CONSTRUCTION

SAFETY AND ENVIRONMENTAL

MANUAL

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CONSTRUCTION SAFETY AND ENVIRONMENTAL MANUAL

This Construction Safety and Environmental Manual (CSEM) provides guidelines for Washington Metropolitan Area Transit Authority (WMATA) construction, maintenance, and rehabilitation projects on which the contractor(s) provides all insurance coverage required under the contract. This CSEM is an essential contract document. This CSEM establishes WMATA specific procedures for certain activities and establishes safety responsibilities for WMATA and contractor personnel involved in construction and rehabilitation projects.

The prevention of accidents, injury, illness and environmental incidents in the course of completing, maintaining, and rehabilitating Metrorail and Metrobus Systems and facilities is of primary importance to everyone associated with WMATA. Accidents, injuries and illness cause suffering and hardship to those immediately involved and result in job delays and additional expense to the contractors and WMATA. Environmental incidents can cause damage to the environment and endanger public health.

The prevention of accidents and incidents is the direct result of a carefully planned safety and environmental management program, effectively implemented by the contractors' management and supervision.

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1.0 Purpose

This Construction Safety and Environmental Manual (CSEM) is established under Section 18.3 of the Washington Metropolitan Area Transit Authority (WMATA) System Safety Program Plan (SSPP), dated January 2012. This CSEM provides guidelines for WMATA construction and rehabilitation projects on which the contractor(s) provides all insurance coverage required under the contract and it is an essential contract document. This CSEM establishes WMATA specific procedures for certain activities and it establishes safety responsibilities for WMATA and contractor personnel involved in construction, maintenance and rehabilitation projects. It is intended to assist contractors in complying with the safety and environmental requirements of WMATA contracts.

2.0 Scope

This CSEM applies to all construction, rehabilitation, or maintenance projects administered by the Office of Chief Infrastructure Services (CENI). It in no way releases the contractor from the responsibilities and conditions contained in a contract with the Authority or required by federal, state or local regulations.

3.0 Objectives

The objectives of the guidelines delineated in the CSEM are:

1. Minimize personal injury and illness.
2. Maximize property conservation.
3. Achieve greater efficiency.
4. Reduce Direct and Indirect costs due to accidents.
5. Minimize exposures to chemical, biological and physical hazards.
6. Minimize impact on the environment and the community.

4.0 Safety Responsibilities

4.1 General Responsibilities

The contractor shall be responsible for ensuring compliance with the most stringent provisions of the applicable occupational safety and health statutes and regulations of the District of Columbia, State of Maryland, Commonwealth of Virginia or political subdivision in which the work is performed and the U.S. Department of Labor OSHA standards, pertaining to the safe performance of the work.

The contractor shall ensure compliance with the most stringent of federal, state and local environmental regulations and statutes including but not limited to: U.S. Environmental Protection Agency, D.C. Department of the Environment, Virginia Department of Environmental Quality and Maryland Department of the Environment.

WMATA Project Managers and Authority Representatives are responsible for monitoring the contractors' compliance with applicable safety and environmental regulations and ensuring contractors' compliance with the safety and environmental contract specifications.

The prime contractor is responsible for the safety and welfare of contractor and subcontractor employees and for the protection of property and the general public within the contractor's scope of work.

4.2 Prime Contractor Safety Responsibilities

The prime contractor shall take the initiative in accident, injury, and illness prevention, and has primary responsibility for safety on the project. This includes all individuals on site, the public, WMATA employees, subcontractors and suppliers working for the contractor. The prime contractor's responsibility cannot be delegated to subcontractors, suppliers or other persons. The contractor's safety superintendent is appointed to perform safety inspection services under the direction of the prime contractor's project manager. It is recognized that many potential hazards will be promptly corrected by mutually accepted means of informal communication between the safety superintendent and the WMATA Authority Representative.

However, it must be understood that formal communication concerning accident prevention is to be maintained between the contractor's Project Manager and WMATA Authority Representative in order to preclude any misunderstanding.

4.2.1 The prime contractor is responsible for all of the requirements for accident, injury and illness prevention and for construction and environmental safety contained in the contract with the Authority. The prime contractor shall contractually require its subcontractors to conform and adhere to the requirements of the CSEM and its provisions relating to specific subcontractor responsibilities found in Sections 4.0 and 5.0 of the CSEM.

In those contracts which interface with the Metrorail operating system, the contractor and subcontractors shall comply with the Metrorail Safety Rules and Procedures Handbook (MSRPH). In those contracts which interface with the Metrobus system, the contractor and subcontractors shall comply with the WMATA Department of Bus Service Employee Handbook (BSEH). In compliance with contract specifications and where applicable provisions of the MSRPH and BSEH, the prime contractor shall:

4.2.1.1 Upon notification of a contract award, submit a copy of the contractor's Health and Safety Plan together with a letter of management's statement of safety policy, signed by an executive officer of the corporation, in relation to the following:

1. The contractor's safety policy based upon compliance with WMATA's Construction Safety and Environmental Manual (CSEM), including detailed disciplinary action to be taken with respect to employees violating safety or environmental requirements.

2. The contractor's awareness and knowledge of all local, state and federal safety, health and environmental standards and regulations applicable to the contract with WMATA.

4.2.1.2 Submit resumes of the work experience and qualifications of the contractor's safety superintendent and designees to the Authority Representative (AR) as required by the contract. These individuals may be required to appear for a personal interview by the AR and WMATA's Department of Safety and Environmental Management. All information provided must be verifiable.

4.2.1.3 Establish and maintain an orientation program for new employees that include a review of the contractor's Health and Safety Plan including:

- Safety and health hazards present in the assigned and general work area
- Required personal protective equipment
- Method for reporting any unsafe conditions that the worker(s) may encounter
- OSHA and EPA mandated written programs applicable to the work
- Exposure monitoring that may be conducted
- Required training, licensing, certification, or medical surveillance
- Emergency procedures including emergency telephone contact numbers, emergency escape routes, and areas of refuge, nearest hospitals and accurate directions and route maps to hospitals
- Tobacco use policy – smoking is prohibited in the Metrorail system, in WMATA facilities and in WMATA vehicles
- Electronic Device Policy, including cellular phones, texting, etc.

4.2.1.4 Furnish copies of all warnings and/or citations of safety violations received from any jurisdiction, state or federal agency. Copies shall be sent within 48 hours to the AR.

4.2.1.5 Ensure that all employees, including subcontractors, comply with federal, state and local safety regulations and standards and with this CSEM.

4.2.1.6 Ensure that all personnel, including subcontractors and suppliers, receive the required WMATA Contractor Right of Way (ROW) Safety Training covering the rules and procedures for working in rail stations, in, or adjacent to, the train roadway, or in the yards, prior to starting such work.

NOTE: The training is valid for 12 months from the date of receiving the training.

4.2.1.7 If the site contains hazardous waste, hazardous substances, or a hazardous chemical release, develop a Health and Safety Plan which establishes policies and procedures to protect the workers and the public from the hazards posed by a hazardous waste site cleanup operation and hazardous chemical release.

4.2.1.8 The storage of hazardous and flammable materials (including such items as rags, mops, paper towels, or other combustible materials contaminated with hazardous or flammable products) on WMATA property, is restricted. Contractors seeking to store hazardous or flammable materials on WMATA property must request permission from the AR, who will review with SAFE-EMIH. It may not always be possible to grant permission to store hazardous or flammable materials on WMATA property.

If permission is granted, the contractor must store the materials in compliance with the jurisdictional codes and regulations. In addition, a copy of the Material Safety Data Sheet (MSDS) for each specific chemical and the quantity of each chemical to be stored on the site shall be provided to the Authority Representative. The contractor shall acquire permits for the use of hazardous materials as required by the jurisdictional Fire Marshal and/or other authority having jurisdiction (AHJ).

4.2.1.9 If the work requires transportation of hazardous materials or hazardous substances, contractors and subcontractors are required to provide evidence of Department of Transportation General Awareness Driver's Training in compliance with 49 CFR §172 and Commercial Driver's License in compliance with 49 CFR §390-397, prior to commencement of work.

4.2.1.10 All hazardous materials and hazardous substances must be stored in "Performance Oriented Packaging" in compliance with 49 CFR §178, Subpart L.

4.2.1.11 Contractors must submit MSDS for ALL chemicals to be used on Authority property to the Authority Representative. For projects in the operating system, all MSDS will be reviewed by WMATA's Department of System Safety and Environmental Management

(SAFE) and if approved, the materials can be used in the system. If they are rejected, the contractor must identify a substitute that will meet SAFE's criteria for approval in addition to the Authority Representative's criteria for performance. The MSDS must be recent (less than 3 years old) and comply with the OSHA Hazard Communication Standard 29 CFR §1910.1200. The contractor is responsible for complying with the requirements of the MSDS.

4.2.1.12 Contractor shall maintain a complete file of (MSDS) for all materials used at the job site. The contractor shall assure that all the employees at the job site receive proper training before the use of each chemical product.

This training must include information about the chemical and physical hazards and the proper use of the required personal protective equipment.

4.2.1.13 Establish and enforce disciplinary action for violating safety rules, procedures, or regulations.

4.2.1.14 After an incident involving a fatality or multiple hospitalizations, the contractor shall notify ROCC [if the incident occurs in the operating system] or "911" and preserve all evidence and immediately secure and stabilize the incident scene. The contractor must also notify the appropriate jurisdictional OSHA agency.

Note: if "911" is called, it must be from either an outside line or a wireless phone. The phones in the roadway will not access local fire and EMS.

4.3 Prime Contractor Environmental Responsibilities

The prime contractor shall take the initiative in environmental incident prevention, as the prime contractor has primary responsibility for environmental management on the project, including all individuals on site, public, subcontractors and suppliers working for the contractor. The prime contractor's responsibility cannot be delegated to subcontractors, suppliers or other persons. The prime contractor shall:

4.3.1 Assure all employees, including subcontractors, comply with federal, state, and local environmental regulations for air, water, land, noise, and wastes. Consolidated Plans (available on the WMATA Intranet and through the Authority Representative) are prepared by WMATA for bus divisions and rail yards in order to maintain the safety and health of employees, WMATA customers, and the community.

4.3.2 Obtain all environmental permits required by the contract and the federal, state, or local EPA regulations. Examples of some of these permits are: Prevention of Significant Deterioration (PSD) Permit, National Emission Standards for Hazardous Air Pollutants (NESHAP) Permit, National Pollutant Discharge Elimination System (NPDES) Permit, Spill Prevention Control and Countermeasure Plan (SPCC) Permit, and U.S. Army Corps of Engineers Permit for work in navigable waters and waters of the U.S. Copies of all permits should be forwarded to the WMATA Authority Representative. It is the responsibility of the prime contractor to ensure compliance with all permit requirements. In addition, the following information shall be maintained by the prime contractor at the work site:

1. Listing of any hazardous wastes and monthly volumes (kg/month) generated on site
2. Copies of Hazardous Waste Manifests
3. Copies of exception reports
4. Permits for the Treatment, Storage, and Disposal Facility (T/S/D/F).

4.3.3 Ensure that contractor and subcontractor employees cooperate with representatives of the Authority and federal, state, or local regulatory agencies during site inspections or investigations. Inspection and investigation activities may involve interviews with contractor and subcontractor personnel.

4.3.4 If waste water will be generated, submit a Waste Water Discharge Plan that describes how the contractor will treat and release waste water generated from the work site.

4.3.5 If the work involves response to spills of hazardous materials, ensure that the prime contractor or subcontractor personnel have appropriate training that complies with 29 CFR §1910.120.

4.3.6 If the work involves removal of paints or coatings, test the paint or coating to determine if they contain heavy metals such as lead that require special handling and disposal considerations. As a minimum, testing should be considered for the eight Resource Conservation and Recovery Act (RCRA) metals:

- Arsenic
- Barium
- Cadmium
- Chromium
- Lead
- Mercury
- Silver
- Selenium

If any of these are present, the components will require special handling and disposal to prevent exposure to workers, the public, and the environment. The contractor and/or subcontractor shall have all licenses and certifications required by the jurisdiction in which the work is performed. Jurisdictions that do not have their own state plans fall under the auspices of the EPA. The contractor's and subcontractor's employees are required to have medical monitoring and training required by the jurisdictional regulations. Documentation shall be provided to the Authority Representative prior to commencement of work. All documentation shall be authentic and verifiable. All materials must be handled and disposed of in compliance with the jurisdictional regulations. MSDS for replacement paints/coatings must be reviewed and approved, prior to use, by WMATA.

4.3.7 If the work requires disposal of hazardous wastes, utilize an EPA licensed Treatment/Storage/Disposal facility and ensure that the waste hauler has a state or local license and U.S. EPA identification number. The contractors and subcontractors shall be required to provide evidence of all applicable licenses and permits along with the name and address of the waste disposal facility where hazardous waste materials are to be disposed, prior to commencement of work.

4.4 Prime Contractor's Project Manager

The prime contractor's project manager is the management representative of the prime contractor. The prime contractor's project manager is responsible for the safety of all individuals on-site, including all employees and subcontractor employees, suppliers, agency officials and the public. As such, in addition to the responsibilities as might be assigned by the prime contractor noted in 4.2 and 4.3, the prime contractor's project manager shall:

4.4.1 Be responsible for the supervision of the Safety Superintendent in carrying out the duties and responsibilities of this position.

4.4.2 Plan and execute all work so as to comply with the stated objectives of the most current CSEM.

4.4.3 Comply with all of the provisions of the contract dealing with safety, environmental management and accident prevention requirements.

4.4.4 Comply with federal, state, and local safety and environmental codes, standards and regulations and WMATA safety rules and procedures.

4.4.5 Cooperate with WMATA's representatives and representatives of federal, state, and local regulatory agencies.

4.4.6 Authorize necessary immediate action to correct substandard safety and environmental conditions existing, reported or observed.

4.4.7 Review and take necessary immediate action on safety records through directives or personal interviews with superintendents, job foremen or subcontractors' management.

4.4.8 Attend safety meetings as required.

4.4.9 Participate in safety planning meetings held by the WMATA Authority Representative at the beginning of each phase of the job.

4.4.10 Ensure that personnel operating cranes and other mobile equipment, requiring a riding operator, are trained and certified by a recognized entity, to operate the equipment to which they are assigned.

4.4.11 Enforce disciplinary action for violating safety rules, procedures, or regulations. Disciplinary action shall include removal of persons who continually and deliberately violate safety requirements.

4.4.12 Cooperate with WMATA's designated safety representatives.

4.5 Prime Contractor's Safety Superintendent

On those contracts which require a safety superintendent, he/she shall:

4.5.1 Make daily safety inspections of job sites when work is performed and take necessary immediate corrective action to eliminate nonconformance with safety regulations or procedures. Record observations on WMATA Form C-21 (available from the Authorized Representative) Construction Safety Survey in compliance with reporting procedures.

4.5.2 Assure Form C-24, Supervisor's Report of Accident (available from the Authorized Representative) is properly completed and distributed in compliance with instructions.

4.5.3 Review accidents and incidents and recommend immediate corrective action.

4.5.4 Provide job foreman with appropriate material for use in conducting weekly tool box meetings.

4.5.5 Review safety meeting reports submitted by job foremen.

4.5.6 Periodically attend foremen "tool box" safety meetings and evaluate effectiveness.

4.5.7 Assist in the preparation of all accident investigation reports and ensure that reporting procedures are established.

4.5.8 Implement training programs for supervisors and employees as they apply to their specific responsibilities.

4.5.9 Encourage programs for recognition of individual employee's safety efforts and their contribution toward improved work methods.

4.5.10 Be responsible for ensuring that the necessary safety equipment, including required personal protective equipment, is made available to and used correctly by employees.

4.5.11 Coordinate activities with those of WMATA's designated safety representative and take necessary steps to immediately implement their appropriate recommendations.

4.5.12 Coordinate public relations aspects of the Contractor's Health and Safety Plan.

4.5.13 Attend safety meetings held by the Authority. The safety superintendent should share his/her experience, questions and problems with other superintendents at these meetings.

4.5.14 Participate in safety planning meetings held by the WMATA Authority Representative at the beginning of the job and on as needed basis.

4.5.15 Enforce and ensure compliance of the contractor's and subcontractor's employees with the prohibition on smoking in the Metrorail system, at WMATA facilities, and in WMATA vehicles.

4.5.16 Maintain a complete file of MSDS for all materials used at the job site. Assure that all the employees receive proper training before use of each chemical product. This training must include information about chemical and physical hazards and the proper use of required personal protective equipment.

4.5.17 Cooperate with WMATA's designated safety and environmental representatives.

4.5.18 Shall have Stop-Work Authority.

4.5.19 Shall have completed an OSHA 30-Hour Construction Training Course.

4.6 Contractor/Subcontractor Job Superintendents

Contractor's and subcontractor's job superintendents have the following specific safety responsibilities:

4.6.1 Plan and execute all work so as to comply with stated objectives of the WMATA Construction Safety and Environmental Manual.

4.6.2 Implement the safety and loss control requirements contained in the contract documents.

4.6.3 Provide and enforce the use, at all times, of the personal protective equipment required by WMATA, local, state and federal regulations.

4.6.4 Complete supervisory investigation report on all accidents (reference Supervisor's Report of Accident Form C-24).

4.6.5 Attend supervisory personnel safety meetings schedule by Prime Contractor's Project Manager.

4.6.6 Schedule weekly "tool box" safety meetings to be held by job foremen for all employees.

4.6.7 Periodically attend foremen's weekly "tool box" safety meetings to evaluate effectiveness and offer suggestions for improvement.

4.6.8 Take immediate action to correct unsafe practices or conditions when identified.

4.6.9 Report to the Prime Contractor's Safety Superintendent or Project Manager, all observed unsafe conditions or practices and violations of job security which are within their jurisdiction.

4.6.10 Cooperate with WMATA's designated safety and environmental representatives.

4.6.11 Enforce and ensure compliance of the contractors' and subcontractor's employees with the prohibition on smoking in the Metrorail system, at WMATA facilities, and in WMATA vehicles.

4.7 Contractor/Subcontractor Job Foremen

Job foremen are an integral part of an effective safety program and the amount of effort that they put into accident prevention on their daily assignments helps to determine whether or not a good accident record is maintained. A foreman's safety responsibilities shall include:

4.7.1 Instructing workers under his/her supervision in safe work practices and work methods at the time work is assigned.

4.7.2 Supplying and enforcing the use of proper protective equipment and suitable tools for the job.

4.7.3 Continuously checking to see that no unsafe practices or conditions are allowed to exist on any part of the job.

4.7.4 Acquainting the staff will applicable safety requirements and seeing that they are enforced.

4.7.5 Setting a good example for employees.

4.7.6 Making a complete investigation of accidents to determine facts necessary to take corrective action.

4.7.7 Promptly supply information for completing the Accident Report and Investigation Form (as directed by the Safety Superintendent and/or Project Manager).

4.7.8 Holding weekly “tool box” safety meetings with employees to:

- Discuss observed unsafe work practices or conditions.
- Review any accidents or near misses that have occurred with the crew.
- Encourage safety suggestions from employees and report them to the safety supervisor.

4.7.9 Seeing that prompt first aid is administered to an injured employee.

4.7.10 Reporting unsafe acts and violations of site security immediately to Project Manager, Job Superintendent, or Safety Superintendent.

4.7.11 Enforcing and ensuring compliance of the contractor’s and subcontractor’s employees with the prohibition on smoking in the Metrorail system, at WMATA facilities, and in WMATA vehicles.

4.8 WMATA Authority Representative (AR) or Project Manager

The WMATA Authority Representative (AR) is the collective term for individuals designated by the WMATA contracting officer as responsible for

administering/supervising contracts [e.g., Project Manager (PM), Resident Engineer (RE), Contracting Officer Representative (COR), Contracting Officer Technical Representative (COTR)]. The AR has the following safety responsibilities:

4.8.1 Be familiar with this CSEM and applicable OSHA and environmental regulations, WMATA safety rules and procedures and assure that all required programs and documents are submitted for SAFE's review prior to starting work and as required during construction.

4.8.2 Oversee the contractor's assumption of responsibility for timely application of safety and accident prevention procedures to all activities and to all persons on the project, including subcontractors, visitors and suppliers of materials and equipment.

4.8.3 Report to SAFE any observed unsafe working conditions. A degree of judgment is to be exercised by the WMATA Authority Representative in reporting unsafe working conditions. First-time infringements should be corrected by prompt reference of the incident to the contract's safety superintendent or, in his/her absence, the contractor's job superintendent. Consistent lack of good housekeeping practice, use of equipment in obviously poor condition, nonconformance with WMATA safety rules and procedures, and failure to adhere to occupational safety and health or environmental regulations are to be followed by appropriate corrective action and be reported to SAFE by the AR.

However, in the event of conditions that are immediately dangerous to life and health, the AR shall immediately stop the dangerous activity, notify SAFE and notify the contractor of what corrective action shall be implemented before the work can resume.

4.8.4 In cases involving consistent failure to comply with safety and environmental rules and regulations, notify the contractor in writing of nonconformance and include specific required corrective actions. Copies of all such notices shall be forwarded to SAFE.

4.8.5 In the event certain individuals continually and deliberately violate safety requirements, the WMATA AR shall have the individual removed from the work site.

4.8.6 Receive, review and maintain copies of the contractor's safety superintendent's daily inspection report (C-21), exposure monitoring results, and accident/incident report forms C-23, 24 and 26. Ensure that any required corrective is implemented immediately.

4.8.7 After an incident involving a fatality or multiple hospitalizations, the AR shall ensure that the contractor notifies OCC [if the incident occurs in the operating system] or 911 and preserves all evidence and immediately secures and stabilizes the incident scene. The contractor must also notify the appropriate jurisdictional OSHA agency.

NOTE: If "911" is called, it must be from a pay phone or a wireless phone. The phones in the ROW will not access "911." Most of the WMATA facility phones are such that, if an outside line is accessed, all "911" calls would be routed through the District of Columbia's "911" system, even if the call is made from a phone located in Maryland or Virginia.

4.8.8 At the beginning of the job and regularly on as needed basis, hold safety planning meetings with the prime contractor and representative(s) of SAFE.

4.8.9 Provide WMATA RWIC's (formerly Escorts) for contractors' forces working in or adjacent to the Roadway (ROW). All RWIC's shall have Level IV training.

4.8.10 Ensure that all members of the AR staff and all contractor personnel take WMATA's Contractor ROW Training offered by SAFE before commencing work on the Roadway or projects that affect the Roadway. The ROW training is valid for 12 months from the date of receiving training.

NOTE: All contractor ID badges shall be returned to WMATA at the completion of the project, prior to the release of retained funds, or a back charge of $100.00 per ID will be assessed.

4.8.11 Ensure that all members of the AR and Project Management (PM) staff receive OSHA 10-hour construction or equivalent training available through SAFE.

4.8.12 Receive, review, and monitor compliance with all environmental permit applications and final permits. Ensure that contract personnel involved are knowledgeable of the relevant environmental permit requirements.

4.8.13 Provide copies of all environmental permits to SAFE – Deputy Chief, Office of Environmental Management and Industrial Hygiene (EMIH) for all work in the operating system. For all work in the non-operating system, forward copies of permits to CENI Manager, Environmental Planning and Compliance.

4.8.14 Coordinate with SAFE to begin Safety and Security Certification, in accordance with the WMATA Safety Rules and Procedure Manual Procedure No. 2.2/0. Safety and Security Certification shall begin at the earliest practicable phase of the project, to ensure timely completion, prior to system, facility, or equipment operation, or start of revenue service.

4.9 Department of Safety and Environmental Management (SAFE)

The SAFE staff member assigned to the project shall be responsible for the following activities:

4.9.1 Monitor the effectiveness of the WMATA AR in enforcing the provisions of this manual, WMATA safety rules and procedures, and Occupational Safety and Health and environmental regulations and standards, and provide assistance where needed.

4.9.2 Act as liaison between WMATA, federal, state, and municipal authorities on matters relating to construction safety, occupational safety and health and environmental safety.

4.9.3 Work with WMATA rail and bus operations, and CENI to develop and coordinate safe work procedures.

4.9.4 Provide special assistance to contractors with unusual or complicated safety problems, as requested through the AR.

4.9.5 Assist with writing contract specifications on matters relating to safety, health and the environment.

4.9.6 Assist the Office of Media Relations (MREL) in public relations work regarding safety, health and the environment on CENI projects.

4.9.7 Participate in pre-work surveys of individual job site and in the Safety Planning Meeting with all new prime contractors.

4.9.8 Conduct periodic on-site safety inspections.

4.9.9 Direct the contractors, through the AR, to correct any unsafe or unhealthy condition(s) observed and/or brought to the attention of the project safety superintendent.

4.9.10 In the event of failure by a contractor to correct unsafe or unhealthful condition(s), recommend to the AR or the Chief Safety Officer, or designee that the work activity be stopped until condition(s) is corrected. SAFE/CENI will work with the AR to ensure that the contractor implements the required corrective action, prior to resuming the work activity.

4.9.11 In the event of a condition immediately dangerous to life or health, the SAFE representative has the authority to immediately suspend the dangerous activity. SAFE must immediately notify the AR or PM, who will contact the Chief of CENI or the appropriate Manager. SAFE will coordinate with the AR and the contractor, to develop the required corrective action. The AR will ensure that the contractor immediately implements the appropriate, effective corrective action prior to resuming the work activity.

5.0 Requirements

5.1 Contractor's Safety Submittals

The Prime Contractor, performing the work, shall submit the following documentation as required by the contract, which shall be subject to approval by the Authority Representative. The first four items shall be submitted in pre-award phase.

- For work and sites not addressed in the original Organizational Health and Safety Program, addenda may be added when the work and sites are identified; however, the addenda must be submitted to the Authority

Representative for review by WMATA prior to the commencement of specified work;

- Job Hazard Analysis (prior to each phase of work);
- Site-specific Emergency Response Plan;
- Site-specific Emergency Evacuation Plan;
- Site-specific Temporary Fire Protection System Plan;
- Site-specific Waste Water Discharge Plan (if waste water us generated);
- Site-specific Pollution Control Program;
- Site-specific Dust and Debris Control Plan;
- Bloodborne Pathogens Exposure Control Plan;
- Hearing Conservation Program if employees are exposed to continuous noise in excess of the OSHA Action Level (29 CFR §1910.95);
- Respiratory Protection Program if employees are required to wear respirators. If a respiratory program is required, the contractor also must provide documentation of training, medical clearance for respirator use and respirator fit testing for tight-fitting respirators;
- Hot Work Program;
- Lockout/Tagout Program;
- Site-specific Confined Space Program;
- Documentation of applicable training, licenses, and certifications;
- Results of noise monitoring, air monitoring, and soil, water or waste sampling;
- Documentation of medical surveillance;
- Documentation of Safety superintendent's experience in construction safety;
- Identify all materials or chemicals the contractor will use on Authority property (including welding rods), MSDS for these products, and a brief explanation of how they will be used and if any wastes will be generated;
- Documentation of licenses and certificates required for lead or asbestos abatement or other work requiring licensing;
- Documentation of licenses, certificates, and U.S. EPA identification numbers required for transportation of hazardous materials, hazardous substances, or hazardous wastes;
- Documentation of licenses, permits, and certificates required for disposal of hazardous wastes including the name and address of the waste disposal facility where hazardous waste materials are to be disposed; and Certificate of Insurance, including pollution liability coverage, endorsed to WMATA is required for contractors or subcontractors performing work involving hazardous materials, hazardous substances, hazardous wastes, or contaminated soil or water.

5.2 Protection of the Public

Many of the contracts which are subject to this manual involve contact with Metro customers and the public. Therefore, it is critical that contractors and subcontractors take all necessary precautions to prevent injury to customers, employees and the public and prevent property damage. For the purpose of this manual, the public shall include all persons not employed by the contractor or a subcontractor working under his/her direction. Precautions to be taken shall include but not be limited to the following:

5.2.1 For work that affects areas occupied by, or providing thoroughfare to the public, ensure that such work is specifically permitted by the contract or in writing by the WMATA AR.

5.2.2 When it is necessary to maintain public use of work areas involving sidewalks, entrances to buildings, lobbies, corridors, aisles, stairways, rail tracks, and vehicular roadways, the contractor shall protect the public with substantial guardrails, barricades, temporary fences, overhead protection, partitions, and shields. Provide effective artificial illumination to ensure adequate visibility. The protection shall be consistent with the type of hazard created or resulting from the work performed and be in accordance with the contract and this manual.

5.2.3 Keep sidewalks, entrances to building, lobbies, corridors, aisles, doors or exits clear of obstructions to permit safe ingress and egress of the public at all times.

5.2.4 Post conspicuous, appropriate warning, caution, and instructional safety signs where necessary. In addition, a flag-person shall control the moving of motorized equipment in areas where the public might traverse such pathways.

5.2.5 Provide sidewalk sheds, canopies, catch platforms and appropriate outside walls on any structure. The protection required shall be in accordance with the codes and regulations of the jurisdiction in which the work will be performed and requires approval by the AR.

5.2.6 Install a temporary fence around the perimeter of above-ground operations adjacent to public areas, except where a sidewalk shed or fence is provided by the contract, or as required by § 5.2.5. Perimeter

fences shall be at least six (6) feet high or as directed by the Authority Representative. They may be constructed of wood or metal frame sheathing, wire mesh or a combination of both as provided in contract specifications. When the fence is adjacent to a sidewalk near a street intersection, at least the upper section of fence shall be open wire mesh from a point not over four (4) feet above the sidewalk and extending at least twenty-five (25) feet in both directions from the corner of the fence, or as otherwise required by the local jurisdiction. The fence shall be constructed of solid material such as plywood, if demolition is to occur in the adjacent work area.

5.2.7 Provide substantial guardrails on both sides of vehicular and pedestrian bridges, ramps, runways and platforms. Pedestrian walkways elevated above adjoining surfaces, or walkways within six (6) feet of the top of excavated slopes or vertical banks shall be protected with guardrails, except where sidewalk sheds or fences are provided as required by § 5.2.5. Guardrails shall be made of rigid materials capable of withstanding a force of at least two hundred (200) pounds applied in any direction at any point in their structure.

The height shall be approximately forty-two (42) inches. Top rails and posts may be two (2) inches by four (4) inches dressed wood or equal. Vertical posts shall not be spaced over eight (8) feet apart.

5.2.8 Install barricades, meeting the requirements of the political subdivision having jurisdiction, where sidewalk sheds, fences or guardrails as referenced above are not required between work areas and pedestrian walkways, roadways or occupied buildings. Barricades shall be secured against accidental displacement and shall be maintained in place except where temporary removal is necessary to perform the work. During the period a barricade is removed temporarily for the purpose of work, a flag person shall be placed at all openings.

5.2.9 Provide temporary sidewalks when a permanent sidewalk is obstructed by the contractor's operations. They shall be in accordance with the requirements of the political subdivision having jurisdiction. Guardrails shall be provided on both sides of temporary sidewalks.

5.2.10 Maintain warning signs and lights, including battery operated lanterns, and electric lights, meeting requirements of the political subdivision

involved, from dusk to sunrise along guardrails, barricades, temporary sidewalks and at every obstruction to the public. They shall be placed at both ends of such protection or obstructions and not over twenty (20) feet apart alongside such protection or obstructions.

5.2.11 Prohibit fuel-burning types of lanterns, flares or other open flame devices within fifty (50) feet of open utility manholes.

5.2.12 Provide temporary walkways, including bridges over demolished work, with non-skid surfaces and maintain in good repair at all times.

5.2.13 Continuously control dust generated by construction operations by water sprinkling or other approved methods. In operating stations, or other locations where dust generated by the contractor's work will remain in the air to the discomfort of passengers or WMATA employees, dry vacuuming using a high-efficiency particulate aerosol [HEPA] vacuum will be employed to remove the dust before revenue hours.

5.3 WMATA Specific Requirements

The following specific requirements are required for work on WMATA projects. Items marked (S) must be addressed in contractor's submittal to the AR. Items marked (O) are to be observed by the safety superintendent at load test and noted on that day's C-21 Construction Safety Survey as observed.

5.3.1 Use of Crane to Raise and Lower Mancage or Work Platform

The use of a crane to lift/lower and/or suspend work platforms and mancages will be permitted only when other means of reaching the work areas are not feasible.

5.3.1.1 Requests for use of crane-suspended work platforms or mancages shall be submitted to the WMATA AR for approval with the following:

- Statement why conditions, methods or operations require the use of a crane-suspended work platform or mancage; (S)
- Description of the crane to be used and the manufacturer's instructions and requirements in the use of the crane to

lift/lower and/or suspend personnel on work platforms or mancages; (S)

- Drawing with certified structural calculations of the work platform or mancage suspension bridle and other components with computations used in the design sealed by a professional engineer in this field; and (S)
- Documented emergency plan in the event of crane failure. (S)

5.3.1.2 Prior to putting the crane and work platform or mancage in service, the contractor shall notify the WMATA AR in writing when he has complied with crane and work platform or mancage requirements. (S)

5.3.1.3 Copies of the last annual inspection report as well as the latest monthly inspection report shall be submitted to the WMATA AR prior to use of the crane. The WMATA AR shall ensure that daily inspections are made, and will receive monthly crane inspection reports. (S)

5.3.1.4 When a crane and work platform or mancage are to be used to lift/lower and/or suspend personnel, the contractor shall be responsible for ensuring compliance with the most stringent crane and work platform or mancage provisions of the applicable statutes and regulations of the District of Columbia, State of Maryland, Commonwealth of Virginia or other political subdivision in which the work is being performed, as well as with WMATA Crane and Work Platform/Mancage Safety requirements contained herein, and with the U.S. Department of Labor – Occupational Safety and Health Act provisions and ANSI A10.28-1983.

Further, the contractor shall comply with the crane manufacturer's requirements in the selection and use of a crane for lifting/lowering and/or suspending of personnel on a work platform or in mancages.

5.3.2 Crane Safety Requirements

5.3.2.1 Cranes used to lift/lower and/or suspend personnel on work platforms or in mancages shall have the following safety features installed and operating:

- Power-up and power-down load line, power shall not be disengaged while handling personnel; (S)
- The load line attached to the work platform or mancage shall have a minimum safety factor of eight (8), manufacturer's specifications shall be submitted, weight of loaded platform shall be submitted; (S)
- Automatic braking (dead-man control), load will stop when operator releases controls; (S)
- Anti-two block device shall be provided capable of preventing damage to the hoist rope and/or other machine components; (O)
- Boom angle indicator; and (O)
- Telescoping crane boom shall be marked to indicate, to the operator, its extended length. (O)

5.3.2.2 Alterations or modifications to the basic crane shall be prohibited, unless prior written authorization is obtained from the manufacturer.

5.3.3 Crane Test and Load Requirements

5.3.3.1 Crane load rating capacities shall be reduced by 50% of published load chart values when handling personnel on work platforms or in mancages. The following calculations shall be submitted:

1. Load Radius
2. Boom Angle
3. Capacity from Load Chart, 50% of Capacity
4. Weight of Loaded Platform (S)

5.3.3.2 The weight of the platform, personnel, attachments and all equipment contributing to the total weight of the boom and load shall be calculated to determine the maximum allowable load, and the calculations shall be submitted. Prior to handling personnel for the first time, the crane, with platform/mancage attached, shall be load-tested at one and one-half (1-1/2) times the rated capacity of the platform. (O) (S)

- Testing shall include movement of the platform/mancage through its entire permissible range of movement. (O)

- The test shall not produce instability of the crane or cause permanent deformation of any component. (O)

5.3.3.3 A visual inspection of the crane, platform/mancage and suspension components shall be conducted by a competent person and appropriately documented. (O)

5.3.3.4 A daily inspection of the crane, platform, or mancage and suspension components shall be made. Simulated lifts shall be made for each work situation, to ensure all systems and controls are functioning properly and all safety features provide are operating satisfactorily, prior to handling personnel.

5.3.4 Crane Operating Requirements

5.3.4.1 Crane shall be level during operations within one (1) degree. If crane is equipped with outriggers, they shall be fully extended and jack pads set on firm, level terrain at all times when handling personnel. Devices provided on outrigger jacks to prevent loss of support under load shall be engaged. (O)

5.3.4.2 A minimum of three (3) wraps shall remain on drum of the load line, when platform/mancage has reached its lowest point of travel. (O)

5.3.4.3 Lifting and lowering speeds shall not exceed 100 feet per minute. (Cable speed indicator is not required. Intent is that operator will conduct lift/lower operations slowly and cautiously at all times.) (O)

5.3.4.4 Personnel shall not occupy the mancage or platform while the crane is traveling. (O)

5.3.4.5 Brakes and locking devices shall be engaged when platform is in working position, with personnel aboard mancage or platform. (O)

5.3.4.6 Platform or mancage shall be used only with the specific crane for which it was approved and tested. (O)

5.3.4.7 A qualified signal person shall be assigned and positioned, so that he is constantly visible to both the crane operator and personnel

on the work platform, or in the mancage. He/she shall have no other duties while personnel are occupying the platform or mancage. (O)

5.3.4.8 When platform is used below ground or when clear, unobstructed visibility between personnel on platform and crane operator cannot be maintained, radio or telephone communications between the signalman on the platform and the crane operator shall be provided. Unassisted voice communication is not acceptable. (S) (O)

5.3.4.9 The crane operator shall be certified by the National Council on Crane Certification. The crane operator shall be thoroughly trained with related experience and shall be familiar with safe crane practices and also have a complete understanding of all manuals, including maintenance and operating instructions provided for specific crane in use. He/she shall have no physical deficiencies which would impair physical, visual or mental reactions or capabilities. (S) (O)

5.3.4.10 The crane operator shall remain at the controls at all times when handling personnel. If for any reason the operator must leave the controls, personnel shall be removed from the platform or mancage prior to his/her leaving. (O)

5.3.4.11 Handling of personnel shall be discontinued upon indication of any impending danger, including presence of thunderstorms. (O)

5.3.4.12 Special precautions shall be taken to protect personnel from electrical hazards. Maintain specified distances from electrical sources. (O)

5.3.4.13 The crane operator shall have a complete understanding of the WMATA crane and operational safety requirements and shall operate the crane accordingly. (O)

5.3.5 Work Platform and Mancage Design Criteria

5.3.5.1 The work platform or mancage shall be designed with a safety factor of eight (8), in conformity with established engineering

criteria. Design calculations shall be submitted and sealed by a professional engineer in this field. (S)

5.3.5.2 Platform shall be designed for a minimum of four (4) point suspension. Commercially manufactured mancages or torpedo cages may have three (3) point suspension. (S)

5.3.5.3 The work platform or mancage shall be posted as to the maximum allowable load. Workers shall be considered as weighing 250 pounds each. (O)

5.3.5.4 Guardrails of metal angle, channel or pipe conforming to 29 CFR 1926.500(f)(1)(OSHA Construction Regulations) shall be provided on work platform. Rebar is not to be used. The guardrail system must be enclosed from the toe board to the mid-rail to keep tools, materials and equipment from falling from the mancage or platform. (O)

5.3.5.5 The floor of the work platform or mancage shall be constructed of a non-slip material. (S) (O)

5.3.5.6 Overhead protection shall be provided on work platform or mancage, when exposure exists, to personnel from falling objects. (S)

- Overhead protection shall be designed as an integral part of the work platform or mancage.
- For special-purpose work platform where the nature of the work makes overhead protection impractical, special precautions must be taken to protect against falling objects. No work shall be permitted above the personnel-occupied work platform.

5.3.5.7 Provisions shall be made to secure tools and materials while platform is in motion. (S)

5.3.5.8 A grab rail shall be provided inside the platform or mancage to permit the worker to stabilize and support his/her body, rather than to hand-grasp the top guard rail, which could result in injury from striking or bumping into equipment or structures. (O)

5.3.5.9 Safe means of ingress and egress shall be provided to the platform. If a gate is used, it shall swing in only and have a positive latch/lock device. (S) (O)

5.3.6 Rigging Requirements

5.3.6.1 Wire rope, shackles, bull rings, cable eyes and other rigging hardware, shall have a safety factor of eight (8). Rotation resistant, wire rope shall have a safety factor of ten (10). All rigging equipment shall be in good condition, with no broken parts. All rigging equipment shall be inspected for damage and excessive wear by a competent individual, before each use. (S) (O)

5.3.6.2 Platform and mancage bridles and rigging shall not be used for any other purpose. (O)

5.3.6.3 The platform shall be suspended by a bridle consisting of at least four (4) separate wire rope cables with an angle of at least sixty (60) degrees from the horizontal. This does not apply to mancages as in 5.3.5.2 above. (O)

5.3.6.4 All cable eyes shall be manufacturer-fabricated with thimbles. Manufacturer's specifications shall be made available to the AR, upon request. (O)

5.3.6.5 The cable legs comprising the work platform bridle shall be connected to a bull ring or shackle, as means of attachment to the load line. (O)

5.3.6.6 The bull ring or shackle of the lifting bridle shall be attached directly to the load line block with a safety shackle. The bridle shall not be attached to a hook. Where a load block without hook cannot be fitted to the load line to permit use of a closed connection to the bull ring of the lifting bridle, a supplementary safety line connecting the work platform shall be added. This will connect the platform to the load line at a point above the hook, using closed connections, such as shackles.

The safety line will be designed to support the shock load of a loaded platform, which has fallen off the hook. Design calculations

shall be submitted and sealed by a professional engineer for safety line and connecting fittings. (S) (O)

5.3.7 Access and Egress for Work Stations

To reduce the risk of serious falls by workers, as soon as the work condition permits, as determined by the AR, the contractor shall replace temporary ladders with temporary stairs and/or personnel hoists or elevators, as the primary means of access to and egress from work stations. This same requirement shall apply to work stations at heights, such as aerial structures and multi-story structures.

Temporary stairs, personnel hoists and elevators shall be constructed, installed, and maintained, in compliance with provisions of applicable statutes and regulations of the U.S. Department of Labor Occupational Safety and Health Administration, the District of Columbia, State of Maryland, Commonwealth of Virginia, or other political subdivision in which work is being performed.

No materials, equipment or tools shall be transported on escalators or elevators in the operating system without advance approval of the WMATA AR.

5.3.8 Occupational Health Requirements

As set forth in the Contract Specifications Article “Protection of Persons and Property” of the contract, the contractor’s safety superintendent shall be familiar with industrial hygiene equipment and testing, as required for the protection of customers, contractor employees, WMATA employees and the public.

Instrumentation shall be provided by the contractor(s) at the job site to evaluate anticipated exposures to toxic substances and physical agents. Testing shall be conducted as necessary to assure the protection of customers, contractor employees, WMATA employees and the public. Copies of test results shall be promptly provided to the WMATA Authority Representative. Costs incurred in providing exposure monitoring shall be included in the contract price with no additional cost to WMATA. Examples of industrial hygiene/environmental monitoring that may be required include:

- Toxic substances such as, but not limited to carbon monoxide, nitrogen dioxide, sulfur dioxide, hydrogen sulfide, heavy metals, welding fumes, silica, volatile organic compounds and asbestos;
- Oxygen deficiency;
- Combustible and flammable gases;
- Illumination;
- Respirable dust (respirable particulate not otherwise specified)
- Occupational and environmental noise (continuous and impact/impulse);
- Water sampling;
- Soil sampling;
- Confined space monitoring; and
- Ventilation testing results.

5.3.9 Accident and Incident Reporting

All job related accidents and incidents shall be reported and investigated. All data relative to an accident or incident shall be complete and timely, with verification of the facts, and recommendations for specific action to control the cause of similar accidents or incidents. The prime contractor shall be responsible for the reporting and investigation of all accidents and incidents occurring incidental to work performed under the contract. An accident includes personal injuries requiring medical attention away from the work site or property damage exceeding $1,000.00. An incident includes near misses, overexposure to toxic substances, hazardous material spills/releases and events of non-compliance with safety or environmental regulations, procedures, or requirements.

Accidents and incidents shall be reported to the WMATA AR immediately. Refer to Section 5.3.10, Emergency Guidelines, for details.

Accident Reports C-23 and C-24 shall be completed and submitted to the AR within 48 hours after the accident or incident. For accidents involving conditions that are immediately dangerous to life and health, work shall be suspended until corrective actions are implemented.

5.3.10 Emergency Procedures Guidelines

5.3.10.1 The Prime Contractor will set up emergency procedures in their Health & Safety Plan for the following categories:

- Fire;
- Injury to Metro customer, employee, or WMATA employee;
- Injury to general public resulting from a possible slip, fall or vehicular injury;
- Property damage, particular to utilities; i.e., water, gas, sewage, electrical, telephone or pedestrian and vehicle routes;
- Public demonstrations;
- Bomb and chem-bio threats;
- Emergency evacuation;
- Hazardous chemical releases;
- Other incidents at contractor's job site.

5.3.10.2 Wherever practical, teams should be established, in advance, to handle the various types of emergencies. In other cases, emergencies must be handled by the ranking person present, with whoever is available to assist.

- Post, in a conspicuous place, a list of emergency phone numbers, along with the type of information to be transmitted for each emergency situation.
- Delegate responsibility for making emergency calls.

5.3.10.3 Actions to be taken during emergencies should be discussed regularly with contractor's supervisory personnel and at "tool box" safety meetings.

5.3.10.4 When an emergency occurs, which requires a response by the fire and emergency services, the person in charge shall:

- For emergencies in the Metrorail operating system, immediately notify the WMATA Operations Central Control (OCC) on 202-962-1970 and Metro Transit Police Department (MTPD) on 202-962-2121. Emergencies in the bus facilities should be directed to Bus OCC on 202-962-1815 and MTPD on 202-962-2121.
- For emergencies in the non-operating rail system [e.g., Metrorail extensions] call 911. Also notify the WMATA [SAFE] Rail Oncall Officer on 202-747-4485.

- For environmental incidents involving operations, maintenance, and support functions, including capital improvement and major construction renovation in the operating systems, immediately contact the Maintenance Operations Center (MOC) on 202-962-1530.
- Evacuate personnel and provide first aid;
- Stabilize the situation;
- Secure the area, preserve evidence;
- Notify the Authority Representative;
- Cooperate with the responding emergency services;
- Initiate an incident investigation – MTPD will be in charge of criminal or potentially criminal incident scene in the operating system. SAFE will be in charge of non-criminal investigations of accident/incident that occur in the operating system.

5.3.10.5 Provide information regarding the situation only to WMATA AR and WMATA Safety representative or regulatory agencies. Questions from the media should be referred to the WMATA, Media Relations Office on 202-962-1051.

5.3.10.6 Review emergency procedures regularly and modify as required. All such procedures shall be approved by and coordinated with the WMATA AR.

5.3.11 Accident Investigation Committee

At the discretion of the WMATA CSO/SAFE, the appropriate Safety Subcommittee may be convened to evaluate all reports and information obtained from investigative sources on any accidents resulting in a loss of life or serious injury, or any accident involving the operating Metrorail, Metrobus or MetroAccess system. The contractor shall make its employees available for interviews with the Safety Subcommittee as required. The Safety Subcommittee shall submit a written report to the CSO/SAFE. The AR will be responsible for ensuring that contractors implement corrective action plans that result from a SAFE, Safety Subcommittee, or external agency investigation.

5.3.12 Technical Inspection Tours

WMATA staff members, who are escorting technical and/or other official visitors in hazardous work areas, will comply with the safety requirements established by this CSEM, the MSRPH, BSEH, and/or the AR. Contractor or vendor personnel who request to inspect a site in the ROW, shall be provided a safety briefing by the AR (or Designee) and be escorted at all times by a WMATA employee, who has been trained as an RWIC in ROW safety. All tours shall be coordinated with the WMATA AR. An escort is required for each group of six (6) for tours on the ROW. Groups will be provided with appropriate personal protection equipment. Shoes must be safety shoes or sound leather shoes that tie. No athletic type shoes or open-toe shoes are permitted in any WMATA facility.

5.3.13 Metro Tours Safety Guidelines

It is of the utmost importance that a high degree of protection be afforded all persons touring Metro construction sites. The following guidelines have been prepared as general instructions for those personnel who are responsible for the organization, direction and safe conduct of these tours. Except for certain technical inspection tours made by WMATA staff members and their guests, the following procedures shall be implemented:

5.3.13.1 All group tours will be cleared through the WMATA Media Relations Office and the DGMO, allowing maximum advance notice.

5.3.13.2 The Media Relations Office will contact the WMATA AR for the sites to be visited to coordinate the tour plan and to assure that necessary safety precautions are taken.

5.3.13.3 The Media Relations Office will coordinate the following items with the person requesting the tour:

- Number of Visitors – Individual tour groups in non-hazardous areas should be limited to no more than 20 persons per tour escort; i.e. group of 40 will require at least two escorts.
- Clothing – Long pants, short or long-sleeved shirts, low-heeled shoes with hard soles and laces that provide full coverage to the feet. No athletic type shoes or open-toe shoes are permitted.

- Children – Children under age 16 will not be permitted to accompany tours.
- Protective Equipment – Hard hats, safety glasses, boots, reflective vests, raincoats, ear plugs, etc., will be supplied as required.
- Release and Hold Harmless Agreement – Each visitor will be required to complete this form prior to the beginning of the tour. (See Appendices)

5.3.13.4 Immediately prior to entering a job site, all visitors should be briefed about the need for careful and orderly conduct, and be briefed on the hazards of the location.

5.3.13.5 Groups shall be accompanied at all times by a member of the WMATA AR's staff while on the job site.

5.4 WMATA Construction Safety Recognition Awards Program

5.4.1 All WMATA construction contractors shall participate in the WMATA Safety Recognition Award Program and shall keep accurate records of each employee hours worked, exposure and accident experience and submit monthly reports to the AR in accordance with reporting procedures.

5.4.2 The awards based on the statistics reported on WMATA Form C-26, Injury and Illness Experience Summary, shall be made as follows:

- Special awards are issued for 100,000, 250,000 and 500,000 employee hours for work without a lost time injury. The project safety superintendent will also receive a personalized plaque.
- SAFE will approve all awards and will notify the AR when a contractor becomes eligible for an award. Awards will be presented to contractors at the WMATA safety meetings.
- A Special Safety Commendation Award will be presented to a contractor who performed an outstanding safety related service to the community. This award may also be presented to an individual employed on a Metro project for distinguished work in the field of safety. Recommendations for this award must be submitted through the WMATA AR to SAFE.

6.0 Contacts

6.1 Department of Labor OSHA

Each contractor shall be familiar with the Federal Occupational Safety and Health Act (OSHA) as it pertains to his/her work responsibility, and will implement it as federal law requires.

All fatality cases and/or accidents in which three (3) or more persons are injured in any one accident shall be reported to OSHA, Virginia OSHA or Maryland OSHA, depending on where the accident occurs, within 8 hours of the accident.

Regional Administrator
U.S. Department of Labor – Region III
(Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia)
15220 Gateway Center
3535 Market Street
Philadelphia, PA 19104
Phone: (215) 596-1201

U.S. Department of Labor – Baltimore Area Office
G.H. Fallon Federal Building
Charles Center
31 Hopkins Plaza
Baltimore, MD 21201
Phone: (410) 962-2840

Commonwealth of Virginia – Department of Labor & Industry
P.O. Box 12064
Richmond, VA 23241-0064
Phone: (804) 786-2376
Manassas
Phone: (703) 392-0900

Safety Division
7890 Backlick Road
Springfield, VA 22150
Phone: (703) 451-1524

State of Maryland – Department of Labor & Industry (MOSH)
Laurel, MD 20707
Construction Safety Inspector Phone: (410) 383-2253
Washington Area Phone: (301) 470-1932
1040 West Street Phone: (301) 621-1930
Emergency - After Hours (410) 767-7233

Copies of the Occupational Safety and Health Act 1970 and related information on state plans, standards, and education and training programs may be secured from the offices listed above or from:

U. S. Department of Labor Occupational Safety & Health Administration
200 Constitution Avenue, N.W.
Washington, D.C. 20210
Phone: (202) 219-8063

6.2 WMATA–Department of Safety & Environmental Management

Department of System Safety & Environment Management
Washington Metropolitan Area Transit Authority
600 Fifth Street, N.W.
Washington, D.C. 20001
Office: (202) 249-SAFE (7233)

After Regular Business Hours Contact Safety Duty Officer via:
OCC – (202) 962-1970
ROCC – (202) 962-1952
BOCC – (202) 962 -1815

6.3 Public Relations Procedures

The procedure for handling inquiries from the press regarding emergencies such as accident, fire, explosion, etc., is immediate referral to WMATA AR by field or front office personnel of the contractor. Make no statement until such comment has been authorized by the AR. The same policy of referral to WMATA for action and approval should also be followed in connection with any news releases or

announcements related to the job by the contractor, subcontractor, suppliers, etc. Similarly, any requests for photo locations should be referred to the AR.

6.4 Emergency Medical Services

For incidents that occur on construction projects in the operating system immediately notify emergency services via the WMATA Operations Central Control (OCC) on (202) 962-1970 and Metro Transit Police Department (MTPD) on (202) 962-2121. Emergencies in the bus facilities should be directed to Bus OCC on (202) 962-1815 and MTPD on (202) 962-2121. Environmental incidents involving operations, maintenance, and support functions, including capital improvement and major construction renovation in the operating system, shall be immediately reported to the Maintenance Operations Center (MOC) on (202) 962-1530.

If you call 911 you must also call the above numbers to ensure required coordination between WMATA and the responding emergency services.

6.5 Government/Utility Contacts

Washington, D.C.	Telephone
U.S. Park Police	(202) 619-7310
U.S. Park Police Emergencies	(202) 619-7300
U.S. Coast Guard-Search & Rescue	1-800-418-7314 or (410) 576-2521
U.S. Coast Guard-Search & Rescue Command Center	(202) 267-2100
Harbor Police	(202) 727-4582
D.C. Occupational Safety & Health	(202) 576-6339
Federal Transit Administration-Office of Safety & Security	(202) 366-4043
Environmental Protection Agency (General Information)	(202) 260-2090
National Response Center (Emergencies)	1-800-424-8802
Sewer & Water Operations Division 24-hr. Emergencies	(202) 612-3400
Verizon Communications-Repairs	1-800-275-2355
Potomac Electric Power Co. (PEPCO)	(202) 833-7500
Emergencies	(202) 872-3432
Power Outage	1-877-737-2662
Washington Gas-Washington Division	(703) 750-1000

Alexandria, VA	Telephone
Construction Safety Inspector	(703) 838-4360
Traffic Engineering	(703) 838-4328
Virginia American Water Co. – Alexandria	(703) 549-0909
Virginia American Water Co. - Alexandria After Hours	(703) 491-8814
Sewer Maintenance	(703) 838-4488
Water and Sewer Emergency - After Hours	(703) 845-7622
Virginia Power Co.	1-888-667-3000
Verizon Communications – Repairs	1-800-275-2355
Washington Gas - Virginia Division	(703) 369-3536

Arlington County, VA	
Construction Safety Inspector	(703) 228-3800
Traffic Engineering	(703) 228-3575
Public Utilities - Water & Sewer Maintenance	(703) 228-6485
Public Utilities - Water & Sewer Emergency 24-hrs.	(703) 228-6555
Virginia Power Co.	1-888-667-3000
Verizon Communications – Repairs	1-800-275-2355
Washington Gas - Virginia Division	(703) 369-3536

Fairfax County, VA	
Virginia D.O.T.	(703) 383-2888
Water Authority	(703) 698-5800
After Hours Emergency	(703) 698-5613
Sewer Maintenance Emergency	(703) 323-1211
Sewer Location Information	(703) 324-5015
Virginia Power Co.	1-888-667-3000
Verizon Communications – Repairs	1-800-275-2355
Washington Gas - Virginia Division	(703) 369-3536

Montgomery County, MD	
Engineering Services	(240) 777-7220
Construction Section	(240) 777-7210
Traffic Engineering Emergency Services	(240) 772-2190
Utilities Water and Sewer (WSSC) Emergencies	(301) 206-4002
Potomac Electric Power Co. (PEPCO)	(202) 833-7500
Emergencies	(202) 872-2000
Verizon Communications – Repairs	1-800-275-2355
Washington Gas - Maryland Division	(703) 750-1000

Prince George's County, MD	Telephone
Construction Regulation Division	(301) 883-5730
Traffic Engineering - Highways & Bridges Division	(301) 883-5640
Traffic Engineering - Emergency Services	(301) 499-8600
Utilities Water and Sewer (WSSC) Emergencies	(301) 206-4002
Potomac Electric Power Co. (PEPCO)	(202) 833-7500
Emergencies	(202) 872-2000
Verizon Communications – Repairs	1-800-275-2355
Washington Gas - Maryland Division	1-800-752-7520 or (703) 750-1000

District of Columbia – Occupational Safety & Health	(202) 576-6339
950 Upshur Street, N.W., Washington, D.C. 20110	
620 First Street, N.E., Washington, DC 20001	(202) 523-1452
D.C. Environmental Health Administration	(202) 535-2500

Commonwealth of Virginia - Department of Labor & Industry	
P.O. Box 12064, Richmond, VA 23241-0064	(804) 786-2376
Manassas	(703) 392-0900
Safety Division	
7890 Backlick Road	
Springfield, VA 22150	(703) 451-1524
Virginia Department of Environmental Quality	(703) 583-3800

State of Maryland - Department of Labor & Industry (MOSH)	
Construction Safety Inspector	(410) 383-2253
Washington Area Phone	(301) 470-1932
1040 West Street, Laurel, MD 20707	(301) 621-1930
Emergency - After Hours	(410) 767-7233
MD Department of the Environment Underground Tanks	(410) 631-3442

6.6 "MISS UTILITY"

"MISS UTILITY" is a single telephone number for MD and DC, 1-800-257-7777, for VA the number is 1-800-552-7001, which should be called whenever excavating, boring, pile driving and/or digging for the location of gas, electric, water, sewer and telephone lines. This number has been established through a combined effort of the utilities for your convenience. Our objective is to eliminate service interruption and to promote safety. The use of this service will result in a safer atmosphere for you and your personnel and to the communities we serve. It will further reduce lost production of labor and equipment to your company.

Each participating utility company will, depending on conditions, locate and identify the location of its facility by staking and/or marking the horizontal path on the surface. Our locating personnel are well trained to meet your needs at no expense to you.

The "MISS UTILITY" office address is:
Miss Utility
The Greens
14504 Greenview Drive
Suite 300
Laurel, Maryland 20707
Office Business Lines:
Baltimore Metro Line – (410) 792-9080
Washington Metro Line – (301) 470-3484

We request that you call "MISS UTILTY" forty-eight (48) hours before work is to begin on all planned projects, preferably between 7:00 AM and 5:00 PM Monday through Friday, excluding holidays. More advance notice is desirable if known. Emergencies will be processed as promptly as possible. "MISS UTILITY" will be operative on a 24-hour basis with trained personnel at your disposal. Note: The "MISS UTILITY" field layout is valid for only two (2) weeks following the date of the survey. If the two (2) week period expires before excavating the survey area, "MISS UTILITY" must be notified to update the initial survey.

7.0 Acronyms

AC	Alternating Current
ACCS	Department of Access Services
AGM/ACCS	Assistant General Manager, Access Services
AGM/BUS	Assistant General Manager, Department of Bus Services
AGM/IT	Assistant General Manager, Information Technology
AGM/PLJD	Assistant General Manager, Department of Planning and Joint Development
AGM/TIES	Assistant General Manager, Transit Infrastructure and Engineering Services
AMTRAK	National Railroad Passenger Corporation's intercity passenger train service
ANSI	American National Standards Institute
APCA	Air Pollution Control Act

APTA	American Public Transportation Association
AR	Authorized Representative of the Contracting Officer
ATC	Automatic Train Control
ATO	Automatic Train Operation
ATP	Automatic Train Protection
ATS	Automatic Train Supervision System
BMNT	Office of Bus Maintenance
BOCC	Bus Operations Control Center
BSEH	Department of Bus Service Employees' Handbook
BTRA	Office of Bus Transportation
BUS	Department of Bus Service
CAP	Corrective Action Plan
CCTV	Closed Circuit Television System
CDL	Commercial Driver's License
CENI	Office of Chief Infrastructure Services
CENV	Office of Chief Vehicle Program Services
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFO	Department of Finance, Chief Financial Officer
CFR	Code of Federal Regulations
CIT	Construction Inspection and Test
CMNT	Office of Rail Car Maintenance
CNG	Compressed Natural Gas
COG	Metropolitan Washington Council of Governments
COMM	Communications Branch
COOP	Continuity of Operations Plan
COUN	Office of General Counsel
CPO	Office of Performance
CPR	Cardiopulmonary Resuscitation
CSCM	Department of Customer Service, Communications and Marketing
CSO	Chief Safety Officer
CSX	Rail-Based Transportation Company
CQAL	Office of Corporate Quality Assurance (SAFE)
CWA	Clean Water Act
DCB	Design Control Board
DC DOT	District of Columbia Department of Transportation
DCO	Deputy Environmental Compliance Officers
DGM/A-CFO	Deputy General Manager of Administration-Chief Financial Officer
DGM/O	Deputy General Manager Operations

DOT	Department of Transportation
DST	Daily Safety Test
EAC	Equipment Advisory Committee
EAP	Employee Assistance Program
ECO	Environmental Compliance Officers
ELES	Office of Elevators and Escalators
ELT	Executive Leadership Team
EMI	Engineering Modification Instruction
EMIH	Office of Environmental Management and Industrial Hygiene
EMS	Emergency Medical Services
EOP	Emergency Operations Plan
EPCRA	Emergency Planning and Community Right-To-Know Act
ERTF	Emergency Response Training Facility
ESC	Executive Safety Committee
ETEC	Emergency Tunnel and Evacuation Carts
ETS	Emergency Trip Stations
F&I	Fire and Intrusion Alarm System
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GM/CEO	General Manager/Chief Ex/Chief Executive Officer
HOMT	Heavy Overhaul Maintenance
HR	Department of Human Resources
HRMS	Office of Human Resources Management Services
IDW	Intrusion Detection and Warning System
IRP	Infrastructure Renewal Program
IRPG	Office of Infrastructure Renewal Program
ISSAP	Internal Safety and Security Audit Process
IT	Department of Information Technology
MACS	MetroAccess
MARC	Maryland Area Regional Commuter Train Service
MAXIMO	IBM Asset Management Software
MCAP	Major Capital Projects
MCSR	Motor Carrier Safety Regulations
MD DOT	Maryland Department of Transportation
MOC	Maintenance Operations Center
MOSH	Maryland Occupational Safety and Health Service
MSDS	Material Safety Data Sheets

MSF	Metro Supply Facility
MSRPH	Metrorail Safety Rules and Procedures Handbook
MTPD	Metro Transit Police Department
NCA	Noise Control Act
NCTA	National Capital Transportation Agency
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NRC	National Response Center
NTD	National Transit Database
NTP	Notice To Proceed
NTSB	National Transportation Safety Board
OAP	Operations Administrative Procedures
OCC	Operations Control Center
OCCO	Rail Operations Control Center
ODEV	Organizational Development
OEM	Office of Emergency Management
OIG	Office of Inspector General
OPMS	Office of Operations Management Services
OSHA	Occupational Safety and Health Administration
PA	Public Address System
PABX	Private Automatic Branch Exchange
PERS	Passenger Emergency Reporting System
P/I	Policy/Instruction
PIDS	Passenger Information Display System
PLJD	Department of Planning and Joint Development
PLNT	Office of Plant Maintenance
PME	Precision Measurement Equipment
PMI	Preventive Maintenance Inspection
PRMT	Office of Procurement and Materials
PSPC	Public Safety Policy Committee of Washington Metropolitan Council of Governments
QAAW	Office of Quality Assurance and Warranty
RCRA	Resource Conservation and Recovery Act
RFC	Requests for Change
RISK	Office of Risk Management
ROCC	Rail Operations Control Center
ROCS	Rail Operations Control System
ROW	Right-of-Way
RTRA	Office of Rail Transportation

RTTO	Office of Rail Transportation Train Operations
S&I	Service and Inspection
SAFE	SAFE Department of System Safety and Environmental Management
SARA	Superfund Amendments and Reauthorization Acts
SMNT	Office of Systems Maintenance
SOP	Standard Operating Procedures
SRPM	Safety Rules and Procedures Manual
SSCP	SSCP Safety and Security Certification Program
SSCPP	Safety and Security Certification Program Plan
SSO	State Safety Oversight
SSPP	System Safety Program Plan
STDS	Standard Time Distribution System
TIES	TIES Department of Transit Infrastructure and Engineering Services
TOC	Tri-State Oversight Committee
TPC	Third Party Claims
TRST	Office of Track and Structures
TSCA	Toxic Substances Control Act
TTY	Teleprinter System
UPS	Uninterruptible Power Supply
VA DRPT	Virginia Department of Rail and Public Transportation
VDC	Volts – Direct Current
VOSH	Virginia Occupational Safety and Health Service
VRE	Virginia Railway Express
WMATA	Washington Metropolitan Area Transit Authority
XML	Extensible Markup Language

APPENDICES

FORM C-21: Construction Safety Survey

Form C-21 is for recording nonconformance with safety regulations or procedures. This form may be used to report any nonconformance with environmental regulations. The main use of this form is by the Contractor's Safety Superintendent. Others that are expected to use it include the WMATA Authority Representative and WMATA's Department of System Safety and Environmental Management.

A. Contractor's Safety Superintendent

This form must be used to report the results of the required daily safety inspection made by the Contractor's Safety Superintendent in accordance with contract specifications. Any nonconformance with safety regulations or procedures detected during the safety inspections, or at any other time, should be corrected immediately and reported on this form.

Completed copies indicating action taken and date completed shall be submitted daily to the WMATA Authority Representative for review and verification of completion of required action. The WMATA Authority Representative shall be responsible for forwarding copies of these reports to WMATA's Department of System Safety and Environmental Management (SAFE).

B. WMATA Authority Representative

This form shall be used by the WMATA Authority Representative and his/her designee to record any nonconformance with safety or environmental regulations or procedures noted during his/her tours of jobs sites. The WMATA Authority Representative will make known his/her recommendations to the Contractor's Safety Superintendent and/or Contractor's Project Manager for immediate corrective action.

The WMATA Authority Representative will submit a copy to the Department of System Safety and Environmental Management (SAFE), indicating abatement action taken or date to be completed.

The Contractor shall fill in action taken under appropriate column and return a copy of this report the office of the WMATA Authority Representative within 48 hours.

The WMATA Authority Representative shall follow up on action taken by the contractor and verify compliance by documenting it in the "Action Taken" column and returning a copy to the Department of SAFE.

Washington Metropolitan Area Transit Authority
Construction Safety Survey

CONTRACT NUMBER _____ REPORT NUMBER_____

CONTRACTOR _____ _____

ITEM NUMBER	RECOMMENDATION	SAFETY REGULATION REFERENCE	ACTION TAKEN and/or DATE COMPLETED

DATE:_____	_____DATE:_____
SURVEY MADE BY (PRINT):_____	CONTRACTOR'S PROJECT MANAGER (SIGNATURE)
SIGNATURE:_____	_____DATE:_____
	AUTHORITY REPRESENTATIVE (SIGNATURE)

19.45 C-21

FORM C-23: Report of Accident or Damage to Equipment/Property

The form (C-23) shall be prepared covering each and every accident involving damage to equipment or property.

1. The form shall be prepared from information as a result of investigation or direct reports of the person or persons involved or contractor responsible,

2. Report shall be furnished within 48 hours.

3. This form shall be prepared by the contractor, who shall retain the original and submit copies to the WMATA Authority Representative and the Department of System Safety and Environmental Management.

4. All accidents involving damage to property, including raw materials or equipment; installed equipment, motor vehicles and heavy construction equipment, are reportable.

5. Investigation of alleged damage to private property.

    a. All buildings or other property that may be affected by the contractor's work will have been inspected by the contractor and a report submitted to the WMATA Authority Representative prior to the commencement of work.

    b. If, in the course of the contractor's work, property damage occurs which is allegedly due to the contractor's operations, this reporting procedure is to be followed.

    c. If, however, a property owner reports damage to his/her property, of which his/her complaint is the first intimation, and alleges that it is due to construction, he/she will probably request prompt inspection.

    d. If the property owner makes his/her complaint and request to the WMATA Authority Representative, the complaint will then be reported on Form 23.

    e. In complying with an owner's request for report of damage allegedly due to the contractor's work, particular care is required to see and record only the facts, and to avoid expressing opinion. The owner's opinion shall be recorded as "remarks by owner."

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
CONTRACTOR REPORT OF ACIDENT OR DAMAGE
TO EQUIPMENT OR PROPERTY
FORM C-23

DATE OF REPORT _____
CONTRACTOR _____ CONTRACT NUMBER _____
SUBCONTRACTOR _____ REPORT NUMBER _____

LOCATION OF ACCIDENT _____
_____

EQUIPMENT INVOLVED (DESCRIPTION & SERIAL NUMBER & OWNER) _____
_____

DAMAGE RESULTING FROM ACCIDENT _____
_____

PERSONAL INJURIES □ YES □ NO IF YES, PREPARE FORM C-24

ESTIMATED VALUE OF DAMAGES - $_____

WITNESSES TO ACCIDENT

	WERE STATEMENTS OBTAINED FROM WITNESS? □ YES □ NO
	ARE STATEMENTS ATTACHED? □ YES □ NO

REMARKS

DATE OF ACCIDENT_____ TIME OF ACCIDENT_____AM/PM
WEATHER CONDITIONS _____ TEMPERATURE_____
ROADWAY OR SURFCE □ WET □ DRY □ ICY □ OTHER
IF OTHER EXLAIN _____

SIGNATURE_____ TITLE _____

IF MORE SPACE IS REQUIRES, USE A SEPARATE SHEET FOR ADDITIONAL INFORMATION AND/OR SKETCHES

FORM C-24: Supervisor's Report of Accident or Incident

This form (C-24) shall be submitted by the contractor for each job-related accident or incident involving any of the following:

a. Any injury (other than first aid) to an employee of the contractor or any subcontractor or supplier;

b. Any injury to persons not directly connected with the project (including any alleged injuries reported by a patron or a member of the general public).

c. A near miss accident involving the contractor or subcontractor employees, patrons, or members of the public.

d. Overexposure or suspected overexposure to toxic substances experienced by the contractor or subcontractor employees, patrons, or members of the public.

e. Events including all spills or chemical release, of nonconformance with safety or environmental regulations, procedures, or requirements.

Submittal shall be made as soon as possible, but in no case later than forty-eight (48) hours after the accident. Pertinent facts which are not available within the above mentioned time shall be submitted as soon as available in the supplemental report.

This form shall be prepared by the contractor, who shall retain the original and submit copies to the WMATA Authority Representative and the Department of System Safety and Environmental Management.

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY Supervisor's Report of Accident ~ Form C-24		
1. Contract #	2. WMATA Project Section (Example: F-10a)	
3. Date of Accident _____ Time of Accident _____am/pm	4. Date Supervisor Notified	5. Date of the Report
6. Name of Prime Contractor	7. Location On-Site Where Accident Occurred	
8. Name of Contractor/ Subcontractor Involved	9. Injury: O Lost Time	O Medical Treatment Off-Site
10. Narrative of How Accident Occurred:*	O Fire O Property Damage O Equipment Damage	
Report of Accident or Damage to Equipment/Property		
11. Injured Name & Address	Employer Name & Address	12. Injured Occupation O Male O Female Age _____
13. Nature of Injury	14. Part of Body Injured	15. First Aid By Whom?
16. Medical Treatment By Whom?	17. Name(s) of Witnesses	
18. Accident-Basic Type**	19. Immediate Causes**	20. Basic Causes**
21. Supervisor's Corrective Action and Signature		
22. Project Superintendent's Review Comments and Signature		
23. WMATA Resident Engineer's Comments and Signature		

*Use additional paper, if needed. **See reverse side.

Form C-24 continued…..

Accident Cause Analysis Flow Chart		
ACCIDENTS	IMMEDIATE CAUSES	BASIC CAUSES
<u>Basic Types</u> - Struck by… - Struck against… - Contact with… - Caught on… - Caught in or between… - Fall on same level… - Fall from different level… - Exposure… - Over-exertion… - Other…	- Operating without authority - Failure to warn or secure - Operating at unsafe speed - Nullifying safety devices - Using defective equipment - Using equipment improperly - Failure to use personal protective equipment - Improper loading or placement - Servicing equipment in motion - Servicing hazardous equipment - Horseplay - Inadequate guards or protection - Defective equipment or material - Congestion or inadequate work space - Fire and explosion hazards - Unexpected movement hazards - Projection hazards - Poor housekeeping - Hazardous environmental conditions - Hazardous placement or storage - Inadequate ventilation - Inadequate illumination - Unsafe personal attire	<u>Personal Factors</u> - Lack of knowledge or skill - Improper motivation attempting to: a) Save time or effort b) Avoid discomfort c) Attract attention d) Assert independence e) Seek group approval f) Express hostility - Physical or mental problem - Distractions <u>Job Factors</u> - Inadequate work standards - Inadequate design - Inadequate maintenance - Inadequate purchasing standards - Normal wear and tear - Abnormal use and wear

Distribution: Original – SAFE
Copies – Insurance Carrier, WMATA Authority Representative

C-24 (rev. 10/11)

FORM C-26: Accident Experience Summary

1. This form (C-26) shall be submitted monthly by the contractor to reflect the monthly accident and man-hour experience of the contractor and each subcontractor so that the project accident experience to date is readily available.
2. This form shall be prepared the Prime Contractor who shall retain the original and submit copies to the WMATA Authority Representative and the Department of System Safety and Environmental Management.

3. This report must be mailed to the WMATA Department of System Safety and Environmental Management no later than the last day of each month. If the last day of a month falls on other than a working day, this report shall be telephoned into the WMATA Department of System Safety and Environmental Management, on or before the last working day of each month. The completed report should then be mailed in on the following work day.

Washington Metropolitan Area Transit Authority

Injury and Illness Experience Summary – OSHA Standards

Reporting Organization _____ Contract No. _____ Date _____

INJURY AND ILLNESS CATEGORY		TOTAL CASES THIS MONTH	DEATHS	LOST WORKDAY CASES				NONFATAL CASES WITHOUT LOST WORKDAYS	TERMINATIONS OR PERMANENT TRANSFERS
				Total Lost Workday Cases	Cases Involving Days Away from Work	Days Away from Work	Days of Restricted Work Activity		
CATEGORY	CODE	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OCCUPATIONAL INJURIES	10								
- OCCUPATIONAL ILLNESSES -									
Occupational Skin Diseases or Disorders	21								
Dust Diseases of the Lungs	22								
Respiratory Conditions Due to Toxic Agents	23								
Poisoning (Systemic Effects of Toxic Materials)	24								
Disorders Due to Physical Agents	25								
Disorders Associated with Repeated Trauma	26								
All Other Occupational Illnesses	29								
TOTAL-OCCUPATIONAL ILLNESSES (Sum of codes 21 through 29)	30								

Total Hours Worked This Month (includes Prime & Subcontractors)		Signature of Project Superintendent

INCIDENCE RATES FOR

TOTAL RECORDABLE CASES	LOST WORKDAY CASES	NONFATAL CASES w/o LOST WORKDAYS	DAYS OF RESTRICTED WORK ACTIVITY	LOST WORKDAYS

The Incidence Rate is calculated as: N x 200.00/MH

Form C-26

N = Number of injuries and/or illnesses

MH = Total hours worked by all employees during the month

200,000 = Base for 100 full time equivalent workers (working 40 hours per week, 50 weeks per year)

Release and Hold Harmless Agreement

In consideration of the below named representation of the Washington Metropolitan Area Transit Authority granting me permission to visit the construction of _____ site of the Authority, I hereby waive, release and hold harmless the Authority, its Directors, Officers, employees, agents, contractors and subcontractors from any and all claims I may now have, or may have in the future, for any and all injury, or losses to person or property arising from this exercise of visitation by this privilege.

Signature	Representing
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Issued By	Title	Date
_____	_____	_____

System Safety and Environmental Management

Material Data Sheet Review Request

Return this form to the Chemical Safety Liaison Officer at Metro Supply Facility
Email to msds@wmata.com or Fax to (202) 962-5548
Please allow 3 weeks lead time for requests
Attach clear copy of most recent MSDS

Please provide the following information.		
Today's Date:	***Requesting Dept.:***	***Contact Location:***
Contact Name:		***Phone:***
Locations where product will be stores:		
Material Status (check all that apply):		In Use_____ New Material_____ For Testing _____ Contractor MSDS_____ Yes _____ No Contractor Name: _____ Contract No.: _____
Trade Name (as shown on MSDS):		
WMATA Stock No.:		
SAFE MSDS No.:		
Give name and MSDS number of existing product use:		
Why is replacement necessary?		
Where will product be used?		
Description of Use:		
How will product be applied?		
Size of Container:		
Quantity Used Per Week:		
Physical State of Product:		Aerosol Spray____ Gas____ Liquid___ Pellets___ Paste/Cream____ Powder___ Solid___ Other____ *(Please specify)*_____
Manufacturer's Name & Phone No.:		
Vendor's Name & Phone No.:		
Best Time to Contact You (Requestor):		
Comments:		

Ingredients Restricted at WMATA
April 2005

Products containing restricted ingredients are **not** acceptable for use by WMATA employees or by contractors performing work in Authority operating, maintenance, support, or storage facilities. Such products will be evaluated by SAFE for restricted use **only** if no less hazardous substitute is available that will perform the required function. In this situation, the organization must submit a written request to SAFE for a chemical to be evaluated for restricted use. The request must demonstrate that an exhaustive market search was conducted to identify a less hazardous substitute, but that none were available. It is not required to conduct a search for consumer products for which there are no known less toxic alternatives. These include, but may not be limited to vehicle fuels, batteries, lead solder, and cementitious products (grout, Portland cement).

Carcinogens

- Carcinogens, suspected carcinogens, probable carcinogens or possible carcinogens (e.g., asbestos, methylene chloride, toluene diisocyante).
- Benzene
- Carbon tetrachloride
- Chloroform (trichloromethane)
- Trichloroethylene
- Tetrachloroethylene

Reproductive Toxicants

- Glycol ethers including 2-Butoxyethanol (butyl cellosolve, CAS# 111-76-2), 2-Methoxyethanol (EGME, CAS# 109-86-4), 2-Methoxyethyl acetate (EGMEA, CAS# 110-49-6), 2-(2-Methoxyethoxy) ethanol (CAS# 111-77-3), Ethylene glycol dinitrate (EGDN, CAS# 628-96-6), 2-Ethoxyethanol (EGEE, CAS# 110-80-5), and 2-Ethoxyethyl acetate (EGEEA, CAS# 110-15-9).
- Teratogens

Corrosives

- Products used at a dilution rate with a corresponding pH that is greater than 11.5 (alkaline) or less than 3.5 (acidic). Concentrated chemicals will be considered only if a tamper-proof metering system (dilution or proportioning) is provided. Alkaline soap used in the automatic bus wash systems cannot exceed a pH of 10 at the discharge. A variance is allowed for acids in vehicle and equipment batteries.

- Products used outside with a pH greater than 8.5 or less than 6. This is in order to comply with storm water discharge requirements.

- Products used indoors (i.e., vehicle washing operations) with a pH greater than 10 or less than 6. This is in order to comply with sanitary sewer discharge requirements. POTWs accept waste water within pH range of 6 to 10. Waste water discharges must be neutralized to this range.

- Hydrofluoric Acid

Flammables

- Flammable solids

- Flammable liquids with a flash point less than 100 degrees Fahrenheit. Variances may be possible for paints and adhesives used under controlled conditions (i.e. properly ventilated spray paint booth). Fuels, such as gasoline, are approved for use as fuel for vehicles, generators, and other powered equipment, except in the Metrorail stations and underground segments of the rail system. Diesel-powered equipment shall be used in these locations.

Sensitizers

- Respiratory and skin sensitizers

High Toxicity Chemicals

- Highly toxic chemicals with a median lethal concentration (LC_{50}) in air of 200 parts per million (ppm) by volume or less of gas or vapor, 2 milligrams per liter (mg/L) or less of mist, fume, or dust or 2,000 milligrams per cubic meter or air (mg/m^3) or less of mist, fume, or dust, when administered by continuous inhalation for one hour to albino rats weighing between 200 and 300 grams each.

- Toxic chemicals with a median lethal concentration (LC_{50}) in air of more than 200 ppm, but not more than 2,000 ppm by volume of gas or vapor, more than 2 mg/L but not more than 20 mg/L of mist, fume, or dust, or more than 2,000 mg/m^3, but not more than 20,000 mg/m^3 of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs) to albino rats weighing between 200 and 300 grams each.

Toxic Heavy Metals

- Arsenic, beryllium, cadmium, chromium, lead, mercury and compounds lead solder is allowed for uses other than plumbing, because there is not presently a suitable substitute for lead in solder for these applications.

Pesticides Banned or Severely Restricted by EPA

Ozone Depleting Substances

- Existing systems that require certain refrigerants will be exempted, but new systems that require refrigerants will be required to comply with environmental regulations. Non ozone-depleting substances are preferred for use at WMATA. (List from 40 CFR Part 82)

Chesapeake Bay Toxics of Concern

- Atrazine, benzo(a)anthracene, benzo(a)pyrene, chlordane, chrysene, copper, fluoranthene, naphthalene, PCBs and tributyltin. (Cadmium and compounds, chromium and compounds, lead and compound, and mercury, are included under toxic heavy metals.)

Phosphates

- Cleaning agents that contain phosphorous may not be purchased or used in the WMATA system with the following exceptions:

    1. Detergents used for metal cleaning or conditioning, surface cleaning, or appliance cleaning.
    2. Phosphoric acid cleaning products including sanitizers, brighteners, acid cleaners, or metal cleaners.
    3. Dishwashing detergents with 8.8 percent or less phosphorous by weight.

Chemicals Targeted for Elimination

- Products containing mercaptans which are characterized by strong, repulsive odors (excluding natural gas).
- Aerosol mixtures of n-hexane and acetone
- Methyl ethyl ketone
- Methyl isobutyl ketone
- 1,1,1-trichlorethane (methyl chloroform)
- Xylenes
- Cyanide compounds (including hydrogen cyanide)
- Toluene

metro

Department of Safety & Environmental Management (SAFE)
Safety & Security Certification - Project Assessment Form

Project Title:	Replacement of Chillers and Cooling Tower Accessories at Eight Metro-Rail Stations				**Date Assessed:**	2/21/17
Certification Category:	**Safe Acceptance**		**Safety Officer:** N/A		**Assessed by:**	Angel Gonzalez
Mode: ☐ Bus ☐ Rail X Facility	Project Cost: ☐ ≥ $100 million X < $100 million:	Funding Source: CIP 151	Project Type: ☐ Design-Build ☐ Design-Bid- Build X Rehabilitation/Modification	WMATA Design Criteria? X Yes ☐ No	Type: ☐ MCAP X IRPG ☐ JDAC ☐ Security	Certification Mandated: ☐ FTA ☐ WMATA Executive Safety Committee X No
Unique characteristics (*if applicable*): none						
Comments: Chillers will be replaced in kind. Certification not required.						

Angel Luis Hgalg 2/23/18
WMATA SAFE Date
(Safety Certification Manager)

Mark H Magnusson 2/23/18
WMATA Project Manager Date

N/A
WMATA SAFE Date
(Safety Officer)

N/A
MTPD Certification Liaison Date
(Type: Security only)

WMATA Safety & Security Certification Plan (SSCP):

The verification steps required for each of the project categories is as follows;

Category 1 – Design, construction, testing, training and manual/procedures/drawing updates verification steps are required

Category 2 – Specification, manufacturing/assembly, testing, training, and manual/procedures/drawing updates verification steps are required

Category 3* – Testing, training, and manual/procedures/drawing updates verification steps only are required.

SAFE Acceptance – Inspections conducted by WMATA SAFE Staff and/or designated Safety Certification Consultant to ensure the project under review has been built/installed in accordance with applicable codes and industry standards.

*Only use Category 3 for Contractors/WMATA staff who are conducting the installation in accordance with current WMATA Design Criteria.

Project Categories			
Category 1	**Category 2**	**Category 3**	**SAFE Acceptance**
• Automatic Train Control • Automatic Train Protection • Compressed Natural Gas Facilities and Systems • Rail Operations Control Systems	• Traction Power Substation • Electro-Mechanical Equipment (Deemed Safety Critical or Security Sensitive by SAFE or MTPD) • Rail Car Vehicles • Bus Passenger Vehicle • High-Rail Equipment (HRE)	• Communication Systems • Fire Protection Systems • Fire/Intrusion Alarm Systems • AC Power Switchgear • Traction Power Equipment • Emergency Ventilation Systems • Maintenance Facility Equipment	• Station Enhancements • Parking Facilities • Kiss and Ride / Bus loop Renovations • Minor Facility/Station modifications that do not impact Fire/Life Safety Systems.

SITE SPECIFIC WORK PLAN

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

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.

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 Metrrorail trains operate.

Timeline: a table listing scheduled activities or events within a specific period.

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

***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

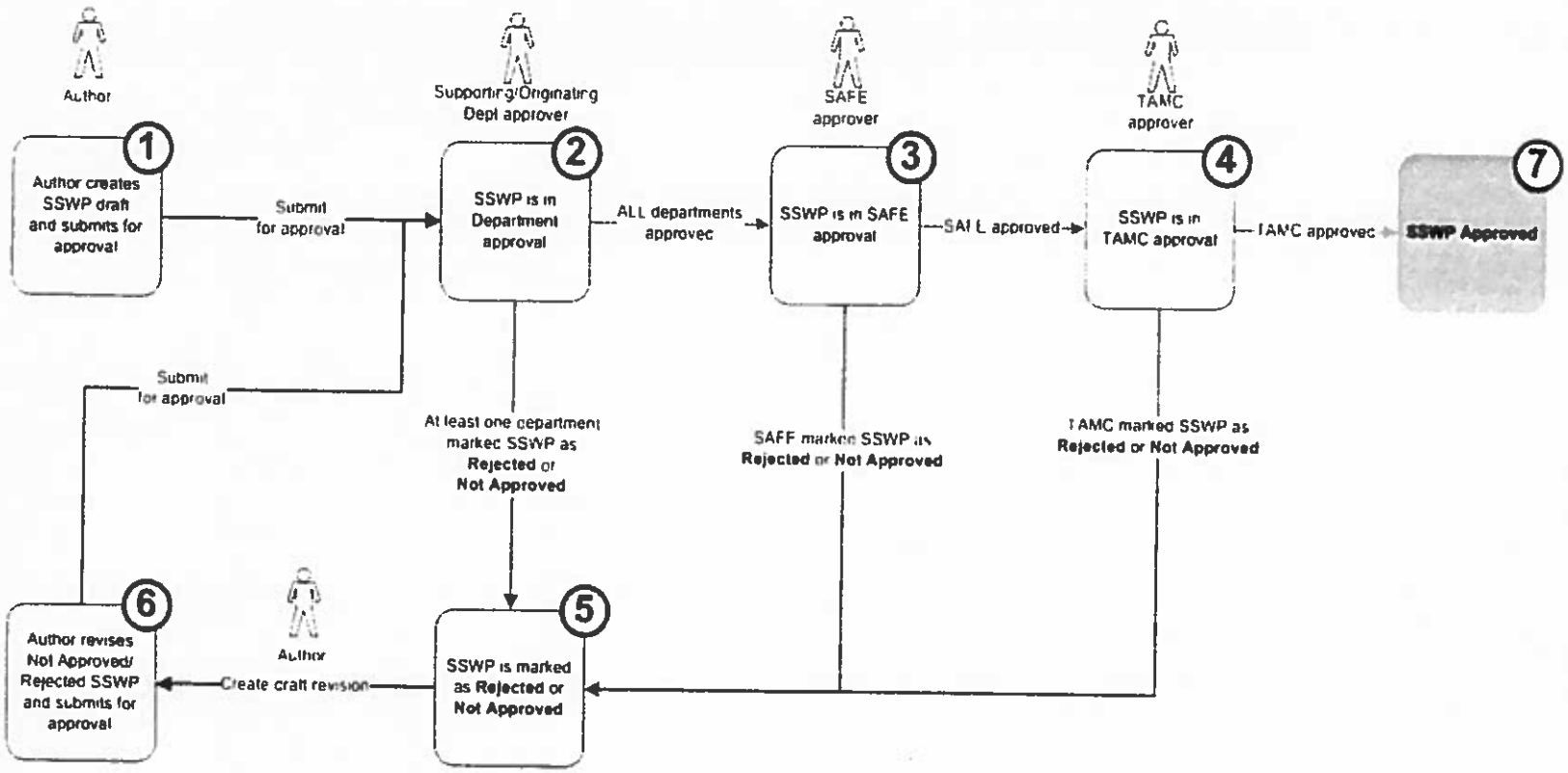
7. ATTACHMENTS

A. Revenue Service Adjustment (RSA) form

B. Flow Chart for Site Specific Work Plan

C. Site Specific Work Plan (SSWP) form

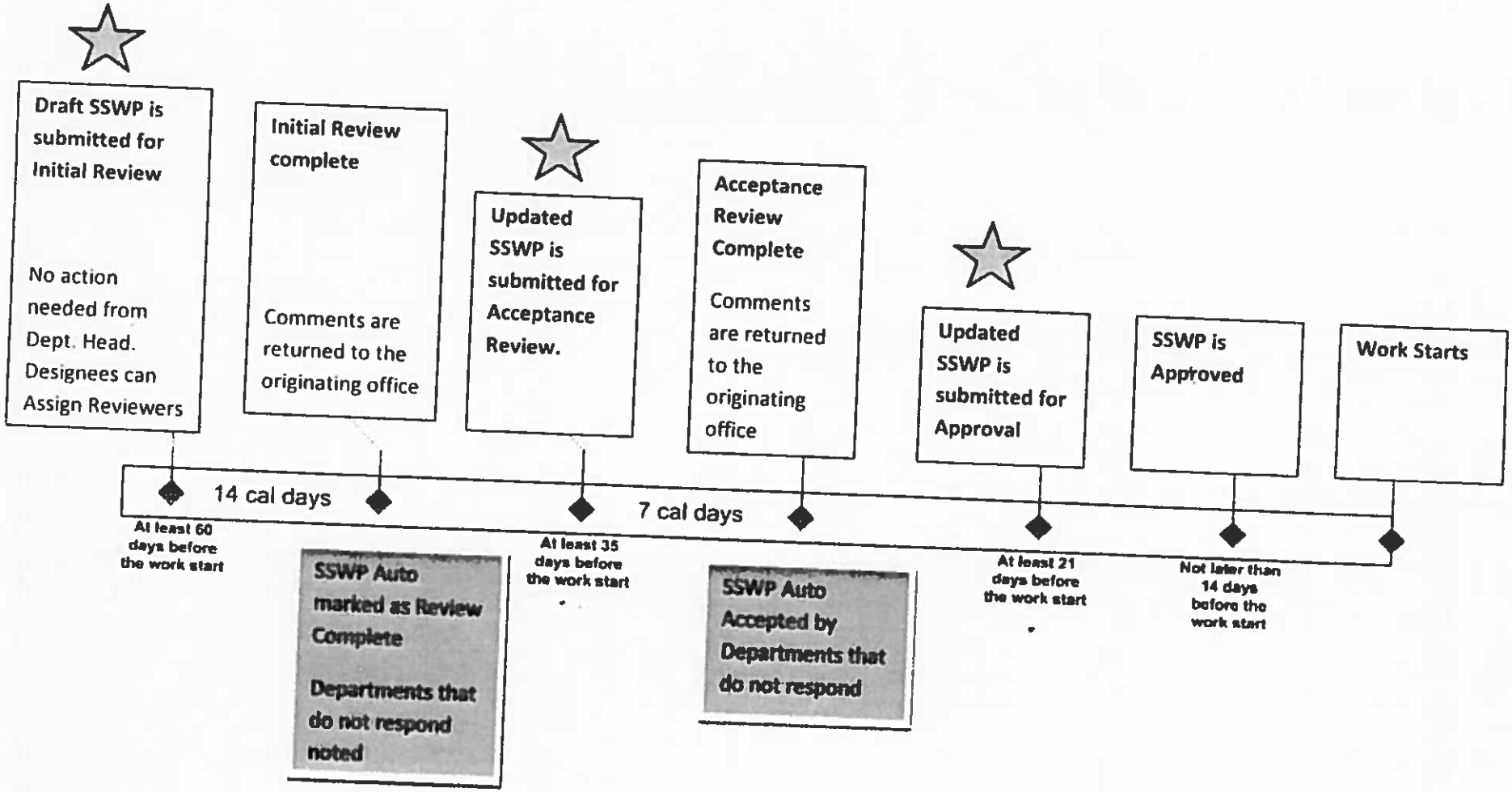
SSWP Lite simplified workflow



Use cases

First revision of SSWP has been approved	1 2 3 4 7
SSWP has been rejected/not approved during department approval step	1 2 5
SSWP has been rejected/not approved by SAFE	1 2 3 5
SSWP has been rejected/not approved by TAMC	1 2 3 4 5
Author creates draft from rejected/not approved version, revises it and submits for approval	5 6 2

SSWP Process Timeline



SITE SPECIFIC WORK PLAN (SSWP)

Date Created: _____

Date Revised: _____

SUMMARY STATEMENT: _____

FROM: _____

DISTRIBUTION:

OPER/OLIA
SARP/PVFL
RAIL/OCCO
RRTS/TAMC

For [Project Title]

WORK PLAN

Description of Work: _____

_____

Project Start _____ Proposed Work Start _____

Date Time Date Time

Project End _____ Proposed Work End _____

Date Time 24 Hour Closure Date Time

EMI # _____ Attached (Check YES or NO) YES _____ NO _____

LOCATION

Chain Markers to	Chain Markers to	Chain Markers to

Power Outage Required _____

Revenue Service Adjustment Form Attached _____

For [Project Title]

Support
Escort (s)

Department _____ #Personnel Required _____

Support Departments _____ # Personnel Required _____

Support Departments _____ # Personnel Required _____

List of Equipment to be used

Materials: _____ Staging Locations: _____

SAFETY PLAN

Safety Requirements _____

PPE and Other Safety Equipment _____

Protected Work Area _____ Actual Work Area

Schematics Attached _____

For [Project Title]

Work Activity Schedule

Activity	
From	To
Critical Milestones	
Contingency Plan	
	Type as much as you like in here.... add more lines as needed, just hit return
Activity	
From	To
Critical Milestones	
Contingency Plan	Type as much as you like in here.... add more lines as needed, just hit return
Activity	
From	To
Critical Milestones	
Contingency Plan	Type as much as you like in here.... add more lines as needed, just hit return
Activity	
From	To
Critical Milestones	
Contingency Plan	Type as much as you like in here.... add more lines as needed, just hit return

For [Project Title]

Approvals:

Requested by:

Signature | Print Name | Date

Requesting Office Director/General Supt.:

Signature | Print Name | Date

Concurrence:

Supporting Director/ General Superintendent

Signature | Print Name | Date

Director OCCO (required for RSA)

Signature | Print Name | Date

Line Director (required for RSA)

Signature | Print Name | Date

OPER/OLIA

Signature | Print Name | Date

Approvals:

SARP/PVFL

Signature | Print Name | Date

RRTS/TAMC

Signature | Print Name | Date

WORK SITE REPRESENTATIVES:

	DATE/HOURS	NAMES	ORGANIZATION	TELEPHONE
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

CENTRAL CONTROL:	WMATA, OCC	(202) 962-XXXX [Line] Line Desk OPS [#]
POLICE:	WMATA, MTPD	(202) 962-2121
AMBULANCE:		**911**
FIRE DEPARTMENTS:		**911**
HOSPITAL: [if applicable to project]	[NAME, ADDRESS]	