door can be open. These built-in features are designed to reduce hazards and to provide proper operating sequences. Proper operation of these interlocks is essential for safety and their proper operation should be verified during the execution of this PMI. **Both load interrupter switches MUST be maintained under the same red tag outage.** (SEE C99 TP SUBSTATION ONE-LINE)

1. Verify that both incoming breakers are closed, the tie breaker open, all rectifier transformer breakers are closed, all rectifiers are running, all cathode breakers closed, all feeder breakers closed, and only one (1) Load Interrupter Switch is closed ( Same switch will be closed back after the maintenance is completed).
2. Request permission from MOC and the yard tower to start the red tag switching.
3. Coordinate the switching with Alexandria S&I Shop CMNT Supervisor.
4. De-energize and rack out Rectifier Transformer Breakers # 11 and 12, remove Kirk Keys and insert into correspondent locks A3 and A4 on the Load Interrupter Switches (Fig. 3A, B, C, locks are marked with permanent marker).
5. Rack out cathode breakers 21, 22, and 23.
6. Turn and unlock A3 or A4 lock on the **“closed” interrupter switch** and pull the handle to the “open” position.
7. Turn the A1 key to lock both Interrupter switches to the “open” position.
8. Verify that rectifier transformer breaker # 14 is closed and all track feeder breakers are closed.
9. Proceed with the PMI after red tag has been issued.



NOTE:  
A1, A3 & A4 ARE KIRK LOCKS

FOR USE WITH WESTINGHOUSE  
34.5KV INTERRUPTER SWITCH  
TYPE WLI PREVENTIVE MAINTENANCE  
PROCEDURE ONLY

REVISION	DATE	BY	DESCRIPTION
DESIGNED	M. QUATTARA	11/01	
DRAWN	B. HOOKER	11/01	
CHECKED	W. VLJMAS	11/01	
APPROVED			

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
OFFICE OF CHIEF ENGINEER

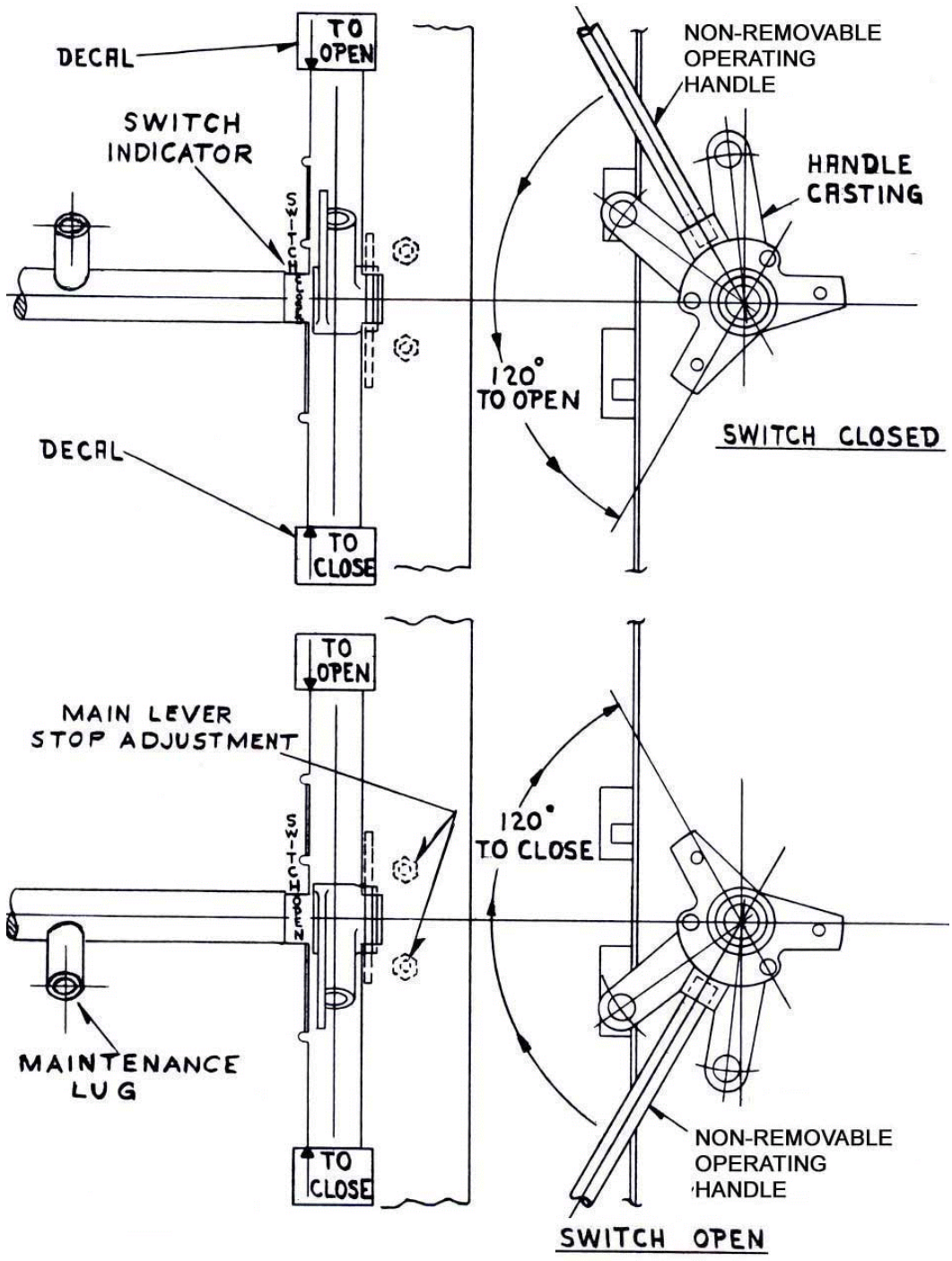
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ALEXANDRIA YARD-C99 TRACTION POWER		
SCALE	DRAWING NO.	REV. NO.
NONE		



Fig. 3A WLI SWITCH IN OPEN POSITION  
(With non removable operating handle)



Fig. 3B WLI SWITCH IN CLOSED POSITION  
( with removable slow close handle on the left)



WESTINGHOUSE WLI LOAD INTERRUPTER SWITCH  
 Fig. 4 SWITCH OPERATION



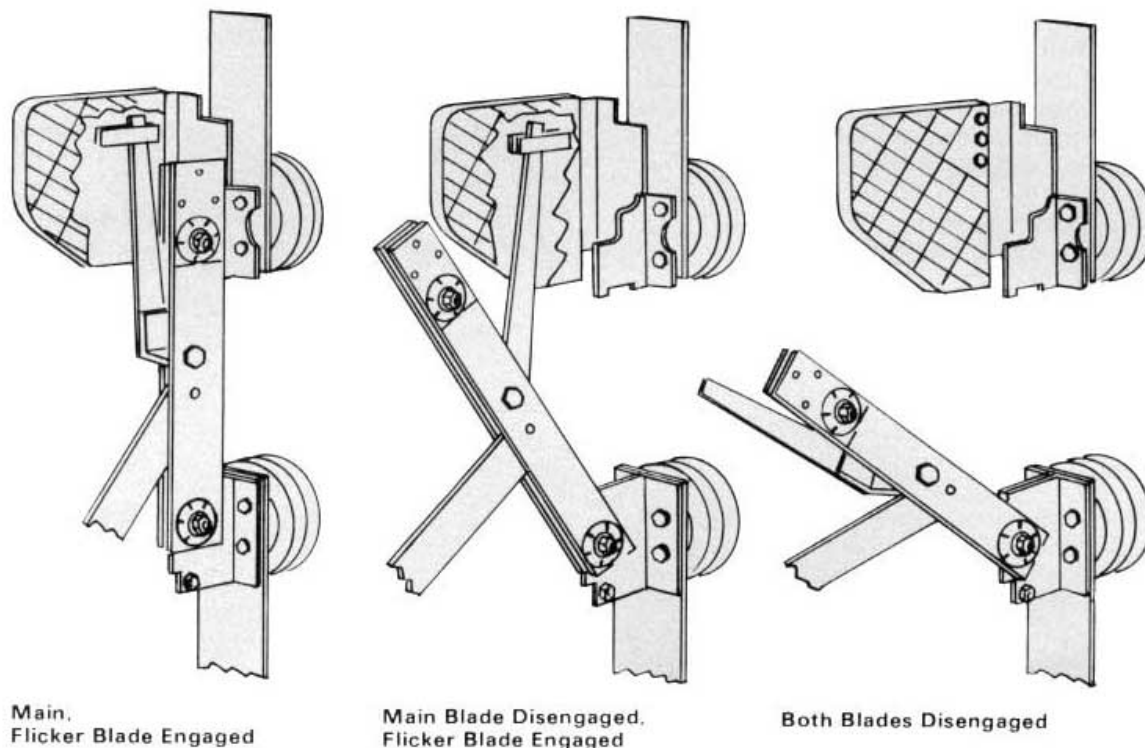
## 5.0 SWITCH GROUNDING, MECHANISM

The main blade mechanism is operated by a compression spring charged manually by rod connected to the switch shaft. To close the switch, a non-removable handle is extended and then rotated through an angle of 120°. This charges the compression spring and as the spring lever goes over toggle, the energy is transferred to the switch shaft which snaps the switch closed. (Fig. 4)

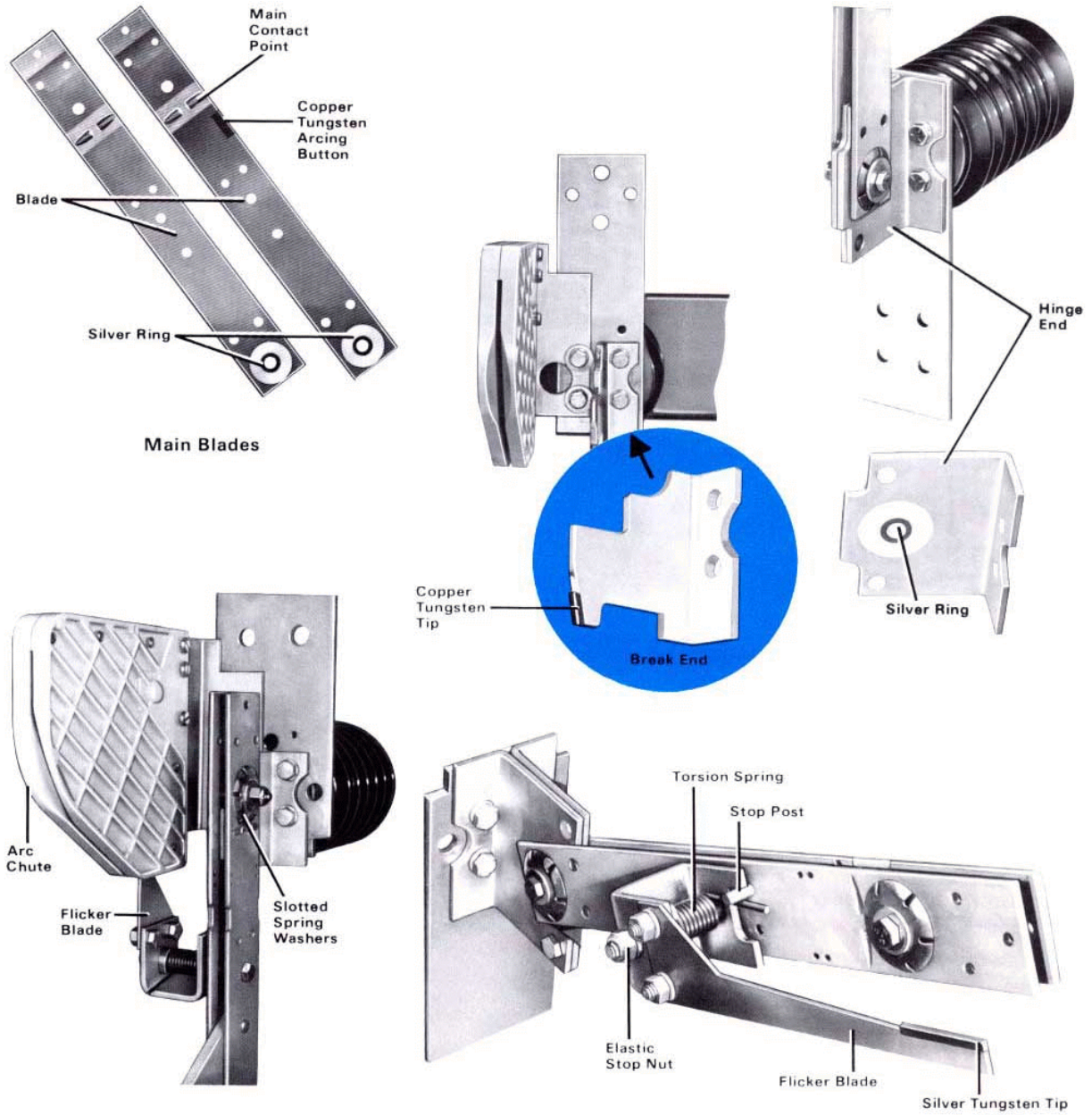
(Fig. 4, 5 and 6) On opening of the switch, the main blades open first which shunts the current through the spring loaded flicker blades. Further travel of the main blades causes the flicker blades to snap out of their contacts fingers arcs are drawn within the De-ion arc chute.

After opening the switches and before opening doors, use viewing window to insure that all three switch blades are disengaged. If necessary, use a flashlight to verify all three contacts are open. Hot stick (34.5 KV AC) and Install grounds on the hinge side of the OPEN load interrupter switch. NOTE: You may also install additional grounds on the fuses (if provided) in the lower compartment which are in series with the disconnect switch and on the jaw side of the OPEN switch, at your discretion.

De-energize all AC and DC control power to the high voltage interrupter switch enclosure by opening control power disconnect switches and/or removing control power fuses, and verify that any and all potential back feed sources (motors, generators, control/potential/power transformers, cubicle heater supplies, etc.) have been properly isolated and safely grounded



**Fig. 5 SWITCH MECHANISM**



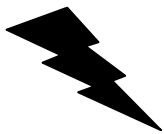
**Fig. 6 WLI CONTACTS ASSEMBLY**

## 6.0 CUBICLE PROCEDURE

1. Open BOTH switch compartments, Re-verify that all required grounds have been installed. Thoroughly clean the interior of all compartments, including all interior devices, current carrying components, switch operating arms, insulators, barrier boards, cubicle heaters, instruments, etc. of all dust, dirt and particles.
2. Inspect switches internally and externally for any sign of rust or corrosion. Any rust or corrosion shall be eliminated at once by sanding and touch up painting, unless the condition is severe or extensive enough to justify taking out a FSR number.
3. Check buses, Cables and connections for evidence of overheating or weakening of the insulation.
4. Inspect for loose hardware and any sign of loose/missing electrical and mechanical connections in and around the cubicle. Check anchor and structural nuts and bolts, tighten as necessary. Inspect for damaged, bent, or twisted door and compartment covers. Inspect door handles, locking bars and mechanism. Check any door interlocks, including keyed interlocks and associated locking bolts, and other mechanical mating parts for positive operation (visual check).
5. Check to see that all heaters are energized and operating.
6. Report any conditions which appear unsafe.

## 7.0 NO-LOAD BREAK SWITCH ASSEMBLY (Fig. 5, 6)

# WARNING

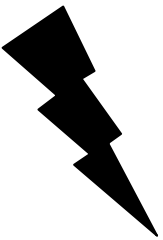


**AFTER OPENING OPERATION WAIT AT LEAST 30 SECONDS BEFORE CLOSING SWITCH. THIS ALLOWS BLADE VIBRATIONS TO DAMPEN AND DIMINISHES DAMAGING OF THE CHUTES**

1. Verify that all insulators and other insulation (e.g., barrier boards, operating mechanism connecting links), and all insulated and current carrying parts have been thoroughly cleaned of all dust, dirt, soot, grease and particles. Carefully examine the insulators and other insulation for treeing, tracking, cracks and discoloration. Pay special attention to areas where the bus and/or conductor passes through an insulator or is near a barrier.

2. Check the main blades contact pieces and the leading edges of the flicker blades for arc erosion (Fig.6). Inspect buses and other current carrying parts for discoloration or other evidence of overheating. Inspect arc chute sides and replace them if they are damaged. Check flicker blade contacts. If damage is less than half of the contacting surfaces, use a few light strokes of a fine file to clean up the arcing contacts. **Warning:** Do not attempt to file out the flicker arcing contacts pit marks, DO NOT USE abrasive material for cleaning (small bits of abrasive material may cause the contacts to overheat or even weld during fault).
3. Open and close the switch several time to clean the main contact. **Warning:** DO NOT FILE the main current currying contacts. The main blade and hinge assembly together with the breaker jaw should be replaced if evidence of excessive burning over half of the contacting surfaces.
4. Check the engagement of the flicker blades by closing the switch. Main and flicker blades should be in proper alignment with the jaws and arc chute openings respectively. Replace worn or damaged parts of the flicker blade assembly.

## WARNING



**DURING A SLOW CLOSE OR OPEN OPERATION, THE MECHANISM OPERATING SPRING IS BEING CHARGED AND WILL TEND TO RETURN THE SWITCH TO ITS INITIAL POSITION. THEREFORE, CARE MUST BE EXERCISED TO HOLD THE MAINTENANCE HANDLE FIRMLY UNTIL THE SPRING ENERGY IS DISCHARGED AND THE SWITCH IS RETURNED TO ITS INITIAL POSITION TO AVOID BODILY INJURY.**

5. Slowly open the switch. The flickers should remain engaged in their contact fingers while the main breaker is open. When the main blades clear the break jaw, they will hit a stop on the flicker blade brackets and start the flicker blades out of their contact fingers. The blade will then nap open from the forces in their charged torsion springs.
6. Close and Open the de-energized switch at least three times to check the performance of the operating mechanism.

### **8.0 NO-LOAD BREAK SWITCH ASSEMBLY ALIGNMENT PROCEDURE (Fig. 5, 6, 7)**

(The following alignments are not required if the above inspection is satisfactory, check alignment after replacing any part)

1. Insulator Alignment

All three lower insulators should be loosened and moved to the center line of the mounting holes in the support channel which is part of the switch frame.

All three Upper insulators should be placed vertically above the lower insulators on their support channel.

2. Main Blade Alignment (Fig. 7)

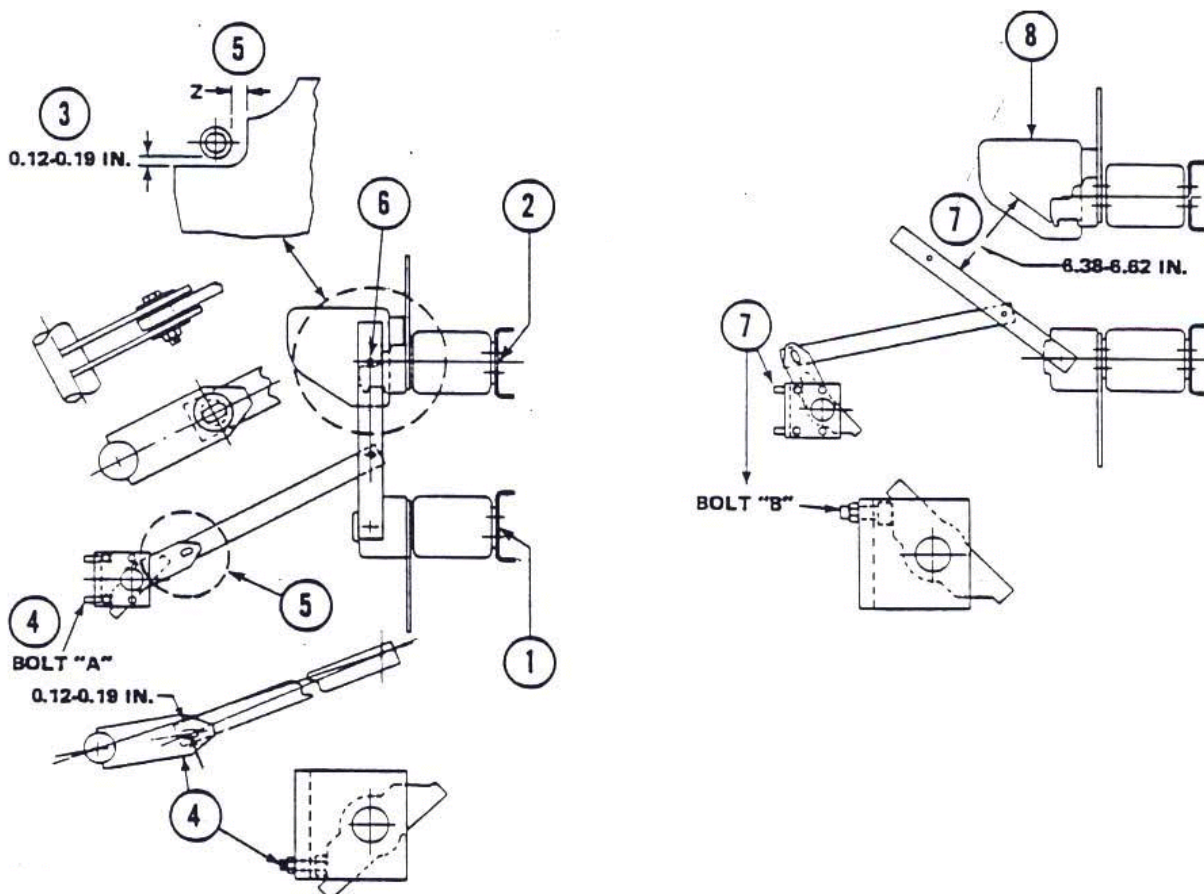
Loosen the four hinge terminal bolts on the top of the lower insulator. Loosen the two break jaw terminal bolts on top of the upper insulators. Slowly close the switch and hold it in the close position with the maintenance handle. Tighten up the bolts on both the hinge and jaw terminals. The upper spacer of the main blades should rest from 0.12 to 0.19 inch above the bottom of the depressions in the angular switch jaw.

3. Open Gap Adjustment (Fig. 7,)

With the switch in open position, the distance between the nearest point of the jaw to the main blades should be 6.38 to 6.62 inches. The upper bolt (Fig. 7, \*), bolt "B" on the front of L-shaped bearing support bracket adjust the open gap distance.

4. Flicker Blades and Arc Chute Adjustment (Fig. 6)

Loosen the two arc chute mounting bolt of each pole. Adjust the arc chute so that its opening is parallel to the main blade. Slowly close the switch and check that the flicker blade is in line with the arc chute opening.



- 1 Lower insulators to be on center line of channel slots.
- 2 Upper insulators to be vertically above lower insulators.
- 3 Adjust upper insulators to give gap setting shown.
- 4 Set lower bolt, Bolt "A" to give overtoggle dimension shown.
- 5 Set dimension "Z" to 0.25 inch by extending drive rods.  
Tighten clamping hardware to 35-40 ft.lbs.
- 6 Break jaw contact bolt must not turn with the switch in closed position. It can turn in open position.
- 7 Set open gap to dimensions shown by adjusting bolt "B".
- 8 Align arc chute with flicker blade.

**Fig. 7 ALIGNMENT AND INSPECTION GUIDE**

## 9 TESTING

### Contact Resistance Testing

1. CLOSE the switch and use a micro-ohm meter to measure the contact resistance of each phase between the line and load terminal pads. Record readings on the Contact Resistance Tests PMI Data Sheet. If the values seem high (over 100 to 150 micro-ohms), visually check the blade wipe to insure proper contact. Open and close the switch a few times and recheck the contact resistance. If the values continue to be high, note in the Remarks section of the Data Sheet and take out a FSR as contact adjustments may be required, which is outside the scope of this PMI. Also note any readings greater than 25% of the lowest recorded resistance.

## 10. GENERAL SWITCH MAINTENANCE AND LUBRICATION

1. After completing the Inspection, Adjustments and Tests above, the switch and mechanism should again be thoroughly inspected to verify that there are no loose nuts or bolts, wiring, or damaged parts. All bearing, cam, roller and latch surfaces should be visually rechecked for evidence of damage or excessive wear.
2. Recheck the insulation (porcelain, barriers, glass reinforced plastic, etc.) to insure that their surfaces are clean and are not damaged.
3. The switch requires only moderate lubrication. The recommended lubrication details are itemized below:

<b>Recommended Lubrication</b>	
Main contacts	Wipe clean and apply a light coat of contact grease, D50H47 or equivalent , wipe off excess grease.
Contact portions between the blade and hinge, break jaw including arcing tip	DO NOT LUBRICATE.
Mechanism parts, bearing plates and points, sliding surfaces, pins, etc.	If grease has become oxidized (hardened or darkened), wipe clean and apply a light coat of white lubrication grease (D50H15).
Operating mechanism	Lubricate very sparingly with light machine oil, if necessary.

4. Operate the switch a few times to be sure that opening and closing operations are crisp and snappy. Verify that there is no excessive binding or friction, and that the switch moves to the fully opened and fully closed position.

## 11. RESTORATION TO NORMAL SERVICE

# WARNING



**AFTER OPENING OPERATION WAIT AT LEAST 30 SECONDS BEFORE CLOSING SWITCH. THIS ALLOWS BLADE VIBRATIONS TO DAMPEN AND DIMINISHES DAMAGING OF THE CHUTES**

1. Remove all installed grounds. Verify that all arc chutes, barriers and panels are properly in place. Restore all AC and DC control power to the cubicle (if applicable).
2. Perform an operational test to verify that ALL interlocks function properly. Perform the operational steps that would be “normal” to safely and properly **OPEN** and **CLOSE** the switch, and verify that the interlocks force the proper sequence of operation.
3. Notify the MOC that the PMI is complete and the station is ready to be normalized. Clear all Red Tags and remove all block tags.
4. Notify the Alexandria Yard Tower Supervisor and the S&I Shop CMNT-Supervisor that shop power is ready to be restored and request a “Shop Power” announcement. **Do not proceed further until the “Shop Power” announcement has been made and clearance to proceed has been given by the Tower Supervisor, the CMNT-Supervisor and the MOC.**
5. Close the switch that was initially closed in section 4.0, leave the other switch open.
6. Rack cathode breakers 21, 22 and 23 in the connect position.
7. Rack rectifier transformer breakers 11 and 12 in connected position and close the breakers. Verify that cathode breakers 21, 22, and 23 are closed and 750 VDC is being supplied by all three (4) rectifiers.
8. Notify the MOC, Alexandria Yard Tower Supervisor and Shady Grove CMNT Supervisor that 750 VDC Shop Power has been restored to normal.

## 12 PMI DATA SHEET

Fill in all “fill-in-the-blanks” data and answer all questions on PMI Data Sheet.

**Note discrepancies** in Remarks if adjustments or minor repairs did not correct the deficiency.





### PMI CHECK SHEET

#### WESTINGHOUSE TYPE WLI 34.5KV LOAD INTERRUPTER SWITCHES: C99TP

NOTE: Place a check mark ( ) in appropriate column. If checkmark is placed in "No" column, note as comment in Remarks.

Date: \_\_\_\_\_

GENERAL ITEMS:			
1.0	Job Briefing Conducted, MOC Informed of Procedure, Instruction Manuals, Drawings and Schematics Available.	Yes _____ No _____	
2.0	Safety and Operations Requirements Reviewed, Safety Equipment and PPE Available and Being Used.	Yes _____ No _____	
3.0	Tools and Materials Available.	Yes _____ No _____	
4.0	Outage Coordinated with MOC, RTRA, CMNT. Breakers 11, 12, 21, 22, 23 De-energized, racked out Tested and Grounded.	Yes _____ No _____	
PMI INSPECTION ITEMS :		BREAKER 11 SWITCH	BREAKER 12 SWITCH
Record Switch Serial Number		Serial #: _____	Serial #: _____
Record Switch Nameplate Rating (Volts, Continuous Amps)		kV _____	kV _____
		Amps _____	Amps _____
7.0 (If Applicable)		Manuf. _____	Manuf. _____
Record Fuse Nameplate Ratings:		Model/Class _____	Model/Class _____
Do Switch Nameplate Ratings Match		kV _____	kV _____
Fuse Nameplate Ratings?	Yes _____ No _____	Continuous Amps _____	Continuous Amps _____
Do Spare Fuses' Ratings Match The Switch?	Yes _____ No _____	Interrupting Amps _____	Interrupting Amps _____
Are All Fuses Same Manufacturer?	Yes _____ No _____		
Number of Spare Fuses: _____			
6.0-10.0	Performed Inspection, Cleaning, Contact Checks & Operational Checks	Yes _____ No _____	Yes _____ No _____
9.0	Switch Alignment	Yes _____ No _____	Yes _____ No _____
10.0	Cubicle, Switchgear Inspection Performed	Yes _____ No _____	Yes _____ No _____
10.0	Switch Contact Resistance Tested. Results Recorded On Test Record	Yes _____ No _____	Yes _____ No _____
11.0	General Switch Maintenance, Lubrication and Interlock Checks Completed	Yes _____ No _____	Yes _____ No _____
12.0	All Substation Equipment Restored to Normal Service.	Yes _____ No _____	Yes _____ No _____
13.0	All Maintenance Data Recorded on PMI Check Sheet,	Yes _____ No _____	Yes _____ No _____

#### REMARKS \_\_\_\_\_

TECHNICIANS: \_\_\_\_\_ CALLS: \_\_\_\_\_ DATE: \_\_\_\_\_

SUPERVISOR: \_\_\_\_\_ CALLS: \_\_\_\_\_ DATE: \_\_\_\_\_



**PMI DATA SHEET  
NO-LOAD INTERRUPTER SWITCH  
CONTACT RESISTANCE TEST**


**NOTES: Fill in all relevant data fields, below. If the equipment fails a specific test, note as comment in remarks.  
Perform contact resistance test.**

<b>LOCATION:</b>		<b>DATE:</b>			<b>CUBICLE MANUFACTURER:</b>		
<b>EQUIPMENT TYPE:</b>		<b>VOLTAGE RATING (KV):</b>			<b>AMPS:</b>		
<b>MODEL NO:</b>		<b>SERIAL NO:</b>			<b>VEPCO FEEDER NO:</b>		
<b>WMATA Cubicle Designation</b>	<b>Serial Number</b>	<u><b>Contact Resistance Test</b></u> (Micro-ohms)			<u><b>Contact Resistance Test</b></u> (Micro-ohms)		
		<b>AØ</b>	<b>BØ</b>	<b>CØ</b>	<b>AØ</b>	<b>BØ</b>	<b>CØ</b>

REMARKS \_\_\_\_\_


TECHNICIANS: \_\_\_\_\_ CALLS: \_\_\_\_\_ DATE: \_\_\_\_\_

SUPERVISOR: \_\_\_\_\_ CALLS: \_\_\_\_\_ DATE: \_\_\_\_\_

			Safety/Security Certifiable Items List Date: 8/21/12			Rev: 2			Design Conformance Checklist			Installation & Construction Conformance Checklist			Testing & Inspection Conformance Checklist			Final Verification			Certifiable Items List Template HPCC Concurrence: DSF NMMA Concurrence: NDS WMATA SAFE: RLF			
Level 1 - Element	Level 2 - Sub-Element	Level 3 - Item	Level 4 - Sub (1)	Level 5 - Sub (2) Item	Item Description	Design Criteria	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Comments	
Facilities																								
1	1				Compacted Aggregate Piers																			
1	1	1			Compacted Aggregate Piers	RFP - FOB133 - Structural Program Requirements - Section VIII - Structural Backfill Framing	Section 02224 / Dwg #WS-401 / ASTM D422, D1143, D1194, D1241, D1557	N. Trent	SYSTRA	6/9/11	Submital Package # 0001-02224-1, 0004-02224-0, 0005-02224-0, 0006-02224-0, 0007-02224-0	TCY	HPCC	3/25/11	HPCC SSC Pl. File #80.1.1	D. Rom	Terra Systems	5/2/11	HPCC SSC Pl. File #80.1.1	MB	HPCC	6/29/12		COMPLETE
1	2				Site Elements																			
1	2	1			Fencing & Gates	RFP - FOB133 - Landscape Criteria - Section II (2) - Perimeter Fencing & Gates	Section 02820	M. Patey	SYSTRA	5/26/11		TCY	HPCC	2/24/12	HPCC SSC Pl. File #80.1.2	T. Lundy	Hercules Fencing	3/16/12	HPCC SSC Pl. File #80.2.1	MB	HPCC	6/29/12		COMPLETE
1	2	1	1		Anti-Climb	RFP - FOB133 - Landscape Criteria - Fencing - Para II E	Section 02820 / Dwg #C-513 thru C-515 / ASTM A 853 (A91 1006), ASTM F 1043 (Group A & 1A)	M. Patey	SYSTRA	5/26/11	Submital Package #0002-02820-0	TCY	HPCC	2/24/12	HPCC SSC Pl. File #80.1.2	T. Lundy	Hercules Fencing	3/16/12	HPCC SSC Pl. File #80.2.1	MB	HPCC	6/29/12		COMPLETE
1	2	1	2		Ornamental - Crash Barrier (K-8) Type	RFP - FOB133 - Landscape Criteria - Fencing - Para II E	Section 02820 / Dwg #C-513 thru C-515 / K-8, L-2 per ASTM F 2654-07	M. Patey	SYSTRA	5/26/11	Submital Package #0001-02820-0	TCY	HPCC	2/24/12	HPCC SSC Pl. File #80.1.2	T. Lundy	Hercules Fencing	3/16/12	HPCC SSC Pl. File #80.2.1	MB	HPCC	6/29/12		COMPLETE
1	3				Retaining Walls																			
1	3	1			Site Gravity Retaining Walls	RFP - FOB133 - Structural Program Requirements - Section VII - Permanent Retaining Walls	Section 02850 / Dwg #C-518 thru C-532 / ASTM C39, C136, D1557, D4318, D6913, D6938, D6916	S. Sethbhakti	SYSTRA	6/9/11	Submital Package # 0001-02850-1, 0002-02850-0	TCY	HPCC	9/29/11	HPCC SSC Pl. File #80.1.3	T. Hill	Hilts Carnes	6/3/11	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12		COMPLETE
1	4				Structural Steel																			
1	4	1			Structural Steel / Steel Joists/ Metal Decking	RFP - FOB133 - Structural Program Requirements - Section IV - Structural Steel Framing - Part A	Section 05120 / 05210 / 05310 / Dwg #MS-001, MS-201 thru MS-303, MS-401 thru MS-607 / FS-001, FS-201 & FS-210	S. Sethbhakti	SYSTRA	6/7/11	Submital Package #0009-05120-0, 0010-05120-0, 0014-05120-0, 0015-05120-0, 0016-05120-0, 0019-05120-0, 0020-05120-0, 0001-05210-0, 0002-05210-0, 0003-05210-0, 0004-05210-0, 0006-05210-0, 0007-05210-0, 0001-05310-0, 0002-05310-0, 0003-05310-0, 0005-05310-0, 0006-05310-0	TCY	HPCC	6/23/11	HPCC SSC Pl. File #80.1.4	J. Odoriso	CTI	4/9/89	HPCC SSC Pl. File #80.1.4	MB	HPCC	6/29/12		COMPLETE
1	5				Miscellaneous Metals																			
1	5	1			Bollards	RFP - FOB133 - Structural Program Requirements - Section XII - Bollards	Section 05500 / Dwg #MS-101 - MS-103, C-501 - C-504, C-515 and MS-003	S. Sethbhakti	SYSTRA	6/7/11	Submital Package # 0002-05500-1, 0006-05500-1	TCY	HPCC	2/14/11	HPCC SSC Pl. File #80.1.5	H. Wright, Jr	Wright's Iron	4/20/12	HPCC SSC Pl. File #80.1.5	MB	HPCC	6/29/12		COMPLETE
1	5	2			Metal Stairs	RFP - FOB133 - Architectural Program Requirements - Section XI - Interior Stair Construction - Part B.1	Section 05511 / Dwg #MS-301 / ADA, AGA, AISC, ASME, ASTM, AWS, NAAMM	S. Sethbhakti	SYSTRA	6/7/11	Submital Package # 0001-05511-1	TCY	HPCC	6/30/11	HPCC SSC Pl. File #80.1.5	J. Odoriso	CTI	9/7/11	HPCC SSC Pl. File #80.1.5	MB	HPCC	6/29/12		COMPLETE
1	5	3			Handrails and Railings	RFP - FOB133 - Architectural Program Requirements - Section VIII - Interior Partitions - Part C	Section 05521 / MA-401 & WA-401 / ADA, AGA, AISC, ASME, ASTM, AWS, NAAMM	S. Sethbhakti	SYSTRA	6/7/11	Submital Package # 0001-05521-1	TCY	HPCC	1/13/12	HPCC SSC Pl. File #80.1.5	H. Wright, Jr	Wright's Iron	4/20/12	HPCC SSC Pl. File #80.1.5	MB	HPCC	6/29/12		COMPLETE
1	6				Firestopping and Sealants																			
1	6	1			Firestopping	RFP - FOB133 - Fire Protection Program Requirements - Section I - Fire Protection System Requirements - Part B	Section 07810, 07841 & 07900 / ASTM C920, C1193, C1248, D412, D1752, D2628, E84, E814, UL-1479, NFCA 100	M. Romano	SYSTRA	6/6/11	Submital Package #0001-07841-0, 0001-07810-1, 0003-07810-1, 0002-07841-1, 0003-07900-2	TCY	HPCC	12/21/11	HPCC SSC Pl. File #80.1.6	L. Butler / D. Dunn	Advanced Caulking / Dowsepart Commercial	5/21/12	HPCC SSC Pl. File #80.1.6	MB	HPCC	6/29/12		COMPLETE
1	7				Doors, Frames and Hardware																			
1	7	1			Hollow Metal Doors and Frames	RFP - FOB133 - Architectural Program Requirements - Section IX - Interior Doors - Part B	Section 08110 / Dwg #A-600, WA-600 & MA-600 thru MA-603 / ASTM A153, A364, A526, A569, A780, C236, C976, NFPA 80, ADA	B. Fitzhery	SYSTRA	5/26/11	Submital Package # 0003-08110-1	TCY	HPCC	1/17/12	N/A	N/A	N/A	N/A	HPCC SSC Pl. File #80.1.7	MB	HPCC	6/29/12		COMPLETE
1	7	2			Access Doors and Frames	RFP - FOB133 - Architectural Program Requirements - Section IX - Interior Doors - Part E	Section(s) 11510, 15726, 15782, 15810, 15865, 16050, 14731	B. Fitzhery	SYSTRA	5/26/11	Submital Package # 0001-08305-0, 0002-08305-0	TCY	HPCC	N/A	N/A	N/A	N/A	N/A	HPCC SSC Pl. File #80.1.7	MB	HPCC	6/29/12		COMPLETE
1	7	3			Finish Hardware	RFP - FOB133 - Architectural Program Requirements - Section IX - Interior Doors	Section 08710 / ASTM A413, ADA, NFPA 80, 101, 130	B. Fitzhery	SYSTRA	5/26/11	Submital Package # 0001-08710-0, 0002-08710-0	TCY	HPCC	2/22/12	N/A	N/A	N/A	N/A	HPCC SSC Pl. File #80.1.7	MB	HPCC	6/29/12		COMPLETE
1	7	4			Security Doors	RFP - FOB133 - Communications & Security Program Requirements - Part B	Section 08110 & 10670	B. Fitzhery	SYSTRA	5/26/11		TCY	HPCC	N/A	N/A	N/A	N/A	N/A	HPCC SSC Pl. File #80.1.7	MB	HPCC	6/29/12		COMPLETE
1	7	4	1		Provide Knox Boxes	RFP - FOB133 - Architectural Program Requirements - Section V - Exterior Doors - Part A	Section 16731	B. Fitzhery	SYSTRA	5/26/11	Submital Package # 0004-16731-0	TCY	HPCC	N/A	N/A	N/A	N/A	N/A	HPCC SSC Pl. File #80.1.7	MB	HPCC	6/29/12		COMPLETE
1	7	4	2		Security/Access Control Module	RFP - FOB133 - Communications & Security Program Requirements - Part B	Dwg #MT-509 & MT-511	J. Ray	SYSTRA	5/26/11	Submital Package # 0002-16731-0	TCY	HPCC	2/6/12	N/A	N/A	N/A	N/A	HPCC SSC Pl. File #80.1.7	MB	HPCC	6/29/12		COMPLETE
1	8				Aluminum Entrances, Storefronts, Windows																			
1	8	1			Aluminum Entrances and Storefronts	RFP - FOB133 - Architectural Program Requirements - Section IV - Exterior Windows - C	Section 08410 / Dwg #MA-601 thru MA-604, WA-601 thru WA-602 / ASTM B209, B221, B429, B211	B. Fitzhery	SYSTRA	6/6/11	Submital Package #0001-08410-0, 0002-08410-1, 0003-08410-1	TCY	HPCC	3/6/12	HPCC SSC Pl. File #80.1.8	D. Zarfoss	Deb's Glass	8/21/12	HPCC SSC Pl. File #80.1.8	MB	HPCC	8/21/12		COMPLETE
1	8	2			Aluminum Windows	RFP - FOB133 - Architectural Program Requirements - Section IV - Exterior Windows - B	Section 08520 / Dwg #MA-602 thru MA-604 / AAMA 608.1, 101, ASTM A123, B221, E331	B. Fitzhery	SYSTRA	6/6/11	Submital Package #0002-08520-1, 0003-08520-1, 0004-08520-1	TCY	HPCC	4/3/12	HPCC SSC Pl. File #80.1.8	D. Zarfoss	Deb's Glass	8/21/12	HPCC SSC Pl. File #80.1.8	MB	HPCC	8/21/12		COMPLETE
1	9				Cranes and Vehicle Lifts																			
1	9	1			Cranes	Design Build Specifications - Division 14 - Cranes - 14300	Section 14300 / Dwg #MD-000 thru MD-601	R. Miller	SYSTRA	6/6/11	Submital Package # 0001-14300-0	TCY	HPCC	1/30/12	HPCC SSC Pl. File #80.1.9	L. Laubach	Seward Hoist & Crane Systems	8/21/12	HPCC SSC Pl. File #80.1.9	MB	HPCC	8/21/12		COMPLETE
1	9	1	1		Crane	RFP - Structural 250 1.A.2.b	Section 14300	R. Miller	SYSTRA	6/6/11	Submital Package # 0001-14300-0, 0004-14300-0	TCY	HPCC	1/30/12	HPCC SSC Pl. File #80.1.9	L. Laubach	Seward Hoist & Crane Systems	8/21/12	HPCC SSC Pl. File #80.1.9	MB	HPCC	8/21/12		COMPLETE
1	9	1	2		Portable Crane	RFP - Structural 250 1.A.2.b	Section 14300	R. Miller	SYSTRA	6/6/11	Submital Package # 0003-14300-0	TCY	HPCC	1/30/12	HPCC SSC Pl. File #80.1.9	L. Laubach	Seward Hoist & Crane Systems	8/21/12	HPCC SSC Pl. File #80.1.9	MB	HPCC	8/21/12		COMPLETE
1	9	1	3		Suspended Bridge Crane	RFP - Structural 250 1.A.2.b	Section 14300	R. Miller	SYSTRA	6/6/11	Submital Package # 0002-14300-0	TCY	HPCC	1/30/12	HPCC SSC Pl. File #80.1.9	L. Laubach	Seward Hoist & Crane Systems	8/21/12	HPCC SSC Pl. File #80.1.9	MB	HPCC	8/21/12		COMPLETE
1	9	2			Vehicle Lifts	Design Build Specifications - Division 14 - Conveying Systems - 14450	Section 14450 / Dwg #MD-000 thru MD-601	RM	SYSTRA	6/6/11	Submital Package # 0001-14450-1	TCY	HPCC	11/14/11	HPCC SSC Pl. File #80.1.9	J. Hueg	B&R Associates	8/21/12	HPCC SSC Pl. File #80.1.9	MB	HPCC	8/21/12		COMPLETE

Level 1 - Element			Level 2 - Sub-Element			Level 3 - Item			Level 4 - Sub-Item			Level 5 - Sub-Sub-Item			Safety/Security Certifiable Items List Date: 8/21/12			Rev: 2			Design Conformance Checklist			Installation & Construction Conformance Checklist			Testing & Inspection Conformance Checklist			Final Verification			Certifiable Items List Template HPCC Concurrence: DSF NMAA Concurrence: NDS WMAA SAFE: RLF
Item ID	Item Description	Design Criteria	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Comments										
1.9.2.1	Able Lift	Section 14450	Section 14450	RM	SYSTRA	6/6/11	Submittal Package # 0001-14450-1, #0002-144450-2	TCY	HPCC	11/14/11	HPCC SSC Pl. File #80.1.9	J. Haeg	B&R Associates	8/21/12	HPCC SSC Pl. File #80.1.9	MB	HPCC	8/21/12	COMPLETE														
1.9.2.2	Parallelogram Lift	Section 14450	Section 14450	RM	SYSTRA	6/6/11	Submittal Package # 0003-14450-2, #0004-14450-2, #0005-14450-2	TCY	HPCC	11/14/11	HPCC SSC Pl. File #80.1.9	J. Haeg	B&R Associates	8/21/12	HPCC SSC Pl. File #80.1.9	MB	HPCC	8/21/12	COMPLETE														
1.10	Lighting Fixtures and Mounting Poles																																
1.10.1	Basic Electrical Materials and Methods	RFP - FQ8133 - Electrical Program Requirements - Section II - Basic Electrical	Section 16050 / Dwg #E-002 thru E-601 / NECA-1:2006, 101-2006, NFPA 70, ANSI/IEEE C2 NESC	C. Azaa	SYSTRA	6/10/11	Submittal Package # 0001-16050-0	TCY	HPCC	12/9/11	HPCC SSC Pl. File #80.1.10	C. Azaa	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.1.10	MB	HPCC	8/21/12	COMPLETE														
1.10.2	Grounding and Bonding	RFP - FQ8133 - Electrical Program Requirements - Section II - Basic Electrical - Part C	Section 16060 / Dwg #E-002 thru E-601 / NEC Art.250, ANSI/IEEE 80-2000, ASTM B187-80	C. Azaa	SYSTRA	6/10/11	Submittal Package # 0001-16060-0	TCY	HPCC	12/9/11	HPCC SSC Pl. File #80.1.10	C. Azaa	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.1.10	MB	HPCC	8/21/12	COMPLETE														
1.10.3	Wire, Cable and Busways	RFP - FQ8133 - Electrical Program Requirements - Section III - Wire Management	Section 16120 / Dwg #E-002 thru E-601 / NEC	C. Azaa	SYSTRA	6/10/11	Submittal Packages #0001-16120-0, #0003-16120-0	TCY	HPCC	12/9/11	HPCC SSC Pl. File #80.1.10	C. Azaa	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.1.10	MB	HPCC	8/21/12	COMPLETE														
1.10.4	Wire Connection Accessories	RFP - FQ8133 - Electrical Program Requirements - Section III - Wire Management	Section 16125 / Dwg #E-002 thru E-601 / NEC	C. Azaa	SYSTRA	6/10/11	Submittal Packages #0001-16125-1, #0003-16120-0, #0004-16125-0	TCY	HPCC	12/9/11	HPCC SSC Pl. File #80.1.10	C. Azaa	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.1.10	MB	HPCC	8/21/12	COMPLETE														
1.10.5	Raceways, Boxes and Cabinets	RFP - FQ8133 - Electrical Program Requirements - Section III - Wire Management - Part B	Section 16130 / Dwg #E-002 thru E-601 / NEC, NEMA 250	C. Azaa	SYSTRA	6/10/11	Submittal Packages #0001-16130-1, #0002-16130-0, #0003-16130-0, #0004-16130-0, #0005-16130-0, #0006-16130-0, #0007-16130-0, #0009-16130-0, #0010-16130-0	TCY	HPCC	12/9/11	HPCC SSC Pl. File #80.1.10	C. Azaa	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.1.10	MB	HPCC	8/21/12	COMPLETE														
1.10.6	Lighting Fixtures and Mounting Poles (LC)	RFP - FQ8133 - Electrical Program Requirements - Section VII - Lighting - Part D	Section 16255 / Dwg #E-002 thru E-601 / NEC, UL 496, 542, 1029, 1570, 1571, 1572, ASTM, ASSHTO, NAAMM, ANSI/IEEE, NEMA, FCC	C. Azaa	SYSTRA	6/10/11	Submittal Packages #0004-16255-0	TCY	HPCC	12/9/11	HPCC SSC Pl. File #80.1.10	C. Azaa	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.1.10	MB	HPCC	8/21/12	COMPLETE														
1.10.6.1	Exterior Lighting	RFP - FQ8133 - Electrical Program Requirements - Section VII - Lighting - Part D	RFP (Book 2) VII.A.3.b. & 4.c & VII.D / Dwg #E-002 thru E-601	C. Azaa	SYSTRA	6/10/11	Submittal Packages #0001-16255-0	TCY	HPCC	12/9/2011	HPCC SSC Pl. File #80.1.10	C. Azaa	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.1.10	MB	HPCC	8/21/12	COMPLETE														
1.11	Overhead Cooling Doors																																
1.11.1	Overhead Cooling Doors	RFP - FQ8133 - Architectural Program Requirements - Section V - Exterior Doors	Section 08331 / Dwg #WA-600 & MA-600 thru MA-603 / ASTM A36, A123, A653, E84, NFPA 70, 80 & UL 10B	B. Fitzhery	SYSTRA	9/13/2011	Submittal Package # 0002-08331-2	TCY	SYSTRA	12/29/2011	HPCC SSC Pl. File #80.1.11	David Smith	Just Rite	8/21/12	HPCC SSC Pl. File #80.1.11	MB	HPCC	8/21/12	COMPLETE														
2.0	Operations																																
2.1	Pedestrian Movement																																
2.1.1	Signage	RFP - FQ8133 - Site Improvements Program Requirements - Parking Lots	Section 10431 / Dwg #C-501 thru C-504	B. Fitzhery	SYSTRA		Submittal Package # 0001-10431-1, 0002-10431-0	TCY	HPCC	6/18/2012	HPCC SSC Pl. File #80.2.2	Mike Volpicelli	All State Striping	N/A	HPCC SSC Pl. File #80.2.1	MB	HPCC	6/29/12	COMPLETE														
2.1.2	Pavement Marking	RFP - FQ8133 - Site Improvements Program Requirements - Parking Lots	Section 10432 / Dwg #C-501 thru C-504	B. Fitzhery	SYSTRA		Submittal Package # 0001-02765-0	TCY	HPCC	6/18/2012	HPCC SSC Pl. File #80.2.2	Mike Volpicelli	All State Striping	N/A	HPCC SSC Pl. File #80.2.1	MB	HPCC	6/29/12	COMPLETE														
2.2	Vehicle Movement																																
2.2.1	Signage	RFP - FQ8133 - Site Improvements Program Requirements - Parking Lots	Section 10431 / Dwg #C-501 thru C-504 & WA-102, WA-651	B. Fitzhery	SYSTRA		Submittal Package # 0001-10431-1, 0002-10431-0	TCY	HPCC	6/18/2012	HPCC SSC Pl. File #80.2.3	Mike Volpicelli	All State Striping	N/A	HPCC SSC Pl. File #80.2.2	MB	HPCC	6/29/12	COMPLETE														
2.2.2	Pavement Marking	RFP - FQ8133 - Site Improvements Program Requirements - Parking Lots	Section 02765 / Dwg #C-501 thru C-504 & WA-102	B. Fitzhery	SYSTRA		Submittal Package # 0001-02765-0	TCY	HPCC	6/18/2012	HPCC SSC Pl. File #80.2.3	Mike Volpicelli	All State Striping	N/A	HPCC SSC Pl. File #80.2.2	MB	HPCC	6/29/12	COMPLETE														
2.3	Snow Removal																																
2.3.1	Snow Gates	Section 05500	Section 05500	B. Fitzhery	SYSTRA	5/26/11	Submittal Package # 0004-05500-0	TCY	HPCC	6/30/2011	HPCC SSC Pl. File #80.2.3	H. Wright, Jr	Wright's Iron	4/20/12	HPCC SSC Pl. File #80.2.3	MB	HPCC	6/29/12	COMPLETE														
3.0	Communications																																
3.1	Telephone System																																
3.1.1	Telecomm Standard Specifications	TIA/EIA 568-B	Section 16700 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	Submittal Package #0001-16700-0	TCY	HPCC	10/12/11	HPCC SSC Pl. File #80.3.1	C. Azaa	Mona Electric Group	N/A	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12	COMPLETE														
3.1.2	Comm System Submittals and Services	Design Build Specifications - Division 16 - 16706 - Communications Systems QA and Testing	Section 16706 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	N/A	TCY	HPCC	10/12/11	HPCC SSC Pl. File #80.3.1	C. Azaa	Mona Electric Group	N/A	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12	COMPLETE														
3.1.3	Comm System QA and Testing	Design Build Specifications - Division 16 - 16707 - Communications Systems QA and Testing	Section 16707 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	N/A	TCY	HPCC	10/12/11	HPCC SSC Pl. File #80.3.1	C. Azaa	Mona Electric Group	N/A	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12	COMPLETE														
3.1.4	Communications Grounding	Design Build Specifications - Division 16 - 16710 - Communications Grounding	Section 16710 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	Submittal Package #0001-16060-0, #0001-16060-0, #0002-16710-0, #0001-16710-0	TCY	HPCC	10/12/11	HPCC SSC Pl. File #80.3.1	C. Azaa	Mona Electric Group	N/A	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12	COMPLETE														
3.1.5	Communications Electrical Power Dist.	Design Build Specifications - Division 16 - 16715 - Communications Electrical Power Distribution	Section 16715 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	Submittal Package #0001-16715-1, 0004-02585-1, 0005-02585-0, 0006-02585-0, 0001-16715-1	TCY	HPCC	10/12/11	HPCC SSC Pl. File #80.3.1	C. Azaa	Mona Electric Group	6/26/12	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12	COMPLETE														
3.1.6	Communications - Telephone System	Design Build Specifications - Division 16 - 16721 - Communications - Telephone and Data System	Section 16721 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	Submittal Package #0002-02585-0, 0003-02585-0, 0001-16700-0, 0001-16721-0, 0002-16721-0, 0003-16721-0, 0001-16700-0, 0002-16700-0	TCY	HPCC	10/12/11	HPCC SSC Pl. File #80.3.1	C. Azaa	Mona Electric Group	N/A	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12	COMPLETE														
3.1.7	Communications - Public Address	RFP - FQ8133 - Communications & Security Program Requirements - Part F	Section 16821 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	Submittal Package #0001-16821-0, #0002-16821-1	TCY	HPCC	5/21/12	HPCC SSC Pl. File #80.3.1	C. Azaa	Mona Electric Group	6/26/12	HPCC SSC Pl. File #80.3.1	MB	HPCC	6/29/12	COMPLETE														
3.2	Video Surveillance																																
3.2.1	Video Surveillance	RFP - FQ8133 - Communications & Security Program Requirements - Part D	Section 16781 / Dwg #MT-001 thru MT-617 / FT-001 thru FT-609 / WT-001 thru WT-609	J. Ray	SYSTRA	6/6/11	Submittal Package #0001-16781-0	TCY	HPCC	5/21/12	HPCC SSC Pl. File #80.3.2	C. Azaa	Mona Electric Group	1/6/00	HPCC SSC Pl. File #80.3.2	MB	HPCC	8/21/12	COMPLETE														

Level 1 - Element		Level 2 - Sub Element		Level 3 - Item		Level 4 - Sub (1)		Level 5 - Sub (2) Item		Safety/Security Certifiable Items List Date: 8/21/12	Rev: 2	Design Conformance Checklist				Installation & Construction Conformance Checklist				Testing & Inspection Conformance Checklist				Final Verification				Certifiable Items List Template HPCC Concurrence: DSF NMATA Concurrence: NDS WMATA SAFE: RLF		
										Item Description	Design Criteria	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Comments		
Integrated Systems																														
4	1									UG Electrical and Comms Dist Systems																				
4	1	1								UG Electrical and Comms Dist Systems	RFP - FQ8133 - Electrical Program Requirements - Section VI - Building Service and Distribution - Part A.4	Section 02585 / Dwg #E-505 & 1-002 thru T-507 / ASTM A36, A48, A123, A185, A615, C33, C109, C173, C231, D570, D638, D790, F512, NEMA TC-14, RN 1, UL-6	C. Aza	SYSTRA	6/10/11	Submittal #0001-02585-3, 0002-02585-0, 0003-02585-0, 0004-02585-1, 0006-02585-0, 0005-16130-0, 0008-16130-0	TCY	HPCC	12/20/11	HPCC SSC Pl. File #80.4.1	C. Aza	Mona	8/21/12	HPCC SSC Pl. File #80.4.1	MB	HPCC	8/21/12	COMPLETE		
4	2									Division 11 Equipment																				
4	2	1								Shop Equipment	Design Build Specifications - Division 11 - 11510 - Shop Equipment	Section 11510 / Dwg #MQ-000 thru MQ-601	R. Miller	SYSTRA	6/6/11	Submittal #0001-11510-0, 0001-10670-0, 0004-11510-0, 0008-11510-1, 0001-11515-1, 0002-11515-2	TCY	HPCC		HPCC SSC Pl. File #80.4.2	J. Huang	B&R Associates	8/21/12	HPCC SSC Pl. File #80.4.2	MB	HPCC	8/21/12	COMPLETE		
4	2	2								Shop Equipment (Guard Booth)	Design Build Specifications - Division 11 - 11510 - Shop Equipment - Section 2.32	Section 11510 / Submittal #0003-11510-6	G. Morton	SYSTRA	6/6/11	Submittal #0003-11510-6	TCY	HPCC	4/19/12	HPCC SSC Pl. File #80.4.2	G. Morton	Shelter's Direct	8/21/12	HPCC SSC Pl. File #80.4.2	MB	HPCC	8/21/12	COMPLETE		
4	2	3								Vehicle Wash Equipment	Design Build Specifications - Division 11 - 11550 - Vehicle Wash Equipment	Section 11550 / Dwg #WC-000 thru WC-400	R. Miller	SYSTRA	6/6/11	Submittal #0001-11550-0	TCY	HPCC	1/31/12	HPCC SSC Pl. File #80.4.2	T. Allen	Ross & White	6/8/12	HPCC SSC Pl. File #80.4.2	MB	HPCC	8/21/12	COMPLETE		
4	3									Fire Protection Systems																				
4	3	1								Fire Protection, Suppression and Alarm	RFP - FQ8133 - Fire Protection Program Requirements - Section I - Fire Protection System Requirements - I.B.2	Section 13905 / Dwg #FT-102, FT-605 thru FT-606, MT-108 thru MT-112, MT-610 thru MT-612, NF-100 thru NF-300 & WF-103 thru WF-104, WF-605 thru WF-606, WF-100 thru WF-300 / NFPA 13, 14, 20 / UL-262, 312, 1479 / ASTA, ANSI/ASME, NEMA 250	M. Romano	SYSTRA	6/9/11	Submittal #0001-13905-0, 0002-13905-0, 0003-13905-1, 0004-13905-0, 0005-13905-0, 000-13905-0	TCY	HPCC	3/17/12	HPCC SSC Pl. File #80.4.3	J. Hazard	FLSA	6/12/12	HPCC SSC Pl. File #80.4.3	MB	HPCC	6/29/12	COMPLETE		
4	3	2								Fire Alarm System	RFP - FQ8133 - Fire Protection Program Requirements - Section I - Fire Protection System Requirements - I.B.1	Section 16731 / Dwg #FT-102, FT-605 thru FT-606, MT-108 thru MT-112, MT-610 thru MT-612, NF-100 thru NF-300 & WF-103 thru WF-104, WF-605 thru WF-606, WF-100 thru WF-300 /	M. Romano	SYSTRA	6/9/11	Submittal #0001-16731-1, 0002-16731-0	TCY	HPCC	3/2/12	HPCC SSC Pl. File #80.4.3	C. Aza	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.4.3	MB	HPCC	6/29/12	COMPLETE		
4	4									Elevator																				
4	4	1								Hydraulic Passenger Elevator	RFP - FQ8133 - Architectural Program Requirements - XVI - Elevator	Section 14200	B. Fitzhenry	SYSTRA	6/6/11	Submittal #0002-14200-2	TCY	HPCC	12/19/11	HPCC SSC Pl. File #80.4.4	D. Daniels	PKD	8/21/12	HPCC SSC Pl. File #80.4.4	MB	HPCC	8/21/12	COMPLETE		
4	5									Heating Hot Water System																				
4	5	1								Vibration Isolation	Design Build Specifications - Division 15 - 15070 - Vibration Isolation	Section 15070 / ASTM A123	S. Murphy	LEDS	6/14/11	Submittal #0002-15135-1	TCY	HPCC	10/18/11	HPCC SSC Pl. File #80.4.5	K. Guntow	Limbach	6/18/12	HPCC SSC Pl. File #80.4.5	MB	HPCC	8/21/12	COMPLETE		
4	5	2								ID of Mechanical Equip and Piping	Design Build Specifications - Division 15 - 15075	Section 15075 / Dwg #M-100, MM-100 thru MM-103, WM-100/ ANS1 A13.1-1981	S. Murphy	LEDS	6/14/11	Submittal #0002-15135-1	TCY	HPCC	N/A	HPCC SSC Pl. File #80.4.5	K. Guntow	Limbach	6/18/12	HPCC SSC Pl. File #80.4.5	MB	HPCC	8/21/12	COMPLETE		
4	5	3								Heating Hot Water System & Equipment	Design Build Specifications - Division 15 - 15135, 15205, 15765	Section 15135, 15205, 15765 / Dwg #MM-204 thru MP-404, FP-100 thru FP-400, MP-100 thru MP-400 & WP-100 thru WP-404 / UL-1025, NEMA 250, ASSE, AWWA, ASME	S. Murphy	LEDS	6/14/11	Submittal #0002-15135-1	TCY	HPCC	2/22/12	HPCC SSC Pl. File #80.4.5	K. Guntow	Limbach	6/18/12	HPCC SSC Pl. File #80.4.5	MB	HPCC	8/21/12	COMPLETE		
4	6									Natural Gas																				
4	6	1								ID of Mechanical Equip and Piping	Design Build Specifications - Division 15 - 15192 - ID of Mechanical Equip and Piping	Section 15192	S. Murphy	LEDS	6/14/11	Submittal #0004-15192-1	TCY	HPCC	11/14/11	HPCC SSC Pl. File #80.4.6	K. Guntow	Limbach	4/2/12	HPCC SSC Pl. File #80.4.6	MB	HPCC	6/29/12	COMPLETE		
4	6	2								Natural Gas	RFP - FQ8133 - Plumbing Program Requirements - Section V - Natural Gas Piping	Section 11510, 11550, 15205 / Dwg #MP-207 thru MP-210	S. Murphy	LEDS	6/14/11	Submittal #0009-15205-1	TCY	HPCC	11/14/11	HPCC SSC Pl. File #80.4.6	K. Guntow	Limbach	4/2/12	HPCC SSC Pl. File #80.4.6	MB	HPCC	6/29/12	COMPLETE		
4	7									Piping Systems - Above Ground Maintenance & Plumbing																				
4	7	1								Shop Fluid Services Piping - Compressed Air	RFP - FQ8133 - Plumbing Program Requirements - Section VI - Compressed Air System - Part E	Section 15206 / Dwg #MQ-000 thru MQ-601, FQ-000 thru FQ-602 / NFPA 30, 31, 70, 77 / DCMR Title 20 / ASME B31.9	S. Murphy	LEDS	6/14/11	Submittal #0001-15206-0	TCY	HPCC	1/25/12	HPCC SSC Pl. File #80.4.7	K. Guntow	Limbach	8/21/12	HPCC SSC Pl. File #80.4.7	MB	HPCC	8/21/12	COMPLETE		
4	7	2								Shop Fluid Services Piping - Maintenance Fluids	RFP - FQ8133 - Plumbing Program Requirements - Section VI - Maintenance Fluid Systems - Part E	Section 15206 / Dwg #MQ-000 thru MQ-601, FQ-000 thru FQ-602 / NFPA 30, 31, 70, 77 / DCMR Title 20 / ASME B31.9	S. Murphy	LEDS	6/14/11	Submittal #0002-15206-1	TCY	HPCC	1/16/12	HPCC SSC Pl. File #80.4.7	B. Dorsey	Jones & Frank	8/21/12	HPCC SSC Pl. File #80.4.7	MB	HPCC	8/21/12	COMPLETE		
4	8									Ventilation and A/C Systems																				
4	8	1								Ventilating Units and Heating Equipment and Ductwork	RFP - FQ8133 - HVAC Program Requirements - Section I - HVAC Program Requirements - Parts B & C	Sections 15561, 15726, 15732, 15735, 15765 & 15810	S. Murphy	LEDS	6/14/11	Submittal #0001-15080-1, 0001-15561-1, 0001-15732-1, 0001-15735-1, 0002-15726-1, 0001-15765-2, 0002-15765-1, 0003-15765-2, 0001-15810-0, 0002-15810-0, 0001-15830-3, 0002-15830-1, 0003-15830-0, 0001-15850-1, 0002-15850-0, 0001-15866-2	TCY	HPCC	10/14/11	HPCC SSC Pl. File #80.4.8	K. Guntow	Limbach	8/21/12	HPCC SSC Pl. File #80.4.8	MB	HPCC	8/21/12	COMPLETE		
4	9									Fuel and Lube System																				
4	9	1								Service Station Equipment	Design Build Specifications - Division 11 - 11140 - Service Station Equipment	Section 15206 / Dwg #ME-000 thru ME-615, FE-001 thru FE-606, E-002 thru E-601, WE-001 thru WE-607 / NECA-1-2006, NECA-101-2006, NFPA 70	L. Kieper	SYSTRA	6/10/11	Submittal #0001-11140-0, 0001-11140-0, 0003-11140-2, 0003-11140-2, 0006-15192-1, 0007-15192-0, 0009-15192-0, 0003-11140-0, 0011-15192-0	TCY	HPCC	11/30/11	HPCC SSC Pl. File #80.4.9	B. Dorsey	Jones & Frank	8/21/12	HPCC SSC Pl. File #80.4.9	MB	HPCC	8/21/12	COMPLETE		
4	9	2								Piping Systems and UST's	RFP - FQ8133 - Plumbing Program Requirements - Section IX - Fueling System - Part C	Section 15206 / Dwg #ME-000 thru MQ-601, FQ-000 thru FQ-602 / NFPA 30, 31, 70, 77 / DCMR Title 20 / ASME B31.9	L. Kieper	SYSTRA	6/10/11	Submittal #0001-15192-0, 0001-15192-1, 0002-15192-1, 0003-15192-1, 0004-15192-2, 0005-15192-0, 0008-15192-0, 0009-15192-0, 0010-15192-0	TCY	HPCC	11/30/11	HPCC SSC Pl. File #80.4.9	B. Dorsey	Jones & Frank	8/21/12	HPCC SSC Pl. File #80.4.9	MB	HPCC	8/21/12	COMPLETE		
4	10									Low Voltage Distribution System																				
4	10	1								Basic Electrical Materials and Methods	Design Build Specifications - Division 16 - 16320/16435 - High/Low Voltage Switchgear	Sections 16050 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601, WE-001 thru WE-607 / NECA-1-2006, NECA-101-2006, NFPA 70	C. Aza	Mona	6/10/11	Submittal #0001-16050-0, 0002-16050-0, 0003-16050-0	TCY	HPCC	6/21/11	HPCC SSC Pl. File #80.4.10	C. Aza	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE		
4	10	2								Grounding and Bonding	Design Build Specifications - Division 16 - 16320/16435 - High/Low Voltage Switchgear	Sections 16060 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606 / NEC Art. 250, ANSI/IEEE 48-2000, UL-467	C. Aza	Mona	6/10/11	Submittal #0002-16060-0	TCY	HPCC	8/1/11	HPCC SSC Pl. File #80.4.10	C. Aza	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE		
4	10	3								Wire, Cable and Busways	Design Build Specifications - Division 16 - 16320/16435 - High/Low Voltage Switchgear	Sections 16120 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601, WE-001 thru WE-607 / NEC, IEC, ANSI, UL-44	C. Aza	Mona	6/10/11	Submittal #0001-16435-0, 0002-16145-0	TCY	HPCC	6/21/11	HPCC SSC Pl. File #80.4.10	C. Aza	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE		
4	10	4								Wire Connection Accessories	Design Build Specifications - Division 16 - 16320/16435 - High/Low Voltage Switchgear	Sections 16125 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601, WE-001 thru WE-607 / NEC, ASTM, ANSI, UL	C. Aza	Mona	6/10/11	Submittal #0001-16125-1, 0002-16125-0, 0004-16125-0, 0003-16145-0, 0004-16145-0, 0005-16145-0, 0006-16145-0	TCY	HPCC	2/14/12	HPCC SSC Pl. File #80.4.10	C. Aza	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE		
4	10	5								Raceways, Boxes and Cabinets	RFP - FQ8133 - Electrical Program Requirements - Section III - Wire Management - Part B	Sections 16130 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601, WE-001 thru WE-607 / NEC, ASTM, NEMA 250, UL	C. Aza	Mona	6/10/11	Submittal #0001-16130-2, 0002-16130-0, 0003-16130-0, 0004-16130-0, 0005-16130-0, 0006-16130-0, 0007-16130-0, 0009-16130-0, 0010-16130-1	TCY	HPCC	6/21/11	HPCC SSC Pl. File #80.4.10	C. Aza	Mona Electric Group	8/21/12	HPCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE		

			Safety/Security Certifiable Items List Date: 8/21/12	Rev: 2	Design Conformance Checklist						Installation & Construction Conformance Checklist						Testing & Inspection Conformance Checklist						Final Verification				Certifiable Items List Template HPOCC Conformance: DSF NEMA Conformance: NDS WMAATA SAFE: RLF		
Level 1 - Event	Level 2 - Sub-Event	Level 3 - Item	Level 4 - Sub-Item	Level 5 - Sub-Sub-Item	Item Description	Design Criteria	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Comments		
4	10	6			Low-Voltage Switchgear and Switchboard	RFP - FOB133 - Electrical Program Requirements - Section IV - Wire Management - Part D / Section IV - Building Service & Distribution - F	Sections 16435 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601, WE-001 thru WE-607 / NEC, NEMA: PB2, ANSI, UL: B91, ASTM B187, ANSI/IEEE	C. Azaa	Mona	6/10/11	Submital #0001-16435-1, 0001-16425-0	TCY	HPCC	1/24/12	HPOCC SSC Pl. File #80.4.10	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE						
4	10	7			Circuit Breakers, Panelboards and Load Centers	RFP - FOB133 - Electrical Program Requirements - Section III - Wire Management - Part F	Sections 16440 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601, WE-001 thru WE-607 / NEC, NEMA A81, PB1, ST20, 250, ANSI 255.1, UL: 50, 67, 198C, 489, 891, ASTM A276, B187, IEEE	C. Azaa	Mona	6/10/11	Submital #0001-16440-1	TCY	HPCC	11/28/11	HPOCC SSC Pl. File #80.4.10	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE						
4	10	8			Transformers (Dry-type)	RFP - FOB133 - Electrical Program Requirements - Section VI - Building Service and Distribution - Part C	Sections 16270 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601 / NEC, NEMA ST1, ST20, 107, 250, ANSI C57.12.01, C57.12.90, C57.15, C57.94, C57.113, C57.124, C62.11, IEEE C57.12.01, UL: 506, 1561, 1562	C. Azaa	Mona	6/10/11	Submital #0001-16270-0	TCY	HPCC	2/3/12	HPOCC SSC Pl. File #80.4.10	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.10	MB	HPCC	8/21/12	COMPLETE						
4	11				High Voltage Distribution System																								
4	11	1			Basic Electrical Materials and Methods	RFP - FOB133 - Electrical Program Requirements - Section V - Medium Voltage - Part A	Sections 16050 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / ANSI, IEC, NEMA, ASTM, NESC, and NEC	C. Azaa	Mona	6/6/11	Submital #0001-16320-0, 0001-16425-0	TCY	HPCC	2/11/12	HPOCC SSC Pl. File #80.4.11	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.11	MB	HPCC	8/21/12	COMPLETE						
4	11	2			Medium Voltage Cable	RFP - FOB133 - Electrical Program Requirements - Section V - Medium Voltage - Part A.5	Sections 16119 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / ANSI, IEC, NEMA, ASTM, NESC, and NEC	C. Azaa	Mona	6/6/11	Submital #0001-16119-0, 0003-16119-0, 0001-16320-0	TCY	HPCC	2/16/12	HPOCC SSC Pl. File #80.4.11	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.11	MB	HPCC	8/21/12	COMPLETE						
4	11	3			Transformers (Oil-filled)	RFP - FOB133 - Electrical Program Requirements - Section VI - Building Service and Distribution - Part B	Sections 16270 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601 / NEC, NEMA: ST1, ST20, 107, 250, ASTM D3847, ANSI/IEEE: C57.12.00, C57.12.90, C57.12.91, C57.15, C57.94, C57.113, C57.124, C62.11/IEEE: C57.12.01/UL: 506, 1561, 1562	C. Azaa	Mona	6/6/11	Submital #0001-16270-0, 0001-16270-0	TCY	HPCC	2/16/12	HPOCC SSC Pl. File #80.4.11	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.11	MB	HPCC	8/21/12	COMPLETE						
4	11	4			High-Voltage Switchgear	RFP - FOB133 - Electrical Program Requirements - Section VI - Building Service & Distribution - Part D	Sections 16220 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, E-002 thru E-601 / NEC, NEMA: SG4, ANSI: C37.06, 295.1, ANSI/IEEE: C37.09, C37.20-2, C37.90, C57.13, C62.11 / IMA, IS	C. Azaa	Mona	6/6/11	Submital #0001-16119-0, 0001-16270-0	TCY	HPCC	2/16/12	HPOCC SSC Pl. File #80.4.11	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.11	MB	HPCC	8/21/12	COMPLETE						
4	12				Emergency Standby Generator System																								
4	12	1			Basic Electrical Materials and Methods	Design Build Specifications - Division 16 - 16220 - Emergency Standby Generator System	Sections 16050 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / ANSI, IEC, NEMA, ASTM, NESC, and NEC	C. Azaa	Mona	6/10/11	Submital #0001-16220-1	TCY	HPCC	2/27/12	HPOCC SSC Pl. File #80.4.12	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.12	MB	HPCC	8/21/12	COMPLETE						
4	12	2			Grounding and Bonding	Design Build Specifications - Division 16 - 16220 - Emergency Standby Generator System	Sections 16060 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / NEC Art. 250, ANSI/IEEE 80-2000, UL-467	C. Azaa	Mona	6/10/11	Submital #0001-16220-1	TCY	HPCC	2/27/12	HPOCC SSC Pl. File #80.4.12	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.12	MB	HPCC	8/21/12	COMPLETE						
4	12	3			Wire, Cable and Runways	Design Build Specifications - Division 16 - 16220 - Emergency Standby Generator System	Sections 16120 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / NEC, IEC, ANSI, UL-44	C. Azaa	Mona	6/10/11	Submital #0001-16220-1	TCY	HPCC	2/27/12	HPOCC SSC Pl. File #80.4.12	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.12	MB	HPCC	8/21/12	COMPLETE						
4	12	4			Wire Connection Accessories	Design Build Specifications - Division 16 - 16220 - Emergency Standby Generator System	Sections 16125 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / NEC, ASTM, ANSI, UL	C. Azaa	Mona	6/10/11	Submital #0001-16220-1	TCY	HPCC	2/27/12	HPOCC SSC Pl. File #80.4.12	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.12	MB	HPCC	8/21/12	COMPLETE						
4	12	5			Emergency Standby Generator System	Design Build Specifications - Division 16 - 16220 - Emergency Standby Generator System	Sections 16220 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / NFPA 70 and 37, NFPA 110 Level 2 / MGI / UL: 1236, ISO 9002 and ETL	C. Azaa	Mona	6/10/11	Submital #0001-16220-1, 0002-16220-0	TCY	HPCC	2/27/12	HPOCC SSC Pl. File #80.4.12	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.12	MB	HPCC	8/21/12	COMPLETE						
4	13				Uninterruptible Power Supply																								
4	13	1			Uninterruptible Power Supply	RFP - FOB133 - Electrical Program Requirements - Section IV - Special Equipment - Part E	Sections 16260 / Dwg #ME-001 thru ME-615, FE-001 thru FE-606, WE-001 thru WE-607, E-002 thru E-601 / NEC, NEMA: FE1, ANSI: C39.1, ANSI/NEMA: PB1, UL: 50, ANSI/AMA: 135.4, ASTM: B187-00	C. Azaa	Mona	6/10/11	Submital #0001-16220-0	TCY	HPCC	3/26/12	HPOCC SSC Pl. File #80.4.13	C. Azaa	Mona Electric Group	6/12/12	HPOCC SSC Pl. File #80.4.13	MB	HPCC	8/21/12	COMPLETE						
4	14				Lightning Protection																								
4	14	1			Lightning Protection	RFP - FOB133 - Electrical Program Requirements - Section IV - Special Equipment - Part B	Sections 16670 / WE-133, ME-501 thru ME-502, FE-501 thru FE-502 / NFPA 780 / UL: 96A	C. Azaa	Mona	6/10/2011	Submital #0001-16670-1	TCY	HPCC	2/6/12	HPOCC SSC Pl. File #80.4.14	C. Azaa	Mona Electric Group	6/13/12	HPOCC SSC Pl. File #80.4.14	MB	HPCC	6/29/12	COMPLETE						
4	15				Comms - Fire and Intrusion Alarm System																								
4	15	1			Telecomm Standard Specifications	RFP - FOB133 - Electrical Program Requirements - Section XIII - Communications and Security	Sections 16700 / FT-001 thru FT-609, MT-100 thru MT-617, WT-001 thru WT-609 / TIA/EIA, JSTD, BICSI-TDMMA, NFPA 70, NEC, FCC, UL, ANSI, IEC, EIA, NEMA, IEEE	M. Romano/ C. Azaa	FLSA / Mona	6/10/11	Submital #0001-16700-0, 0001-16700-1	TCY	HPCC	12/12/11	HPOCC SSC Pl. File #80.4.15	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.15	MB	HPCC	8/21/12	COMPLETE						
4	15	2			Comm System Submittals and Services	RFP - FOB133 - Electrical Program Requirements - Section XIII - Communications and Security	Sections 16706 / FT-001 thru FT-609, MT-100 thru MT-617, WT-001 thru WT-609	M. Romano/ C. Azaa	FLSA / Mona	6/10/11	N/A	TCY	HPCC	12/12/11	HPOCC SSC Pl. File #80.4.15	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.15	MB	HPCC	8/21/12	COMPLETE						
4	15	3			Comm System QA and Testing	RFP - FOB133 - Electrical Program Requirements - Section XIII - Communications and Security	Sections 16707 / FT-001 thru FT-609, MT-100 thru MT-617, WT-001 thru WT-609	M. Romano/ C. Azaa	FLSA / Mona	6/10/11	N/A	TCY	HPCC	12/12/11	HPOCC SSC Pl. File #80.4.15	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.15	MB	HPCC	8/21/12	COMPLETE						
4	15	4			Communications Grounding	RFP - FOB133 - Electrical Program Requirements - Section XIII - Communications and Security	Sections 16710 / FT-001 thru FT-609, MT-100 thru MT-617, WT-001 thru WT-609 / NFPA 70	M. Romano/ C. Azaa	FLSA / Mona	6/10/11	Submital #0001-16710-0	TCY	HPCC	12/12/11	HPOCC SSC Pl. File #80.4.15	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.15	MB	HPCC	8/21/12	COMPLETE						
4	15	5			Communications Electrical Power Dist.	RFP - FOB133 - Electrical Program Requirements - Section XIII - Communications and Security	Sections 16715 / FT-001 thru FT-609, MT-100 thru MT-617, WT-001 thru WT-609 / NEMA and NEC	M. Romano/ C. Azaa	FLSA / Mona	6/10/11	Submital #0001-16715-0	TCY	HPCC	12/12/11	HPOCC SSC Pl. File #80.4.15	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.15	MB	HPCC	8/21/12	COMPLETE						
4	15	6			Comms - Fire and Intrusion Alarm System	RFP - FOB133 - Electrical Program Requirements - Section XIII - Communications and Security	Sections 16731 / FT-001 thru FT-609, MT-100 thru MT-617, WT-001 thru WT-609 / NEC Art. 760, UL Type FPLP, ASTM B3	M. Romano/ C. Azaa	FLSA / Mona	6/10/11	Submital #0001-16731-1, 0002-16731-0	TCY	HPCC	2/6/12	HPOCC SSC Pl. File #80.4.15	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.15	MB	HPCC	8/21/12	COMPLETE						
4	15	7			Interface Criteria and Responsibilities	RFP - FOB133 - Electrical Program Requirements - Section XIII - Communications and Security	Sections 16866 / FT-001 thru FT-609, MT-100 thru MT-617, WT-001 thru WT-609	M. Romano/ C. Azaa	FLSA / Mona	6/10/11	N/A	TCY	HPCC	2/6/12	HPOCC SSC Pl. File #80.4.15	C. Azaa	Mona Electric Group	8/21/12	HPOCC SSC Pl. File #80.4.15	MB	HPCC	8/21/12	COMPLETE						







Safety/Security Certifiable Items List Date: 8/21/12		Rev: 2	Design Conformance Checklist				Installation & Construction Conformance Checklist				Testing & Inspection Conformance Checklist				Final Verification				Certifiable Items List Template HPCC Concurrence: DSF MMATA Concurrence: NDS WMATA SAFE: RLF
Item Description	Design Criteria	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Doc Ref	Verified By	Company Verified By	Date	Comments	

Level 1: Element  
 Level 2: Sub Element  
 Level 3: Item  
 Level 4: Sub (1)  
 Level 5: Sub (2) Item

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 Verified By  
 MO. CO. MC



Washington Metropolitan Area Transit Authority

**DEPARTMENT OF OPERATIONS**

**Administrative Procedure**

<b>CATEGORY</b> Operational Interdepartmental Activity		<b>TOPIC</b> Site Specific Work Plan	
<b>PROCEDURE NO.</b> 200-33	<b>TITLE</b> Site Specific Work Plan		
<b>LATEST REVISION NO.</b> REV.00	<b>LATEST REVISION DATE</b> June 2, 2006	<b>LATEST REVIEW DATE</b> June 2, 2007	<b>EXPIRATION DATE</b> None
<b>OAP APPLIES TO</b> All WMATA Employees and Contractors			
<b>OFFICE/INDIVIDUAL OF PRIMARY RESPONSIBILITY</b> Office of Rail Reliability and Technical Services, Track Access for Maintenance and Construction Branch			
<b>EFFECTIVE PAGES</b>			
<b>DISTRIBUTION</b> ALL OAP MANUAL HOLDERS AND USERS AND ALL OPRs		<b>COORDINATION WITH OTHER PUBLICATIONS</b>	
<b>APPROVAL: Director of Rail Reliability and Technical Services</b> Chris C. Barker <b>Date:</b>		<b>DIRECTED BY: Chief Operating Officer for Rail Service</b> Steven A. Feil <b>Date:</b>	



## **SITE SPECIFIC WORK PLAN**

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### **1. PURPOSE**

The purpose of this Operations Administrative Procedure (OAP) is to delineate responsibilities and requirements for the development of a Site Specific Work Plan (SSWP) for all personnel performing work, other than approved maintenance activities, on, around, or to WMATA rail facilities.

The purposes of a Site Specific Work Plan are as follows:

- A. To describe the performance of construction and/or maintenance activities to be performed at specific locations where track access or other interface with the operating system is required. It includes all activities necessary to perform any work within the operating system.
- B. To describe how each activity affects the operating system.
- C. To define the scope of work, the schedule, the cut-in requirements, contingency plans for returning the system back to normal operations, and any modifications to the operating system between start and finish of the work.
- D. To allow potential problems to be monitored and give warning of possible overruns by its schedule provisions.
- E. To facilitate the implementation of the work crew supervisor's or contractor's contingency plans when schedule overruns cannot be averted.
- F. To provide for review and approval of work activities.

### **2. SCOPE**

This OAP is applicable to all personnel including Contractors and Consultants having a need to perform work on or adjacent to WMATA property. The Site Specific Work Plan (SSWP) shall provide pertinent information to all parties involved. All applicable parties must sign the SSWP to indicate their approval of the plan before track access is granted.

### **3. RESPONSIBILITIES**

- A. The Director of Rail Reliability and Technical Services (RRTS) is responsible for implementing and for approving revisions to this OAP.
- B. The Manager of Track Access for Maintenance and Construction (TAMC) is designated the Reviewing Authority, and as such, is responsible for periodic review of this OAP and for reporting accomplishment of the review by January 31 of each year.
- C. All personnel to include Contractors and Consultants who work on or adjacent to WMATA property are responsible for submitting a Site Specific Work Plan (SSWP) in compliance with this procedure and are responsible for performing the work as stated in their approved SSWP.



- D. The Operations Liaison Office (OLIA), Department of System Safety and Risk Protection (SARP) and Track Access for Maintenance and Construction (TAMC) are responsible for the review, comments and approval of each SSWP.
- E. The originating office must insure that all of the required signatures have been obtained.
- F. The Manager of Track Access for Maintenance and Construction (RRTS/TAMC) is required to have the original Site Specific Work Plan (SSWP) with all of the designated signatures before track access is granted.

## 4. DEFINITIONS

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**BOCC:** Bus Operations Control Center A sub-unit of OCC, responsible for the real time monitoring and control of Metrobus movement.

**Contingency Plan:** An alternate process for the completion of each milestone event.

**General Orders and Track Rights System (GOTRS):** is a mainframe computer program that is used by WMATA employees only to enter track rights requests in accordance with OAP 100-9

**Milestone:** A clearly identifiable point in a project/work activity that represents the completion of a related or important set of tasks.

**MOCC: Maintenance Operations Control Center** A sub-unit of OCC and it functions as a control and dispatch center for maintaining the Authority's fixed assets.

**OCCO: Operations Control Center Operations** is composed of MOCC, POCC, and ROCC.

**Piggybacking:** permission to work in the same section of track given by the supervisor of the work crew which possesses the track rights.

**Point of No Return:** A defined milestone in the project where it is determined that any further activities being performed will not allow the restoration of service to its functional state of revenue operations.

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**Rail Service Adjustment (RSA):** A temporary adjustment to the Metrorail passenger train operating schedule in order to accommodate maintenance or construction activities on the Metrorail main line during revenue service.

**ROCC: Rail Operations Control Center** A sub-unit of OCCO charged with the oversight, control and direction of all vehicle movements on the Metrorail main line.

**ROW: Right-Of-Way** The land occupied by a railroad, the physical facilities, track, tunnels, surface and elevated structures through which Metrorail trains operate.

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**Timeline:** a table listing scheduled activities or events within a specific period.

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**Track Rights:** the right of access and control that has been transferred from ROCC to another party for a specific time period and within specific geographic limits in the right-of-away.

**Site Specific Work Plan (SSWP):** Describes the construction and/or installation and associated schedule of work to be performed at specific locations where track usage or other interface with the operating rail road is required.



## 5. POLICIES

A Site Specific Work Plan (SSWP) shall be generated by the office planning to perform or manage a maintenance and / or construction activity in, or around any WMATA property. The requirements for a SSWP can be waived for routine preventive maintenance or inspections by the Manager of Track Access for Maintenance and Construction (TAMC) in conjunction with the Office of Operations Liaison (OLIA) and Department of System Safety and Risk Protection (SARP).

- A. An Site Specific Work Plan (SSWP) is required as per Standard Operating Procedures (SOP) #19, in addition to the requirements of this OAP.
- B. A written detailed plan must be submitted for review to the Office of Operations Liaison (OLIA), Manager of Track Access for Maintenance and Construction (TAMC) and Department of System Safety and Risk Protection (SARP) 45 days prior to the date of the requested work activity and it should include any required and approved Engineering Modification Instruction (EMI), as per OAP #200-4.
- C. A Site Specific Work Plan (SSWP) that will require a Revenue Service Adjustment (RSA) must have approval of OCCO as required in OAP 100-9. The approved RSA form must be attached to the SSWP. (See attachment A Revenue Service Adjustment (RSA) form.)
- D. Comments must be returned to the requesting party within 14 calendar days after the initial submission of the SSWP.
- E. A Site Specific Work Plan (SSWP) must have signed approval from representatives from OLIA, SARP, TAMC and the maintenance manager or project manager submitting the work plan before track rights will be granted. The approved SSWP must be given to RRTS/TAMC 21 days prior to the date of the requested work.
- F. Representatives from OLIA, SARP, TAMC and the maintenance manager or project manager submitting the work must sign off on the SSWP a minimum of 14 calendar days prior to the requested start date of work.
- G. The Manager of Track Access for Maintenance and Construction (TAMC) in conjunction with an OLIA representative shall coordinate final scheduling of all approved Site Specific Work Plans (SSWP). This coordination activity shall have input from those personnel designated below, or their representatives during the Major Projects Meeting.
  - 1) ROCC - Rail Operations Control Center (ROCC) Superintendent
  - 2) MOCC - Maintenance Operations Control Center(MOCC) Superintendent
  - 3) PLNT - Plant Maintenance, General Superintendent
  - 4) SARP - Department of System Safety and Risk Protection
  - 5) TSSM/ATC - Automatic Train Control Branch Superintendent
  - 6) TSSM/COMM - Communications Branch Superintendent
  - 7) TSSM/POWR - Power Branch Superintendent
  - 8) TSSM/STRC - Structures Superintendent
  - 9) TSSM/TRAC - Track Superintendent
  - 10) .COM - Department of Communications
  - 11) Other WMATA Offices/Branches/Sections, as required
- H. All coordination activities shall be conducted and completed a minimum of 14 days prior to the date of the proposed work.



- I. Any approved request(s) for track access may be canceled by the ROCC Superintendent in conjunction with the MOCC Superintendent to meet any emergency maintenance or other situation that could affect revenue service as stated in OAP #100-9.
- J. The approval of an SSWP does not replace the General Orders and Track Rights (GOTRS) entry requirement as per OAP 100-9.
- K. All SSWP's expire 60 days from the actual starting point of the work activity.
- L. The Office of Operations Liaison (OLIA) will distribute copies of all approved SSWP's to all applicable departments.

## 6. PROCEDURES

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**Note:** All SSWPs shall be submitted in writing a minimum of forty-five (45) days prior to the desired start date for the work activity.

*All numbers correlate with Attachment B for the Site Specific Work Plan (SSWP) form.*

- 1. Scope: List a brief description of work to be completed.
- 2. Identify Start and Finish, Time and Date: List the program/project begin and end dates, as well as the time, for the proposed work activities.
- 3. Engineering Modification Instruction (EMI) Required and Approved: A comprehensive document is established to permit safe and efficient implementation of the effected equipment, facilities/systems. (as required in OAP #200-4)
- 4. Location: Identify the line, track and chainage of the proposed work activity. Include the following: (as required in SOPs #19, #28, #33)
  - power outage
  - track rights
  - work area
  - rail service adjustment (RSA)
- 5. Escort: Identification of qualified personnel required to perform the duties of the setting up the right-of-way (ROW) work area and giving access to WMATA facilities.
- 6. Support Personnel: Identification of the required support departments needed to accomplish scope of work. (as required in OAP #100-9 and SOP #19)
- 7. Equipment: Identification of all equipment necessary for the successful completion of the work activities. All contractor equipment shall be inspected, calibrated and certified by the applicable department for performing work in and around WMATA's property.
- 8. Material and Staging: Identify all materials required for the completion of the work activity. Identify the placement of all personnel and material to allow for schedule adherence. (as required in SOP #19)
- 9. Safety Requirements: Identification of the proper personal protective equipment (PPE) and work area, to include the protected and actual work zones. Include schematics of work site breakdown. (as required in SOPs #19, #28, #33)



10. Schedule Breakdown: Detailed summary of the work activity.  
Include the following:
  - time and date of each activity
  - person/department/agency performing work
  - duration of tasks in hours
11. Critical Milestones: A clearly identifiable point in a project/work activity that summarizes the completion of a related or important set of tasks. (as required in SOP #19)
12. SSWP Review: A copy of the SSWP should be sent to OLIA, SARP, OCCO, TAMC and the affected Rail Line Director for forty-five (45) day review and comments. Allow 14 business days for return of comments.
13. Incorporation of Comments: After receiving comments, the project manager is responsible for reconciling and incorporating all comments received into the SSWP and resubmitting the SSWP to OCCO, OLIA, SARP and TAMC.
14. Signatures: The SSWP shall be approved and signed by the following departments (in this order):
  - Project Manager/Maintenance Manager
  - Director/General Superintendent
  - OLIA
  - SARP
  - RAIL/LINE DIRECTOR only when RSA is required
  - RAIL/OCCO only when RSA is required
  - RRTS/TAMC

## 7. ATTACHMENTS

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- A. Revenue Service Adjustment (RSA) form
- B. Flow Chart for Site Specific Work Plan
- C. Site Specific Work Plan (SSWP) form



# WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

## SOP #19 MAINTENANCE AND TESTING ON RAIL FACILITIES

### 19.1 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to ensure consistency and provide guidance for all personnel desiring the use of the revenue railroad, yards and Rail facilities for all maintenance and testing.

### 19.2 SCOPE

This SOP is applicable to WMATA employees, contractors, consultants, and all other personnel desiring access to the revenue railroad or other WMATA Rail facilities for maintenance or testing.

### 19.3 DEFINITIONS

19.3.1 Access Rights: Permission to enter the Roadway.

19.3.2 Exclusive Rights: A section of the track that is restricted for use by one group.

19.3.3 General Orders and Track Rights System (GOTRS): A mainframe computer program that is used by WMATA employees only to enter track rights request in accordance with OAP 100-9.

19.3.4 Piggybacking: An independent work gang under the supervision of a gang leader. This gang is working within the authorized working limits of a RWIC. The gang leader is under the authority of the RWIC.

19.3.5 Rail Service Adjustment (RSA): A temporary adjustment to the Metrorail operating schedule in order to accommodate maintenance or construction activities on the Metrorail main line during revenue service.

19.3.6 Routine Maintenance: Preventive or corrective maintenance actions that have an approved written procedure and can be performed without effecting revenue service.

19.3.7 Site Specific Work Plan (SSWP): Describes the construction and/or installation and associated schedule of work to be performed at specific locations where track usage or other interface with the operating rail road is required.





## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.4 RESPONSIBILITIES

- 19.4.1 The Managing Director of OPER RTRA is responsible for approval of the operational plan or Site Specific Work Plan (SSWP) for all tests to be performed on the revenue railroad, yards or in WMATA Rail facilities.
- 19.4.2 The Manager of Track Access for Maintenance and Construction (TAMC) subject to the approval of Superintendent of ROCC is responsible for issuance, and implementation of the General Orders. The General Orders are used to define track sections for maintenance, testing and construction activities. The General Orders will remain in effect until fulfilled, superseded or canceled by the Superintendent of ROCC or one of his/her designee's.
- 19.4.3 WMATA offices, contractors, and consultants are responsible for scheduling all activities in accordance with this SOP.
- 19.4.4 Superintendents assigned to OPER are responsible for providing support services when requested, and subsequently approved in accordance with this SOP.
- 19.4.5 Maintenance Managers and Project Managers are responsible for providing approved Site Specific Work Plans (SSWP) as outlined in Operations Administrative Procedure (OAP) 200-33.
- 19.4.6 Personnel requiring access rights are responsible for advising ROCC of their work areas and after approval by ROCC, monitoring the appropriate radio frequencies during access.

### 19.5 PROCEDURES

Procedure #	Content
19.5.1	Piggy Backing
19.5.2	Exclusive Rights
19.5.3	Access Rights
19.5.4	General Orders Procedures
19.5.5	General Orders Format and Content
19.5.6	Suspension of a General Order
19.5.7	Modification of a General Order
19.5.8	Construction and Conducting Test



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.5.1 Piggy Backing:

19.5.1.1 When a maintenance organization desires to work in an area controlled by rights of another maintenance organization (Piggy Back), they must request permission from the primary rights holder through the GOTRS system. Approval will be granted by the primary track rights holder through the GOTRS system.

19.5.1.2 The first junior piggy back rights holder shall become the primary rights holder when the primary rights holder cancels.

19.5.1.3 The on-site maintenance supervisor, crew leader or escort of the crew who holds the track rights is responsible for all activities within the work area, to include but not be limited to: all communication and coordination with ROCC; coordination of movement of work vehicles within the work area with notification to ROCC; verification of third rail power and placement of safety equipment; monitoring of the activities of all crews within the work area; and, ensuring that all personnel and equipment of all crews in the work area are clear and that the entire area is safe for train movement prior to turning the work area back over to ROCC.

19.5.1.4 The on-site maintenance supervisor, crew leader or escort of the piggyback area is responsible to ensure site specific activities in the piggyback zone conform to all rules and procedures.

19.5.1.5 In instances where the requestor requires track rights in an area adjacent to an area in which personnel are working in the TPSS or Tiebreaker room (see possible exceptions in TBS and TPSS diagrams), refer to SOP # 39.

19.5.1.6 In instances where the requestor requires track rights to the same area, refer to SOP # 39.

### 19.5.2 Exclusive Rights:

19.5.2.1 All requests to obtain exclusive use of a section of a yard track (Yard Contact Rails) must be submitted to and approved by the Superintendent of Rail Transportation in charge of the specified yard. Joint approval with Director of ROCC is required if yard work has potential of impacting revenue service.

19.5.2.2 All request to obtain exclusive use of a section of mainline track must be submitted to TAMC (thru GOTRS) and be approved by the Director of ROCC and appear on the General Orders.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.5.3 Access Rights:

19.5.3.1 All requests to obtain access rights must be coordinated with and be approved by ROCC prior to entering the Roadway. ROCC must also be notified when personnel have completed their tasks and are clear of the Roadway.

19.5.3.2 Requests for track access with red tag power outages must contact MOC and ROCC for coordination, execution and issuance.

### 19.5.4 General Orders Procedures:

19.5.4.1 All requests for track rights must be submitted via the General Orders and Track Rights System (GOTRS) to ROCC/TAMC by 0600 hours on the Monday four weeks preceding the scheduled week of work, unless adjusted or approved by the AGM-TIES on a case-by-case basis as needed.

19.5.4.2 Only the Director of ROCC may approve the issuance of the General Orders for request after track allocations have been scheduled.

19.5.4.3 When red tags or supervisory outages are issued an early clearing time may be required. Any deviation from scheduled times must be approved by the on duty Assistant Superintendents of ROCC and MOC.

19.5.4.4 All requests must include the following information:

19.5.4.4.1 Department requesting rights.

19.5.4.4.2 Date and hours of the request.

19.5.4.4.3 Line, track and Chainage.

19.5.4.4.4 Contact rail status (type of outage).

19.5.4.4.5 Equipment to be utilized.

19.5.4.4.6 Individual/Department making the request.

19.5.4.4.7 Purpose of the request.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.5.5 General Orders Format and Content:

19.5.5.1 General Orders heading will be identified by bold type reading “General Orders”. The heading will include the date of the order, the number of the general order and to whom the order is addressed. The General Orders numbers will be continuous on a yearly basis.

19.5.5.2 The General Orders will identify for each approved area:

19.5.5.2.1 The work to be performed and type of rights requested.

19.5.5.2.2 The contractor and/or WMATA Department involved.

19.5.5.2.3 The date and hours.

19.5.5.2.4 The identification and location of the work area involved.

19.5.5.2.5 The contact rail status (type of outage) when necessary.

19.5.5.2.6 Instructions for flagging when necessary.

### 19.5.6 Suspension of a General Order:

19.5.6.1 ROCC Managers have the Authority to suspend or cancel a portion, or all of the General Orders when conditions require it.

19.5.6.2 When a general order is canceled ROCC will immediately notify all concerned parties and document all actions taken.

### 19.5.7 Modification of a General Order:

19.5.7.1 After publication of a General Order, modification will not be allowed except for emergencies or cancellation of rights. All cancellation will be documented by ROCC identifying the rationale for the cancellation.

19.5.7.2 Emergency modifications of the General Orders will be allowed only when conditions exist which will cause a portion of the mainline to be taken out of service during revenue hours.



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY STANDARD OPERATING PROCEDURES

### 19.5.8 Construction and Conducting Test:

19.5.8.1 Personnel requiring access to the revenue railroad or WMATA Rail facilities for testing or construction must provide a Site Specific Work Plan as directed in OAP 200-33 to TAMC no later than (60) days prior to the date of the maintenance, construction or testing procedure, unless adjusted or approved by the AGM-TIES on a case-by-case basis as needed.

19.5.8.2 The requestor shall be responsible for obtaining a “Covenant not to Sue” from all non WMATA personnel involved in maintenance procedures.

19.5.8.3 After approval of the SSWP by TAMC, the appropriate Superintendent shall provide the necessary support as identified in the SSWP. Also a single point of contact shall be provided for the requestor. This individual will be responsible for the safety of Operations personnel and equipment while the maintenance procedure is performed. Any modification to the operational scenario will be coordinated through the individual designated as the single point of contact.

## 19.6 REFERENCES

19.6.1 OPA 200-33

19.6.2 SOP # 23

19.6.3 SOP # 28

19.6.4 SOP # 39