

**CONSTRUCTION SAFETY REQUIREMENTS**  
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT  
JANUARY 2017



**PARTNERS FOR A CLEANER ENVIRONMENT**

## CONTENTS

1. Introduction and Definitions.....	1
2. Safety Responsibilities.....	3
3. Orientation Program.....	10
4. MMSD Compliance Policy.....	12
5. Safety and Health Rules and Regulations .....	14
6. Emergency Procedures.....	54
7. Health Services, Accident, and Claim Procedures.....	57
8. Property Fire Prevention, Protection and Control .....	60
9. Site Security.....	62
10. OSHA Inspections.....	63
11. Third-Party Legal Action.....	64
12. Appendices .....	65
• Appendix 1—Job Hazard Analysis.....	65
• Appendix 1a—Example—Completed Job Hazard Analysis .....	66
• Appendix 2—Example—Veolia Daily MMSD Contractor Activity Form.....	68
• Appendix 3—Example—Toolbox/Safety Form.....	69
• Appendix 4—Example—Job Site Safety Inspection Checklist (all inclusive) .....	70
• Appendix 5—Veolia Lock-out Tag-out Procedure .....	80
• Appendix 6—Example—Confined Space Permit/Non-Permit Confined Space .....	81
• Appendix 7—Example—Hot Work Permit.....	82
• Appendix 8—Example—Daily Scaffold Inspection Form/Tag .....	83
• Appendix 9—Example Tunnel Evacuation/Re-entry Procedures.....	84
• Appendix 10—Veolia Overhead Crane Daily Operator Inspection Form .....	85
• Appendix 11—Example Man Basket, Work Platform Pre-Lift Documentation .....	86

# 1

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## Introduction and Definitions

The Milwaukee Metropolitan Sewerage District ("Owner") will take into account the safety program and performance of contractors who bid on MMSD projects.

This manual containing the MMSD's Safety Program Requirements and is incorporated by reference in MMSD contract specifications Section 01016. The manual is intended to provide general information regarding project safety guidelines, insurance coverage afforded and the reporting procedures to be followed in administering the risk management, insurance, safety, and loss control aspects of the CONTRACT. **Nothing contained herein should substitute for contractor compliance with all applicable regulations or the insurance policies issued. Also, nothing contained herein is to be interpreted as altering or changing any of the General or Special Conditions of the CONTRACT as it pertains to insurance or other duties or responsibilities of any CONTRACTOR, any tier SUBCONTRACTOR.**

"OWNER" means Milwaukee Metropolitan Sewerage District (MMSD) who is represented on projects by a Resident Engineer (RE) and Resident Inspector(s) (RI).

"CONTRACT" means a written agreement by and between Milwaukee Metropolitan Sewerage District and a CONTRACTOR, by and between a CONTRACTOR and any tier SUBCONTRACTOR.

"CONTRACTOR" means any individual, firm or corporation undertaking construction or other services under contract with the OWNER requiring labor at or from the Job Site, excluding only Vendors, Suppliers, Material Dealers, or others whose function is solely to supply materials, parts, or equipment to and from the JOB SITE.

"EMPLOYER" means the OWNER, CONTRACTOR, any tier SUBCONTRACTOR.

"INSURED" means the OWNER, CONTRACTOR, any tier SUBCONTRACTOR named in the Certificate of Insurance.

"INSURERS" means the Insurance Companies named on a Certificate of Insurance.

"VWM Environmental, Health, Safety & Security Manager" means the individual assigned this responsibility by Veolia Water.

"MMSD RISK MANAGER" (RM) means the individual assigned this responsibility by MMSD with the responsibility of managing overall MMSD Safety.

"JOB SITE" means the premises owned by Milwaukee Metropolitan Sewerage District as described in the CONTRACT between the OWNER and the CONTRACTOR.

"SUBCONTRACTOR" means any individual, firm or corporation that performs sublet work with the consent of the OWNER or its designee. This term refers to any all tiers of SUBCONTRACTORS.

"COMPETENT PERSON." OSHA defines a *competent person* as: "One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them." This definition can be found in OSHA's 29 CFR 1926.32(f).

# 2

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## Safety Responsibilities

It is essential that all parties on the JOB SITE work together as a team. Safety, quality, and production are equal elements of a successful project. Each party must fully understand his or her specific responsibilities and perform accordingly. All parties are expected to meet the letter and intent of the responsibilities listed in these project safety guidelines for the duration of their contract with MMSD.

CONTRACTOR and SUBCONTRACTORS, when on the JOB SITE, will be responsible and accountable for onsite safety. CONTRACTOR and SUBCONTRACTORS will comply with the safety standards established by the OWNER: Safety Program Requirements and all applicable federal, state and local regulations.

### **Owner**

The OWNER, Milwaukee Metropolitan Sewerage District, requires all CONTRACTORS to provide a safe and healthy workplace for personnel involved in the project, the general public, property, equipment, and the environment. The policy and programs in this manual have been developed for that purpose. The OWNER requires that the following requirements be followed by each CONTRACTOR, SUBCONTRACTOR and their employees working on the job site.

The Safety Program is under the direction of the MMSD's Risk Manager (RM). MMSD has a Safety Advisor to the OWNER. The CONTRACTOR, MMSD Safety Advisor, MMSD Resident Engineers/Resident Inspectors (RE/RI), and the MMSD RM will work as a team to keep your project safe.

### **MMSD Safety Advisor**

The MMSD Safety Advisor will advise the CONTRACTORS/SUBCONTRACTORS regarding these requirements. The RM, Safety Advisor and OWNER will be responsible for enforcing CONTRACTOR compliance with these Construction Safety Requirements. The MMSD Safety Advisor will serve as an advisor for safety management-related activities. These responsibilities include but not limited to:

- 1 Reviewing CONTRACTOR's submitted site specific safety program.
- 2 Verifying that an emergency/contingency plan has been developed.
- 3 Reviewing pre-job planning to see that it incorporates employee/public safety as part of construction management.
- 4 Meet with CONTRACTOR before site work begins to review site specific Emergency Procedures, and project specific Construction Safety Requirements.
- 5 Request a JSA for any operation or situation. (*Appendix 1—Blank Job Safety Analysis Form and 1a—Example Job Safety Analysis.*)

- 6 Attend CONTRACTOR & SUBCONTRACTOR safety meetings and tailgate meetings. Risk Management may also attend these meetings.
- 7 Monitoring all JOB SITE CONTRACTOR's activities for compliance with applicable federal, state and local regulations and the Owner's Safety Program Requirements.
- 8 Reporting observed unsafe conditions or practices to the CONTRACTOR, the RE/RI, and RM.
- 9 Authority to advise the RE to "stop work" in imminent danger cases.
- 10 Monitoring accident record keeping as required by the State, and OSHA regulations.
- 11 Verifying that adequate first-aid supplies and qualified personnel are available.
- 12 Attend and discuss this safety manual at the following meetings: Pre-bid meetings, Pre-Construction Meetings, and project monthly Progress Meetings.

## **CONTRACTOR**

The CONTRACTOR will have in place, before work begins a written site specific safety program. The CONTRACTOR's site specific safety plan must be submitted to the Resident Engineer within 30 calendar days before construction begins on JOBSITE to allow for time to review the plan and make any adjustments. The CONTRACTOR's written site specific safety plan must include: a description of the scope of work, designated site safety representative's resume, Hazard Communication Policy, example of job inspection form, GFCI policy and training, PPE, disciplinary policy, drug testing policy, hearing conservation program (if applicable), return to work policy (light or transitional duty), an example of weekly toolbox talks, Job Safety Analysis (JSA) and identification of site specific control measures to protect the health and safety of workers, owner personnel, and the general public. MMSD may request future JSA's as construction progresses. To maintain a uniform safety program, all JOB SITE CONTRACTORS will comply, at a minimum, with the described procedures in the Safety Program Requirements manual. (CONTRACTORS should also have copies of the above info from their subs.)

The CONTRACTOR is solely and completely responsible for conditions at the Contract JOB SITE, including safety of all persons and property during execution of the work. This requirement shall apply continuously and not be limited to normal working hours. Project safety provisions shall conform to U.S. Department of Labor (OSHA) requirements; the Wisconsin Occupational Safety and Health Act; MMSD Safety Program Requirements and all other applicable laws including those that may be specified in other parts of the Contract Documents; and shall in any event comply with the common-law standards of due care. Where any of these are in conflict, the more stringent shall apply. The CONTRACTOR's failure to thoroughly familiarize himself/herself with these safety provisions shall not relieve him/her of responsibility.

### ***CONTRACTOR Project Safety Representative Requirement***

The following are the general rules for full time project Safety Representatives. There may be contracts that are not \$15M that will require a full-time Safety Representative. Conversely, there may be projects that are more than \$15 M which will not require a full-time Safety Representative (an example is an MMSD owner procured equipment contract).

The requirement for a full-time project safety representative will be noted in the contract documents.

### **Projects costing less than 15 million and/or less than 30 project CONTRACTOR/ SUBCONTRACTOR employees**

The CONTRACTOR is required to have a trained Project Safety Representative on the job always (shifts) while work is in progress. This requirement is for the entire duration of the project—not just

for the time period the CONTRACTOR has work on the site. Contracts that are less than 15 million dollars and/or have less than 30 workers (including SUBCONTRACTORS) on the job site at one time may submit the name of an individual that has project supervisory duties outside of safety. If the CONTRACTOR's Project Safety Representative serves in a project supervisory position outside of safety, a Corporate Safety Representative must review the project monthly with an MMSD Safety Advisor, and attend monthly progress meetings during which project safety is reviewed. Each CONTRACTOR's Project Safety Representative must have attended an OSHA 30-hour Construction Industry Outreach Training Program within the past five years. A resume outlining the CONTRACTOR Project Safety Representative's experience and training in the management of construction site safety must be submitted with project site safety plan to the MMSD Resident Engineer within 30 days of receiving Notice to Proceed and/or before construction begins on JOB SITE. The Project Safety Representative will be responsible for ensuring that all JOB SITE employees comply with the Owner Controlled Insurance Program: Safety Program Requirements as well as all applicable federal, state, and local regulations.

### **Projects costing more than 15 million and/or more than 30 project CONTRACTOR/ SUBCONTRACTOR employees**

The CONTRACTOR Project Safety Representative must be onsite at all times for Contracts that either exceed 15 million dollars or at times when the project's combined workforce (including SUBCONTRACTORS) is greater than 30 workers. This Project Safety Representative's **primary** responsibility is to ensure that all JOB SITE employees comply with the Owner Controlled Insurance Program: Safety Program Requirements as well as all applicable federal, state, and local regulations. This Representative shall be knowledgeable of all applicable safety and health codes, statutes, and ordinances as well as best safety practices recognized by the construction industry for this project. The Representative shall be able to demonstrate knowledge and ability to ensure SUBCONTRACTOR compliance with these regulations. This designated CONTRACTOR Project Safety Representative shall not be the project manager, project engineer or superintendent. This Project Safety Representative shall arrange a monthly site safety inspection that includes the Safety Advisor and MMSD RE/RI. This Project Safety Representative must have attended an OSHA 30-hour Construction Industry Outreach Training Program within the past three years. A resume outlining experience and training must be submitted to MMSD Resident Engineer within 30 days of receiving Notice to Proceed and/or before construction begins on the JOB SITE.

If a prime contractor has multiple projects ongoing, the contractor can request that a single safety director be allowed. If the contractor wants to propose this, it should note this in their bid as a deduct if it is allowed (\$\$ deduct if an existing safety director can be utilized). Contractor shall still include a safety director in the bid. This option can only be used for JIWRP and SSWRF project work.

### ***CONTRACTOR Project Safety Representative***

Responsibilities include but are not limited to:

1. Reviewing and fully understanding the MMSD and CONTRACTOR site safety programs.
2. Review all weekly and monthly MMSD reports and address all "conditions noted" with a documented safety meeting or review with appropriate personnel.
3. Coordinating medical service plan with the MMSD Safety Advisor.
4. Ensuring all CONTRACTOR and SUBCONTRACTOR workers understand the MMSD Construction Safety Requirements, and participate in the MMSD/Veolia Safety Training.

5. Reviewing project CONTRACTORS/SUBCONTRACTOR Veolia Daily MMSD Contractor Activity Form for proper completion. (Appendix 2—Example—Veolia Daily Work Permit)
6. Review and understand project specific Emergency Procedures with crew and maintain a copy of these project specific procedures on site. The Emergency Procedures include the location and directions to the nearest hospital and clinic, accident/incident reports and filing procedures.
7. Ensure that all SUBCONTRACTORS have a copy of the project specific Emergency Procedures and understand its contents.
8. Enforcing CONTRACTOR'S disciplinary policy that promotes safety and eliminates offenders and repeat offenders.
9. Complete a monthly report to MMSD RE required by contract specification 01016 some information required includes:
  - 9.1 A summary of these JOB SITE inspections must be included as a section of the monthly report outlined in contract specification 01016. This report is to be submitted monthly to the MMSD Resident Engineer.
  - 9.2 Compile CONTRACTOR and SUBCONTRACTOR project accident data including monthly updates on new accidents, lost time days, and restricted duty. This information should be included in the required monthly report to MMSD Resident Engineer noted in contract specification 01016
  - 9.3 Ensuring CONTRACTOR and SUBCONTRACTOR compliance with the MMSD Commissions drug testing program as detailed in Section 3 of this document. Summarize the number of project pre-employment, random, and post-accident test administered during the month. Report the number of positive or negative drug testing results on the monthly report outlined in contract specification 01016. Union programs that comply with the Commission program should be noted on the report. Union programs are not required to report the number of drug testing results within the union. This report is to be submitted monthly to the MMSD Resident Engineer.
10. Scheduling, conducting, and documenting periodic safety “toolbox” meetings with employees on-site. Copies of CONTRACTOR and SUBCONTRACTOR'S toolbox meetings must be retained in “Onsite CONTRACTOR Project Information Notebook” for review. (Appendix 3—Blank Toolbox/Safety Meeting Form)
11. Conduct and document physical inspections of the JOB SITE, equipment, materials, and operations to detect and promptly eliminate unsafe equipment, acts, and unsafe conditions. The frequency of the inspections shall be determined based on site activities. Hazardous activities may require continuous inspection as determined by the JSA. Copies of site CONTRACTOR'S inspections must be retained in the Project Safety Notebook for review. (Appendix 4 Example—JOB SITE Safety Inspection Checklist (all inclusive))
12. Maintain all required CONTRACTOR and all tiers SUBCONTRACTORS documentation in the Onsite Contractor Information Project Notebook. At a minimum, each SUBCONTRACTOR must submit to the CONTRACTOR the name and qualifications of their designated Site Safety Representative, location of the company's MSDS, copy of compliance with MMSD Commission Drug testing policy, and copies of weekly toolbox meetings.
13. Maintaining the project's safety and first-aid records required by federal, state, and local laws.
14. Promptly address CONTRACTOR and SUBCONTRACTOR non-compliance issues and perform follow up inspections. A site visit and review may be required.
15. Promptly investigate all CONTRACTOR AND SUBCONTRACTOR'S employee accidents.

16. Ensure that required atmospheric and material tests are performed, as required by all governing authorities. Atmospheric monitoring of tunneling operations and confined spaces include documentation of the following:
  - 16.1 Monitoring of ventilation duct condition—ventilation ducting must extend within 5.0' of the floor of each shaft or space.
  - 16.2 Tunneling operations, underground operations, and confined spaces will require CONSTANT monitoring for Oxygen, Carbon Monoxide, LEL, and Hydrogen Sulfide.
  - 16.3 Tunneling operations, underground operations, and confined spaces where diesel equipment is in use will require CONSTANT monitoring for Oxygen, Carbon Monoxide, LEL, Hydrogen Sulfide and NITROGEN DIOXIDE.
  - 16.4 Natural ventilation is not acceptable when personnel are in shafts, tunnels, or any underground activity unless air flow and air quality can be measured and documented.
17. At the initiation of the work and throughout the course of the project the CONTRACTOR Safety Representative must conduct and implement Job Safety Analysis (JSAs) for operations deemed hazardous or out of the ordinary or requested by the Safety Advisor or the RE/RI. Contractors should discuss these types of operations with both the MMSD RE/RI and the Safety Advisor at the same meeting. The Job Safety Analysis identifies the steps of the operation, the potential hazards of each step, and actions required to control them. The Job Safety Analysis must be developed, written, and discussed with the crew performing the work. Crew members must sign a copy of the JSA before work begins. (Appendix 1 Blank Job Safety Analysis Form/Appendix 1a Example Completed Job Safety Analysis)
18. Ensure all the CONTRACTOR's employees have their company safety orientation and required training.
19. Compile monthly update on project disciplinary actions.
20. Setting up a monthly (at a minimum) project safety review with the Safety Advisor and RE/RI at a minimum. During this site safety review the Safety audits and other matters will be examined and discussed.
21. Accompanying safety and compliance officers on-site.
22. Attend bi-monthly MMSD safety committee meetings when notified by MMSD.
23. Review VWM evacuation procedures and/or job specific evacuation procedures with crews on a monthly basis.

### ***SUBCONTRACTOR Site Safety Representative***

Each SUBCONTRACTOR, under the direction of a CONTRACTOR, is responsible for the safety and health of their employees as well as other workers; the protection of equipment, materials, and structures; and protection of the general public and environment.

Each SUBCONTRACTOR will designate an on-site Safety Representative to act as the safety liaison with the CONTRACTOR and MMSD Safety Advisor, and maintain safe working practices and conditions. The SUBCONTRACTOR's Site Safety Representative is responsible for ensuring that their personnel comply with the MMSD Safety Program Requirements as well as all applicable federal, state and local regulations. Each SUBCONTRACTOR'S Site Safety Representative is required to have the attended an OSHA 10-Hour training program within the past three years. The name and qualifications for each SUBCONTRACTOR on-site safety representative must be listed in the Project Safety Plan.

The duties of the SUBCONTRACTOR Safety Representative include:

1. Reviewing and fully understanding the MMSD Safety Program Requirements and CONTRACTOR's submitted written safety program.
2. Start-up meeting: Review and understand project specific Emergency Procedures with crew and maintain a copy of these project specific procedures on site. The Emergency Procedures include the location and directions to the nearest hospital and clinic, accident/incident reports and filing procedures.
3. Maintaining safety and first-aid records. Accidents occurring on the job should be updated with the CONTRACTOR Safety Representative on a monthly basis so the information can be included in the Monthly Report submitted to the RE at the monthly Progress Meetings.
4. Ensuring all their JOB SITE employees partake in the Online Safety Training program.
5. Lead and/or participate in weekly safety meetings with on-site employees.
6. Distributing safety and health information and/or training to on-site employees.
7. Performing site safety reviews.
8. Implement their company's disciplinary policy that promotes safety and eliminates offenders and repeat offenders.
9. Perform follow-up safety inspections of non-compliance issues noted in the MMSD Safety Audits.
10. Ensuring that all SUBCONTRACTOR employees have their companies' safety orientation and required training.
11. Complete all required CONTRACTOR documentation in the Onsite Contractor Information Notebook. At a minimum, each SUBCONTRACTOR must submit to the CONTRACTOR the name and qualifications of their designated Site Safety Representative, location of the company's MSDS, copy of compliance with MMSD Commission Drug testing policy, and copies of weekly toolbox meetings and employee training certificates.

## ***Employees***

All CONTRACTOR and/or SUBCONTRACTOR employees working on MMSD projects are required to partake in a MMSD/Veolia Online Safety Training course. Please see Table 2-1 for further clarification regarding all workers at a job site. The Online Safety Training will outline and define safety responsibilities and safety and health requirements that affect them on MMSD projects. It is each employee's responsibility to support the CONTRACTOR and SUBCONTRACTOR'S effort to provide a safe place to work and protect themselves and all co-workers and the public from injury or illness.

Each employee is responsible for immediately reporting recognized safety or health hazards on the job to their supervisor or safety representative. Employees shall report immediately all accidents or incidents occurring on the job including near-misses. Employees shall cooperate and assist in the investigation of all accidents or incidents. Employees shall cooperate and assist in determining proper safety measures for preventing reoccurrence of any accident.

## *Vendor or Visitors*

The CONTRACTOR or SUBCONTRACTORS are solely responsible for the safety of their on-site vendors and visitors and must ensure that they follow established safety procedures and required orientations.

Vendor compliance with the MMSD Construction Safety Requirements is the responsibility of the CONTRACTOR or SUBCONTRACTOR coordinating the vendor services.

Vendors will provide proper personal protective equipment for their employees and will enforce their use whenever on the JOB SITE. Vendor non-compliance is not tolerated. The CONTRACTOR or SUBCONTRACTOR coordinating the vendor service is responsible for correcting the violation immediately or removing the vendor from the site.

All visitors to the JOB SITE are responsible for compliance with the Site Safety Plan and must have proper personal protective equipment (PPE), or have it provided to them by the CONTRACTOR/SUBCONTRACTOR.

Enforcement of these policies regarding vendors and visitors is the responsibility of the CONTRACTOR or SUBCONTRACTOR.

## ***Veolia Water Milwaukee (VWM) Safety Representative***

VWM, the contract operator of the MMSD facilities (JIWRF, SSWRF, MIS Interceptor sewers, and the ISS Tunnel System) has their own Safety Program led by the Environmental, Health, Safety & Security Manager. This representative of VWM will take action on safety concerns on MMSD Projects in the following ways:

1. If an imminent danger situation arises— the VWM will call the Safety Advisor or the MMSD RM, and the workers involved will be told by the VWM Representative of the safety concern.
2. If other safety issues are noted by VWM that are not of a nature as noted in item 1, the VWM Safety person will contact the RM MMSD.
3. All issues noted by the VWM Safety representative will be investigated and resolved by the MMSD RM, Safety Advisor, and RE/RI Team.
4. If any issues arise that cannot be resolved by the individuals noted in item 3, the MMSD RM and MMSD Contract Compliance personnel, as well as VWM Management will resolve the issue.

## ***Substance Abuse Policy***

PLEASE SEE THE MMSD CONTRACT FOR THIS POLICY.  
IT IS LISTED IN THE SPECIAL ATTACHMENTS.

# 3

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## Orientation Program

### ***MMSD/Veolia Orientation***

All CONTRACTORS, SUBCONTRACTOR, MMSD Employees or any other employees working on an MMSD JOB SITE are required to partake in the MMSD/Veolia Online Safety Training. To access the training program follow the link <http://training.mmsd.com/safety-training> The program is documented and recorded. Each employee will receive an MMSD and Veolia sticker for their hardhats after successful completion of the Online Safety Training course. A refresher is required based on the time the stickers were issued or if poor safety compliance is observed by the MMSD Safety Advisor or RE/RI.

Veolia stickers are good for two years from the date of issue. A Veolia refresher will be required at the end of the two-year period. The duration of the MMSD safety training will be the same period.

CONTRACTORS awarded contracts and all of their SUBCONTRACTORS must complete the MMSD/Veolia Online Safety Training program for all new hires, including safety training for general and job-specific operations. As a minimum, the orientation subject matter may include but is not limited to:

1. Personal Protective Equipment
2. Site Specific Safety Program/General Safety Rules
3. Hazard Communication Program
4. Accident Prevention.
5. Project Emergency Procedures
6. Reporting Accidents/Injuries/Return-To-Work Policy
7. Reporting Unsafe Conditions
8. Disciplinary Enforcement Procedures
9. Housekeeping
10. Material Storage
11. Scaffolding
12. Tools
13. Electrical - Assured Grounding program
14. Jones Island/South Shore Hazardous Areas
15. Lock-out Tag-out
16. Hot Work
17. Confined Space Entry

18. Cranes & Rigging
19. Fall Protection
20. Excavations/Diggers Hotline
21. Protection of Public
22. Traffic Control
23. Working Alone
24. Hazard Signs and Postings

CONTRACTOR or SUBCONTRACTORS that question if their employees have been through the MMSD/Veolia safety training can call Phil Reimer at 414.225.2068 or e-mail him at [PREimer@mmsd.com](mailto:PREimer@mmsd.com)

# 4

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## MMSD Safety Compliance Policy

The OWNER will hold each CONTRACTOR/SUBCONTRACTOR accountable for complying with specific provisions of the project contract, intent of these Construction Safety Requirements, and state, federal and local regulations. Each CONTRACTOR will be responsible for designating a Project Safety Representative all tiers of SUBCONTRACTORS a Site Safety Representative(s) who will be responsible for compliance and administering their company's non-compliance/disciplinary policy.

### ***CONTRACTOR Compliance Policy***

Each CONTRACTOR/SUBCONTRACTORS must comply with MMSD Construction Safety Requirements. CONTRACTOR/SUBCONTRACTORS will be subject to the following actions if non-compliance is noted by the MMSD Safety Advisor or the RE/RI. The MMSD Safety Advisor and/or RE/RI will explain the MMSD policy and their discipline policy for contractors. Should a requirement not be followed a notice of "non-compliance" will be sent to the offending contractor. It is the responsibility of the notified contractor to correct the noted issue.

Examples of company (CONTRACTOR/SUBCONTRACTOR) violations are:

1. SUBCONTRACTOR not having MMSD/VWM safety training and working on the job
  2. CONTRACTOR did not have a safety representative at the progress meeting including the safety meeting.
  3. Not submitting an accident report on the day of occurrence.
- **1st violation**—a copy of the verbal/written warning will be given to the CONTRACTOR/SUBCONTRACTOR for non-compliance with MMSD policies/requirements
  - **2nd violation**—verbal/written warning given on the same issue will be given to the CONTRACTOR/SUBCONTRACTOR for non-compliance with MMSD Construction Safety Requirements. The Contractor must review the relevant sections of this document and the site safety plan, and submit a plan to bring the violation into compliance including any training to be completed. A copy of the written warning will be included in the monthly Project Safety reports.
  - **3rd Violation** or noncompliance of the same issue will result in the MMSD classifying the CONTRACTOR/SUBCONTRACTOR as "non-responsible" for any future MMSD Projects for the next three years.

**The appeal process for a 3<sup>rd</sup> violation will follow the procedure in the GENERAL CONDITIONS of the contract (see sections on DISPUTES and REMEDIES).**

## ***EMPLOYEE Compliance Policy***

Each CONTRACTOR will advise employees and SUBCONTRACTORS that unsafe acts or conditions will not be tolerated and that violators will be subject to the following MMSD actions if an unsafe act or condition is noted by the MMSD Safety Advisor or RE/RI:

Examples of EMPLOYEE violations are:

1. Not wearing proper PPE when supplied.
  2. Not following the 6-ft. fall rule.
  3. Creating a hazard—knowingly walking under an overhead load
- **1st violation**—verbal/written warning will be given to the employee and to the CONTRACTOR/SUBCONTRACTOR. MMSD Safety Advisor or RE/RI will explain the violation and the MMSD discipline policy. A copy of the written warning will be included in the monthly Safety reports.
  - **2nd violation**—verbal/written warning given to the employee, the CONTRACTOR/SUBCONTRACTOR. The warning will be discussed by the Safety Advisor or RE/RI with the CONTRACTOR/SUBCONTRACTOR. Employee must re-attend the MMSD/Veolia Online Safety Training course for retraining. A copy of the written warning will be included in the monthly Safety reports.
  - **3rd Violation** or one willful disregard to safety guidelines by an employee will result in a written notice of termination from the MMSD JOB SITES for one year.

An unresolved unsafe condition or behavior will require a meeting with the OWNER (RE/RI and RM) and Safety Advisor. Should any CONTRACTOR/ SUBCONTRACTOR or vendor allow such non-compliance and/or unsafe practices, the OWNER will stop the work until the issue is resolved.

**In the event of imminent danger work shall be stopped immediately.**

**The appeal process for a 3<sup>rd</sup> violation will follow the procedure in the GENERAL CONDITIONS of the contract (see sections on DISPUTES and REMEDIES).**

# 5

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## Safety and Health Rules and Regulations

This chapter is prefaced with sections from the MMSD Contract specification 01016. The first paragraph "Contractor's Responsibilities" lists the contractor responsibilities and also, the MMSD Construction Safety Requirements into the contract documents. The second contract paragraph defines the laws contractors are required by contract to follow. The following "Safety and Health Rules and Regulations aren't meant to restate all the regulations required to be followed but are intended to assist the contractor to understand the safety considerations that are regularly emphasized on MMSD Projects.

### **The following are Sections from MMSD Contract Specification 01016:**

Note the provisions in Contract Specification 01016, Sections A through E.—reprinted below:

#### 01016 SAFETY REQUIREMENTS AND PROTECTION OF PROPERTY (07/13)

##### A. CONTRACTOR'S RESPONSIBILITY FOR SAFETY (12/96)

The Contractor shall be solely and completely responsible for safety as set forth in the Article "SAFETY" in the GENERAL CONDITIONS. This requirement shall apply continuously and not be limited to normal working hours. Neither the Owner, nor the Engineer, nor their representatives are responsible for safety.

##### B. CONSTRUCTION SAFETY PROGRAM (12/96)

[A: The Contractor shall develop, furnish to all employees, and prominently display at the worksite and maintain for the duration of the Contract, a signed safety program that will effectively incorporate and implement, as a minimum, all required safety provisions. The Contractor shall employ a safety professional with a minimum of two years of experience in the areas of safety related to specific project conditions. This individual will report to a corporate officer. Such person(s) shall be at the worksite and be authorized to supervise and enforce compliance with the contractor's safety program.]

[B: The Contractor shall develop, and maintain for the duration of the Contract, a safety program that will effectively incorporate and implement, as a minimum, all required safety provisions including all aspects of the MMSD Construction Safety Manual. The Contractor's Superintendent shall be qualified and experienced in

construction safety and shall be at the worksite and be authorized to supervise and enforce compliance with the contractor's safety program.]

C. SITE SAFETY PLAN (12/96)

The site safety plan as a minimum, shall include, but not be limited to, the following: organization of the Contractor, general corporate safety program, and site specific details identifying hazards anticipated, control measures, training and retraining requirements, and basic safety checklists.

The Contractor shall communicate appropriate instructions and prepare warning signs in languages and symbols which can be understood by all employees on the worksite.

The Contractor's safety program shall be designed and operated to correct safety hazards and violations as they are discovered and reported.

The Owner may at its sole discretion, incorporate any portion of the Contractor's site safety plan as additional elements of the Contract, and may expect the Contractor to enforce these conditions in the same manner as any other contract clause.

D. SAFETY EQUIPMENT (9/82)

The Contractor shall maintain at the jobsite safety equipment applicable to the work as prescribed by the governing safety authorities, all articles necessary for giving first aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of persons who may be injured on the jobsite.

The Contractor shall do all work necessary to protect persons from hazards, including, but not limited to, surface irregularities or unramped grade changes in pedestrian sidewalks or walkways. Barricades, lanterns, and proper signs shall be furnished as necessary to insure safety.

The performance of all work and all completed construction, particularly with respect to ladders, platforms, structure openings, scaffolding, shoring, lagging, and machinery guards, shall be in accordance with the requirements of applicable governing safety authorities.

During progress of the work, the Contractor shall at all times maintain satisfactory temporary chain link fencing, solid fencing, railing, barricades, or steel plates, as applicable, at all openings, obstructions, or other hazards in roadways, sidewalks, floors, roofs, walkways, and the like. All barriers shall have adequate warning lights required for public safety.

E. REPORTING REQUIREMENTS (12/96)

The Contractor's safety professional shall prepare monthly audit reports for the Contractor's project manager and responsible corporate officer. These reports, as a minimum, shall include activities of safety personnel, records of training, log of equipment safety checks, summary of safety meetings, records of accidents and citations, and review of the safety plan, including revisions, if required.

The Contractor's safety professional shall submit a monthly summary report to the Engineer and the Owner's Director of Safety, within 7 days of the end of the month.

The monthly summary report shall provide the following:

1. Summary of routine site safety inspections.
2. Deficiencies and disposition of such deficiencies.
3. Site visits by OSHA, DILHR, and other regulatory enforcement agencies.
4. Accident information, including property damage and injury reports.
5. Status of lost-time injuries.
6. Status of citations.
7. Major equipment problems.

If serious injury or damage occurs, the accident shall be reported immediately by telephone or messenger to the Engineer and to appropriate local authorities. The Contractor must submit to the Engineer a report of each accident reportable under Worker's Compensation Law, which includes identification of corrective actions to reduce the probability of a similar accident. This report shall be prepared and signed by the Contractor's safety professional.

The Contractor must submit to the Engineer, within two days of receipt, a copy of any citations concerning safety aspects of the project received from OSHA or any other agency.

If a claim is made by anyone against the Contractor or any subcontractor resulting from an accident, the Contractor shall promptly report the facts in writing to the Engineer, giving full details of the claim, including investigation and restitution.

F. COMPLAINTS (8/84)

All complaints received by the Contractor shall be reported to the Engineer no later than the working day following receipt thereof. Such reports shall include the name, address, date, time received, date and time of action complained about, and a brief description of the alleged damages or other circumstances upon which the complaint is predicated. Each complaint shall be assigned a separate number, and all complaints shall be numbered consecutively in order of receipt. In the event, more than one complaint is received from the same complainant, each later complaint shall show all previous complaint numbers registered by the same complainant. In addition, a summary report shall be made to the Engineer each

month which shall indicate the date, time, and name of the person investigating the complaint and the amount of damages claimed (or estimate thereof), including the amount of settlement, if any. When settlement of a claim is made, the Engineer shall be furnished with a copy of the release of claim by the claimant. The Owner shall be notified immediately, throughout the statutory period of liability, of any formal claims or demands made by attorneys on behalf of claimants; of the serving of any notice, summons, subpoena, or other legal documents incidental to litigation; and for any out-of-court settlement or court verdicts resulting from litigation.

G. TRAFFIC MAINTENANCE (10/08)

Comply with all requirements of the Owner regarding closing or restricting the use of Plant roadways. No Plant roadway shall be closed, except by express permission of the Owner. Conduct the work so as to assure the least possible obstruction to traffic and normal plant operations. Protect all obstructions within traveled roadways by installing signs, barricades, and lights.

Where traffic will pass over backfilled areas before they are [A: permanently] paved, the top of the area shall be maintained [B: with temporary bituminous surfacing] [C: in a condition] that will allow normal vehicular traffic to pass over. Temporary access driveways must be provided where required. Cleanup operations shall follow immediately behind backfilling and the worksite shall be kept in an orderly condition at all times.

The Contractor shall immediately clean up accidental spills of any type material which may be a hazard to safe movement of vehicular traffic. Where the type and amount of spilled material creates immediate and serious safety hazard, the Contractor shall immediately post flaggers, initiate cleanup and advise the Engineer of the spill.

When flaggers and guards are required by regulation or when deemed necessary for safety, they shall be furnished with high visibility lime wearing apparel (appropriate ANSI class for their work), stop and go paddles, and other regulation traffic-control devices.

H. SNOW REMOVAL (12/96)

The Contractor shall arrange-all materials storage area and construction operation so as not to interfere in any way with the Owner's normal snow removal activities.

I. ACCESS FOR EMERGENCY VEHICLES (12/96)

Maintain emergency vehicle access at all times to all areas of the Plant site. The Contractor shall leave his night emergency telephone number or numbers at the Plant administration office so that contact may be made easily at all times in case of emergency.

J. FIRE PREVENTION AND PROTECTION (12/96)

The Contractor shall execute the work in a fire-safe manner, and shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. The

Contractor shall comply with applicable fire-prevention laws. Where these laws do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

K. USE OF EXPLOSIVES (BLASTING) (08/05)

Blasting shall include all drilling, loading, firing, and all materials and equipment appurtenant thereto. Any reference to blasting in these Contract Documents is in connection with rock excavation or demolition required to accomplish the work under this Contract. Except for emergency situations, or as approved by the Engineer, blasting required for construction work under this Contract shall not be performed between the hours of 7:00 p.m., Friday to 7:00 a.m., Monday. All requirements of Wisconsin Department of Industry, Labor, and Human Relations (Chapter COMM 5 and 7) shall be followed. See Section [A: 02020] [B: ], for detailed requirements for use of explosives.

L. SECURITY (12/96)

The [A: ] Contractor, if in his opinion deems it necessary to install surveillance equipment and employ watchmen to safeguard the work, equipment, or the public, shall be responsible for equipment costs and employ only licensed and uniformed watchmen, physically capable of adequately patrolling the whole of the work.

M. PROTECTION OF PROPERTY (12/96)

The Contractor shall employ such means and methods as necessary to adequately protect all property against damage. In the event of damage to such property, the Contractor shall, at his own expense, immediately restore the property to a condition at least equal to the condition that existed prior to the commencement of the work and to the satisfaction of the Engineer.

N. PROPERTY LOSSES FROM REMOVAL OR DISTURBANCE OF GROUNDWATER (12/96)

When the Contractor is excavating, and encounters large amounts of water draining to the excavation, immediate steps shall be taken to control the water inflow. Large amounts of water, requiring immediate control, shall be defined as that which adversely affect the performance of work or that the potential of causing loss or damage to adjacent property or structures.

Any footings, foundations, basement or walls, concrete driveways or other structures that become unstable and vulnerable to settlement due to removal or disturbance of groundwater shall be supported immediately by the Contractor. [A: Support shall include but not be limited to bracing, underpinning, or compaction grouting.]

[B: This shall include, but not be limited to shoring, sheeting, bracing, underpinning, driving piles or sheeting, excavation, backfilling, placing new structural concrete beneath or adjacent to the unstable structure, or other means necessary to rectify the particular problem involved.]

All loss or damage arising from removal or disturbances of groundwater, including but not limited to claims for subsidence and the loss of structure support, that may occur in the prosecution of the work shall be sustained and borne by the Contractor. If the Contractor fails to correct the damage or destruction resulting from his operations, the Owner may, 30 days after notifying the Contractor in writing, proceed to repair, rebuild, or otherwise restore such damaged property as may be deemed necessary, and the cost thereof shall be deducted from any compensation which may be or become due the Contractor under this Contract.

O. PRECONSTRUCTION SURVEY (03/11)

After the Contract is awarded and before starting the work, make a thorough examination, of all existing buildings, structures, pavements, and other similar improvements which might be damaged by the Contractor's operations. The examination shall be made jointly by representatives of the Contractor, the Owner, and the Engineer. The scope of the

examination and photographs taken shall include cracks in structures, evidence of settlement, leakage, and similar conditions.

The Contractor shall establish vertical and horizontal survey control points on all structures and improvements located within the limits of the work prior to beginning work and shall periodically check the points for movements. The Contractor shall furnish the Engineer with copies of the survey notes for each survey and a copy of the layout of the survey control points.

Records in triplicate of all observations shall be prepared by the Contractor. Two copies of each document shall be provided to the Engineer.

The above records and photographs are intended for use as evidence in ascertaining the extent of any damage which may occur as a result of the Contractor's operations and are for the protection of the Contractor and the Owner. The records will provide a means of determining whether and to what extent damage may have occurred as a result of the Contractor's operations.

P. EROSION CONTROL (12/96)

Construction site erosion control must comply with the [A: applicable erosion control ordinance and] construction site erosion control plan [B: and permit]. See Section 01014, PROTECTION OF THE ENVIRONMENT, and SPECIAL ATTACHMENTS, [C: Erosion Control Ordinance,] [D:] for the applicable erosion control requirements.

Q. SITE RESTORATION AND CLEANUP (12/96)

At all times during the work, keep the premises clean and orderly; and upon completion of the work, repair all damage caused by materials and equipment and leave the project free of rubbish or excess materials of any kind.

Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, shrubbery, or fences. Remove all excavated materials from grassed and planted areas and leave these used surfaces in a condition similar to that which existed prior to the commencement of the work or as specified. Replace topsoiled areas as specified in Section [A: ], raked and graded to conform to their original contours.

All existing drainage ditches and culverts shall be reopened and graded and natural drainage restored. Restore with new materials all broken and damaged culverts to the condition and location that existed prior to the commencement of the work.

Upon completion of the work, hand-rake and drag all former grassed and planted areas, leaving all disturbed areas free from rocks, gravel, clay, or any other foreign material [A: and ready, in all respects, for seeding.] The finished surface shall conform to the original surface, and shall be free-draining and free from holes, ruts, rough spots, or other surface features detrimental to a seeded area.

Applicable environmental regulations for erosion control shall be strictly enforced.

R. FINISHING OF SITE, BORROW, AND STORAGE AREAS (12/96)

Upon completion of the contract work, all areas used by the Contractor shall be properly cleared of all temporary structures, [A: services] rubbish, and waste materials and properly graded to drain and blend in with the adjoining property. Areas which were used for the deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain.

S. CLEANUP DURING CONSTRUCTION (12/96)

Thoroughly clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all roadways and other finished areas at the conclusion of each day's operation.

Give all unpaved roads, detours, or haul roads used in the construction area a dust-preventive treatment or periodically water to prevent dust. Applicable environmental regulations for dust prevention shall be strictly enforced.

T. VEOLIA WATER SAFETY REQUIREMENTS (04/08)

The Contractor shall plan, schedule and coordinate work in consideration of Veolia Water's Contractor Safety Program. Veolia Water's site environment, health, safety, and security requirements shall be adhered to by the Contractor and all of its subcontractors.

These requirements include the Contractor Site Safety Online Safety Training course that shall be completed by all Contractor and subcontractor employees before commencing work. The Contractor and all of its subcontractors shall wear at minimum the general personal protective equipment and clothing requirements that includes: long pants, short sleeve shirts, safety glasses with side shields that meet ANSI Z87.1 and other applicable standards, hard hats that meet ANSI Z89 and other applicable standards, and safety shoes that meet ASTM F2412-05 and F2413-05. Additional personal protective equipment meeting ANSI and other applicable standards may be required due to scope of work and shall be provided by Contractor and/or subcontractors.

The Contractor and all its subcontractors are responsible for providing all necessary equipment to fully carry out their scope of work, and shall, prior to beginning work each day; obtain from Veolia Water a Daily Contractor Work Permit for each group of Contractor or subcontractor employees on the site. Contractor and all its subcontractors are additionally responsible, prior to beginning work each day, for obtaining from Veolia Water daily work permits for any confined space entry, hot work, trenching/excavation, live electrical work, and/or any other permit-required activity when required by the scope of work. In addition, the Contractor and all its subcontractors will provide their own industrial vehicles that may include but are not limited to: forklifts, scissor lifts, aerial boom, end loaders, and excavators. The Contractor and all its subcontractors will ensure that their employees have valid driver's licenses to operate regular class vehicles or valid Commercial Driver's Licenses (with proper endorsements) to operate commercial vehicles.

The Contractor and all its subcontractors are responsible for maintaining their own safety manual, completing required safety training, and providing documentation upon request.

Veolia's Contractor Safety Program is available for inspection in the Plan Room at MMSD.

U. PAYMENT (12/96)

The work specified in this Section shall be considered incidental and no separate payment will be made. Payment for the work will be included as part of the appropriate lump sum amount or unit prices stated in the Bid.

**VEOLIA WATER SAFETY REQUIREMENTS (04/08)**

The MMSD's two water reclamation plants and its entire collection system are operated under contract by Veolia Water Milwaukee (VWM). Veolia has its own site safety requirements which are reprinted below. Note that these may be changed by VWM periodically.

*The Contractor shall plan, schedule and coordinate work in consideration of Veolia Water's Contractor Safety Program. Veolia Water's site environment, health, safety, and security requirements shall be adhered to by the Contractor and all of its subcontractors.*

*These requirements include the Contractor Site Online Safety Training course that shall be completed by all Contractor and subcontractor employees before commencing work. The Contractor and all of its subcontractors shall wear at minimum the general personal protective equipment and clothing requirements that includes: long pants, short sleeve shirts, safety glasses with side shields that meet ANSI Z87.1 and other applicable standards, hard hats that meet ANSI Z89 and other applicable standards, and safety shoes that meet ASTM F2412-05 and F2413-05. Additional personal protective equipment meeting ANSI and other applicable standards may be required due to scope of work and shall be provided by Contractor and/or subcontractors.*

*The Contractor and all its subcontractors are responsible for providing all necessary equipment to fully carry out their scope of work, and shall, prior to beginning work each day; obtain from Veolia Water a Daily Contractor Work Permit for each group of Contractor or subcontractor employees on the site. Contractor and all its subcontractors are additionally responsible, prior to beginning work each day, for obtaining from Veolia Water daily work permits for any confined space entry, hot work, trenching/excavation, live electrical work, and/or any other permit-required activity when required by the scope of work. In addition, the Contractor and all its subcontractors will provide their own industrial vehicles that may include but are not limited to: forklifts, scissor lifts, aerial boom, end loaders, and excavators. The Contractor and all its subcontractors will ensure that their employees have valid driver's licenses to operate regular class vehicles or valid Commercial Driver's Licenses (with proper endorsements) to operate commercial vehicles.*

*The Contractor and all its subcontractors are responsible for maintaining their own safety manual, completing required safety training, and providing documentation upon request.*

**MMSD Construction Safety Requirements**

The following general requirements apply to all MMSD projects. Please review these general requirements prior to MMSD Safety training. The more specific "CONSTRUCTION SPECIFIC REQUIREMENTS" follow this section.

1. MMSD CONTRACTORS must follow:
  - 1.1 Employees working on the JOB SITE must complete the MMSD/Veolia Online Safety Training before they begin working.
  - 1.2 The following “hierarchy of construction hazard control” must be implemented when controlling hazards on MMSD construction projects:
    - 1.2.1 Eliminate the hazard (Example: having workers tie rebar at ground level)
    - 1.2.2 Substitution (Substituting a non-toxic or less toxic chemical for toxic chemical)
    - 1.2.3 Engineering out the hazard (ventilation to remove contaminants from work area)
    - 1.2.4 Administrative controls (Training and Procedures. Warning signal, labeling system, reducing employees time workers are exposed to a hazard, training)
    - 1.2.5 PPE will be used when there is no other way to control a hazard.
2. For most JOBSITES, a 6 ft. high metal chain link fencing with posting of "No Trespassing or Danger—Keep Out" shall be installed around the site perimeter that establishes clear physical boundaries that limit access to the site. For Projects at JIWRP and SSWRF, this requirement may not apply. Consultation with the MMSD RE/RI will be required to determine JOBSITE specific requirements will exist at JIWRP and SSWRF.
3. The signage and fencing must prevent casual entry by the public. Site access openings to the construction operation must be secured after hours of operation.
4. Jones Island and South Shore Facilities have NFPA Class I and Class II classified areas. If contractor work is performed in these areas the contract will specify. These classified areas require special equipment and procedures that must be considered in the CONTRACTOR/ SUBCONTRACTOR MMSD Construction Safety Requirements.
5. Lock-out/Tag-out performed on Jones Island and South Shore Facility equipment will follow the facility (Veolia Water Milwaukee) procedures. The procedures are covered in the appendices of this manual. (Appendix 8—Veolia Lock-out Tag-out Procedure) Note that these procedures exceed OSHA construction requirements.
6. If the MMSD Safety Advisor or MMSD RE/RI notes an unsafe condition, it will be reported immediately to the contractor supervisors and to the MMSD RE/RI so the condition can be resolved immediately.
7. 6 foot fall rule applies to ALL construction operations (confined space, excavations, roofs, no exceptions such as those allowed by OSHA for iron workers.
8. All delivery personal must comply with MMSD safety PPE requirements when outside of their vehicle.
9. All work must be preplanned, organized and discussed with construction crew at the beginning of each day. If work is unorganized, housekeeping is poor, workers exposed to hazards, the RE/RI or the Safety Advisor may require a Job Safety Analysis (JSA).
10. MMSD RE/RI or Safety Advisor can require the CONTRACTOR to prepare a Job Safety Analysis for any work procedures. **The contractor should then submit the JSA to both the MMSD Safety Advisor and MMSD RE/RI.** The Safety Advisor and the MMSD RE/RI will attend the CONTRACTOR crew meeting when this JSA is discussed and the documentation signed off.
11. OSHA required employee training is required to be documented in the Project Safety Notebook.

12. Safe access must always be provided to all work areas. Snow, hoses, debris; nails or other hazards that may impact safe access must be removed before work begins. Mitigation measures can also be employed.
13. Step ladders cannot be used as an access to a higher elevation. A tied off straight ladder is required that extends 3 ft. above the step off point.
14. Garbage cans, waste containers must be available where the work is taking place.
15. Chocking of materials, tires, trailers ... will be done with the use of chocks and in conformance with DOT requirements as applicable. Stones, block, waste 2X4's are not to be used as chocks.
16. Motorized vehicles on MMSD JOBSITE must maintain the posted (usually 10 to 15 mph) speed limit within JIWRF and SSWRF.
17. Any modification or addition to a manufactured piece of equipment must be documented with either manufacturer's documentation or sign off by responsible engineer.
18. If work is taking place in a structure or building greater than 20 ft. in height, for more than 30 calendar days a stair tower or caged ladder must be supplied by the CONTRACTOR. Extension ladders will be permitted if access is required for less than 30 calendar days.
19. Gasoline equipment and/or diesel equipment if used below grade must be reviewed by the Safety Advisor or RE/RI. Alternatives will be discussed and if none can be incorporated the equipment will require scrubbers. Ventilation may be required with equipment use along with air monitoring.
20. 20. All materials that will be installed as part of the contract must be stored according to manufacturer's requirements and secured from theft. MMSD encourages CONTRACTOR/SUBCONTRACTOR to have crews of two or more or work alongside another CONTRACTOR/SUBCONTRACTOR employee. If an employee MUST work alone a Job Safety Analysis (JSA) that assesses and controls the risk must be completed by the employer. The JSA must be submitted to SafetyAdvisor and RE/RIMMSD before work begins and take the "hierarchy of construction hazard control" into account. The JSA must then be reviewed with the lone employee and signed off by same.
21. Potholes must be filled and leveled when forklifts, articulating forklifts, scissors lifts and articulating man lifts are used to transfer materials or access work areas.
22. When extreme heat alerts are issued, contractors must discuss safety precautions that must be taken.
23. Paint should be tested for lead (Pb) prior to grinding, cutting or blasting activities if it was applied before 1978.
24. Weapons of any kind are not permitted on any MMSD JOBSITES in compliance with MMSD Rules.

### ***Construction Specific Requirements***

As noted in the contract specification referenced at the beginning of this chapter the contract requires that CONTRACTOR/SUBCONTRACTORS comply with all OSHA, state and federal regulations. The following sections offer a summary of the various construction operations. For ease of reference the sections use the same lettering/naming system as OSHA's 1926 standard, A to DD. **Note that these summaries are offered for assistance in complying with the OSHA standard and do not substitute for the actual standard.**

Each of these sections is then divided into three project specific divisions as follows:

- **JOB SITE:** This section provides a reference for JOB SITE supervision. The section includes areas that may assist the JOB SITE foreman, project and site safety representative and employees goal to maintain a safe work site. This section is based on historical data from past MMSD inspections and is intended to help crews focus on areas that have been regularly noted during past MMSD inspections.
- **CONTRACTOR INFORMATION PROJECT SAFETY NOTEBOOK:** This section highlights the training and inspection documentation that OSHA requires. This information, if it applies to the project, must be maintained in the Project SAFETY Notebook, and is maintained by the CONTRACTOR. This notebook is reviewed by MMSD on a quarterly basis and during the monthly review meetings with project safety representative.
- **MMSD REQUIREMENTS:** This section includes safety considerations required by MMSD that may exceed OSHA regulations or may have a have a cost impact on the CONTRACTOR/SUBCONTRACTOR bid. MMSD (RE/RI and/or Safety Advisor) will enforce compliance and therefore the CONTRACTOR/SUBCONTRACTOR should consider these requirements as they may impact their bid on the project. These requirements may also be based on Veolia Water Requirements which are required under the MMSD/Veolia Contract.

## ***A—General***

### *A—JOB SITE:*

1. The CONTRACTOR/SUBCONTRACTOR will notify MMSD (RE/RI or Safety Advisor) of any OSHA inspection of an MMSD project (see Section 11).
2. MMSD will be notified of any safety or health violations determined by an OSHA inspection of an MMSD project (see Section 11).

*A—CONTRACTOR PROJECT SAFETY NOTEBOOK: None*

*A—MMSD REQUIREMENTS: None*

## ***B—General Interpretations***

*B—JOB SITE: None*

*B—CONTRACTOR PROJECT SAFETY NOTEBOOK:*

1. The CONTRACTOR must submit to the MMSD Resident Engineer the name and resume of their site safety representative. A copy of this information must be maintained in the Project Safety Notebook. All SUBCONTRACTORS must list the name of their site safety representative in the Project Safety Notebook. The CONTRACTOR is responsible for the contents of this Notebook.

*B—MMSD REQUIREMENTS:*

1. MMSD awards the contract to the CONTRACTOR. The CONTRACTOR is responsible for SUBCONTRACTOR safety compliance and the maintenance of information that is required in the Project Safety Notebook.

## ***C—General Safety and Health Provisions***

*C—JOB SITE:*

1. Walkways are maintained and clear of tripping—slipping hazards at all times.
2. Safe access must always be provided to all work areas, snow, hoses, debris; nails... must be addressed before work begins

3. Garbage cans, waste container must be available where the work is taking place.
4. Daily inspections of site, materials and equipment are required (documentation is once a week).
5. Daily crew discussion of work is required. The crew should discuss safety hazards, materials, equipment, plant and/or animal hazards ....
6. A proper ladder must be provided for safe access. Step-ladders cannot be used to step off to another level.

### **Confined Space:**

Due to the limited construction standard regulations on Confined Space Entry, MMSD requires CONTRACTOR/SUBCONTRACTOR to review the confined space standard in OSHA's 29.CFR 1910.146 and follow construction industry standards (and VWM/MMSD standards) and the following in conformance with the CONTRACTOR/SUBCONTRACTOR's own Confined Space Entry Program:

1. All confined space work requires a review sheet and documentation—this includes non-permit and permit confined space. See the example in *Appendix 6—Example—Confined Space Evaluation Permit*—CONTRACTORS may use their own permit. Note that OSHA required training is mandatory for confined space entry for all personnel performing and supervising confined space entry. Annual refresher training is also required.
2. Gasoline equipment and/or diesel equipment must not be used below grade. If this equipment is required, the equipment must be reviewed by the MMSD Safety Advisor or RE/RI. Alternatives will be discussed and if none can be incorporated the reviewed equipment will require installed scrubbers. Ventilation will be required along with air monitoring.
3. Fall protection must be established around the manhole immediately after removing manhole covers if manhole is greater than 6 ft. in depth.
4. When CONTRACTOR/SUBCONTRACTOR are entering a live sewer there is the potential of flow the CONTRACTOR/SUBCONTRACTOR must be prepared and have PPE (waders, and Tyvek suits ) readily available. Sanitizing equipment must be available for all entry employees.
5. A flow diversion plan may be required to be submitted by CONTRACTOR/SUBCONTRACTOR. The MMSD Resident Engineer will then coordinate the plan with facility operator.
6. All permit required confined space entries require full compliance with OSHA requirements which include, at a minimum, an attendant , communication, tripod, air monitoring, fall protection around point of entry, retrieval system, ventilation and an entry permit.
7. CONTRACTOR entering a confined space that has a history of hazards and/or requires horizontal entry from manhole will require a JSA and/or rescue plan. Employees entering a confined space are required to have confined space training documented.
8. All confined space entries require, at a minimum, employee training, tripod or other means of retrieval, ventilation (available at all times),, and entrant will have harness, fall protection around hole with toe boards at a minimum. Lighting and traffic control may be required in certain situations. A JSA may be requested by the MMSD Safety Advisor or RE/RI.
9. Rescue must be considered as the entry permit is drafted – contact with local rescue teams is required.

### *C—PROJECT SAFETY NOTEBOOK:*

1. CONTRACTOR weekly safety inspections are maintained in the Project Safety Notebook.
2. Each CONTRACTOR/SUBCONTRACTOR must submit a weekly toolbox talk to the CONTRACTOR to be inserted into the project Safety Notebook.
3. If a project toolbox meeting is held with all CONTRACTOR/SUBCONTRACTORS on site only one toolbox meeting is required.
4. On Jones Island and South Shore a monthly MMSD/Veolia toolbox meeting is held this will take the place of a CONTRACTOR/SUBCONTRACTOR weekly toolbox talk. Therefore, CONTRACTORS and SUBCONTRACTORS have the option of weekly toolbox talks or attendance at the monthly MMSD/Veolia tool box talk.

### *C—MMSD REQUIREMENTS:*

1. Job Safety Analysis may be requested by MMSD for any operation.
2. CONTRACTOR/SUBCONTRACTORS entering a confined space at Jones Island or South Shore Facilities must notify MMSD RE to coordinate entry with facility operator. The CONTRACTOR/SUBCONTRACTOR will then complete their confined space permit (as fully as possible) and attach the permit to Veolia's "Daily Contractor Work Permit" (Appendix 2)
3. OSHA required training is mandatory for confined space entry for all personnel performing and supervising confined space entry. Annual refresher training is also required.

## ***D—Occupational and Environmental Controls***

### *D—JOB SITE:*

1. Clean toilet facilities will be provided and maintained—summer may require more frequent cleanings
2. Hand washing facilities or sanitizer will be required if crew is working in or near sewage areas and washing facilities are not readily available
3. Drinking water must be supplied to employees by the employer
4. Adequate supply of drinking water must be provided, any dispensing container clearly marked, single service cups required a disposal receptacle.
5. First Aid kits are required in each JOB SITE trailer. If a trailer is not present then one will be available in the CONTRACTOR/SUBCONTRACTOR foreman's truck or job box. The first aid kit must be inspected at a minimum quarterly.
6. Site Specific Emergency Procedures are to be posted and available for general reference and use.
7. When a "Hearing Protection Required" sign is posted in a room or area—hearing protection must be worn.
8. When a hazardous chemical is introduced into the worksite the "hierarchy of construction hazard control" must be implemented. When a chemical is used in an area where it may impact other CONTRACTOR/SUBCONTRACTOR or site employees the "creating" CONTRACTOR/SUBCONTRACTOR must post a MSDS. HAZCOM training must also be up to date.
9. When using a chemical that may impact other CONTRACTOR/SUBCONTRACTOR employees, the MSDS must be discussed with the potentially exposed employees
10. When mixing grout, or working with concrete an eye flushing station must be provided.

11. Site clearing employees shall be protected from hazards of irritant and toxic plants and instructed in the first aid treatment available if exposed.
12. If lead and/or asbestos is suspected or identified on an MMSD project site notify the RE immediately. Note that MMSD insurance does not cover any claims or costs for lead and/or asbestos.

*D—CONTRACTOR PROJECT SAFETY NOTEBOOK:*

1. Each CONTRACTOR/SUBCONTRACTOR on the project will name the location of their Safety Data Sheets on the sheet provided in the Notebook.
2. A number of chemicals named in the standard may require training documentation. This training information is required in the Notebook.
3. If the CONTRACTOR'S/SUBCONTRACTOR'S employees wear respiratory equipment a copy of the CONTRACTOR'S/SUBCONTRACTOR'S respirator program and training is to be submitted and maintained in the site notebook. MMSD may request a JSA.

*D—MMSD REQUIREMENTS:*

1. Hand washing facilities or sanitizer will be required if crew is working in or near sewage areas and washing facilities are not readily available.
2. MMSD may request a sound dosimeter to be used to determine if hearing protection is required due to the CONTRACTOR/SUBCONTRACTOR operations.

## ***E—Personal Protective and Lifesaving Equipment***

*E—JOB SITE:*

1. All employees working on an MMSD project must wear hard hats, safety glasses, steel toed boots/shoes, Class II traffic vest, long pants and shirt with sleeve to mid bicep.
2. PPE must be maintained and employees trained in proper use and inspection if required
3. Truck drivers, concrete drivers and other individuals delivering materials will wear the required equipment if they leave the cab of their truck.
4. Employees working over or near water are required to wear a buoyant work vest and ring buoys available for emergency rescue operations. A skiff may be required.
5. When a "Hearing Protection Required" sign is posted then hearing protection must be worn.
6. Employees welding are required to use a welding helmet that attaches to their hard hats.
7. If cutting or welding the Class II traffic vest must be the non-flammable type.
8. A face-shield, hearing protection and safety glasses are required when cutting with a gas-powered saw, chain saw or grinding operation.
9. Any non-manufactured life line used for fall protection must be engineered and supplied with engineered data before installation or use in the field.
10. Chaps are to be worn when using a chain saw for extended periods of time.

*E—CONTRACTOR PROJECT SAFETY NOTEBOOK:*

1. If the CONTRACTOR/SUBCONTRACTOR'S employees wear respiratory equipment a copy of the CONTRACTOR/SUBCONTRACTOR'S respirator program and training is to be submitted and maintained in the site notebook. MMSD may request a JSA.

*E—MMSD REQUIREMENTS:*

1. Employees cutting or welding must wear a non-flammable Type II Traffic Vest or remove their vest when performing these activities.
2. Gloves are used when working with sheet metal (saws, grinders, torches, etc.) as the job requires.
3. MMSD may request a noise dosimeter test for areas where the noise levels seem to exceed OSHA limits.
4. Employees welding are required to use a welding helmet that attaches to their hardhat.

***F—Fire Protection and Prevention***

*F—JOB SITE:*

1. Fire extinguishers are to be provided in JOB SITE trailers, job boxes, motorized vehicles and equipment and where flammable and combustibles are stored.
2. Fire extinguishers must be charged to the “Green” section, annual inspection tag completed, retainer and pin in the trigger and easy access provided
3. Employees are trained in the use of fire extinguishers.
4. Access for emergency equipment to the site is to be provided in the initial stage of site preparation and maintained at all times.
5. Emergency telephone numbers are posted at each job site telephone.
6. Smoking is prohibited on MMSD property such as the inside of buildings, excavations of any type or in MMSD vehicles.
7. An exception to the above at Jones Island and South Shore, you may smoke only in designated smoking areas.
8. Flammable and combustible materials, such as paint rags, are stored properly in a closed labeled metal container after use.
9. All bulk gas storage (LP or diesel) being brought on to Jones Island or South Shore facility must notify facility operator and coordinate location and containment requirements. Tank must be marked “Flammable” and the area posted “No Smoking.”
10. Flammable and combustible materials, in quantities of 25 gallons or more, require a proper storage cabinet, be grounded, labeled “Flammable—Keep Fire Away” and the location coordinated with facility operator.
11. An ABC fire extinguisher must be provided where flammable and combustible materials are stored. Distances must comply with OSHA requirements for type of fuel.
12. Fuel tanks must be properly protected from vehicular traffic, traffic cones and barrels do not provide adequate protection.
13. Fuel tanks must comply with applicable Local/State/Federal regulations. Typically these include double-walled or containment requirements.
14. Flammable liquid-dispensing operations are properly grounded. The dispensing spout is bonded to the receiving container.
15. Fuel spills are cleaned up immediately by absorbing compounds or other approved methods.
16. Contractors having the potential of a spill must have absorbing compounds at the JOB SITE.

17. Any chemical spill at the Jones Island and/or South Shore requires CONTRACTOR to notify MMSD RE.
18. 5 gallon cans housing flammable and/or combustible liquids must be metal safety cans and properly labeled—plastic cans are not allowed.
19. Portable heaters must be equipped with an approved and tested automatic shut-off device.
20. Heaters used in the vicinity of combustible tarpaulins, canvas, or similar coverings shall be located at least 12 feet from the coverings. The coverings shall be securely fastened to prevent ignition or upsetting of the heater due to wind action on the covering or other material. A JSA will typically be required for this type of operation.
21. Where possible, "less hazardous" hydraulic fluids should be used as noted in the OSHA Standard.

**Hot Roofing Operations:**

1. Asphalt pots and kettles are constantly attended at all operational times, and temperature controls must be fully operational. Asphalt kettles are located outside the building or on a noncombustible roof. The definition of kettles includes bulk tankers equipped with heating units.
2. Ample multi-purpose dry chemical fire extinguishers are located at the roof level throughout the roofing process. In addition, there is at least one portable fire extinguisher having a rating of not less than an ABC located within 30 feet horizontal travel distance of every roofing kettle at all times the kettle is in operation.
3. Combustibles (asphalt, wrapping, etc.) are continuously kept to a minimum, and separated from the asphalt pot as far as possible. Used mops and rags are cleaned of excessive asphalt and stored away from any building or combustibles.
4. Means for asphalt pressure release spill control are provided at each hot roof operation.
5. Torch-applied roofing systems are applied according to the manufacturer's instructions.
6. All roof openings are covered or guarded prior to the start of a job.
7. A CONTRACTOR/SUBCONTRACTOR hot work permit (Appendix 10—Hot Work Permit) is filled out and attached to Veolia Daily Work Permit at Jones Island and South Shore facilities. Other facilities may require a CONTRACTOR/SUBCONTRACTOR hot work permit after an evaluation of exposure/hazards.
8. Large temporary heating devices are installed by a competent person and reviewed by MMSD and/or facility operator. A JSA will typically be required for this type of work.
9. Fire extinguishers are to be provided in JOB SITE trailers, job boxes, motorized vehicles and equipment and where flammable and combustibles are stored.
10. A trained fire-watch is required on-site for at least one hour after all torches have been extinguished. If slag or sparks can fall to a lower level there must be a fire watch at each level unless slag/sparks can be contained by fire blankets.

***F—CONTRACTOR PROJECT SAFETY NOTEBOOK:***

1. MMSD may require documentation of proper installation of any temporary heating device.
2. Documentation of fire extinguisher training must be completed in either a toolbox talk or a company safety seminar.

*F—MMSD REQUIREMENTS:*

1. Fuel tanks must be properly protected from vehicular traffic, traffic cones and barrels do not provide adequate protection. This is especially important on projects in traffic areas. Site specific considerations must be taken into account when providing this protection.

***G—Signs, Signals, and Barricades***

*G—JOB SITE:*

1. Follow all elements of the contract traffic control plan. Note that the traffic control plan must be submitted to and approved by the MMSD RE before it is implemented.
2. Barricades/tape must have a posted sign explaining the exposure by the CONTRACTOR creating the hazard. The sign must highlight the hazard; name the CONTRACTOR creating the hazard, the date the sign was installed. When hazard is eliminated the signage, tape/barricades must be removed.
3. When working at Jones Island or South Shore facility, the facility operator must be notified of red “danger” taped areas. Facility safety will alert facility personnel not to enter cordoned off area.
4. Installed tape and signage must be removed at end use.
5. CONTRACTOR/SUBCONTRACTORS adhere to all facility signage.
6. CONTRACTOR/SUBCONTRACTORS and delivery trucks adhere to the posted Jones Island/ South Shore speed limit signs—usually 10/15 mph.
7. Traffic control signage/barricades conform to the contract and Manual of Uniform Traffic Control Devices.
8. Traffic/pedestrian control must be established BEFORE work begins in conformance with plans/specs.
9. All temporary traffic control signage and barrels must be secured with four sand bags per sign to prevent movement due to weather or winds.
10. Traffic control must be inspected and documented at the end and beginning of a workday to ensure compliance with the submitted traffic control plan.
11. Stop/Slow paddles are used to control traffic during the day in periods of darkness red lights. Flags can only be used in case of emergency.
12. Employees wear the proper Class II or III traffic control vests and/or pants for day or night if working in traffic.

*G—PROJECT SAFETY NOTEBOOK:*

1. Flagman training documentation is inserted into notebook. Signaling directions must conform to the Manual of Uniform Traffic Control Devices. OSHA has a Quick Take that addresses training.

*G—MMSD REQUIREMENTS:*

1. A copy of the contract traffic control plan must be onsite for review and compliance.

***H—Material Handling, Storage***

*H—JOB SITE:*

1. Loads that are lifted manually are reviewed for proper lifting techniques. Heavier loads may require another person or use of lifting equipment.

2. Materials, equipment, waste must be lowered with a hand line or other lowering mechanism. Materials, equipment, waste will not be thrown up to or down to another working level.
3. Aisles and passageways shall be kept clear to provide for the free and safe movement of material handling equipment or employees.
4. All materials are properly stored and blocked to prevent falling or collapse.
5. CONTRACTOR/SUBCONTRACTORS on Jones Island and South Shore facilities contact MMSD RE to coordinate a lay-down area for their materials and equipment with the facility operator.
6. Trailers, equipment on wheels are properly chocked with a proper tire wedge—rocks and/or old lumber do not meet this requirement.
7. All storage areas are kept clean and organized with proper walkways provided to access materials.
8. Banding, packaging and other waste materials are removed to a waste container immediately.
9. Rigging equipment is inspected prior to use.
10. All slings must have an identification that states size, grade, rated capacity and manufacturer.
11. All hooks that are provided with a latch attachment have the safety-latch attached at all times. If the hook is used for an operation where the latch cannot be used the CONTRACTOR discusses the operation with MMSD and develops a method to identify and isolate these slings from other uses.
12. All nails and/or screws must be removed from forms, scraps, lumber and walking/vehicular traffic surfaces
13. Waste materials are removed immediately as work progresses.
14. All solvent and oily rags are kept in a labeled fire resistant container.
15. All paint is stored in a CONTRACTOR/SUBCONTRACTOR provided storage area. This will be coordinated with facility operator at Jones Island and South Shore.
16. Shop made or custom design grabs, hooks, clamps, or other lifting accessories must be engineered and/or have documented testing (per OSHA) with applicable data available at JOB SITE for MMSD review.
17. All slings must be inspected before use and a manufacturer's tag attached. Slings without tags must be reinspected and re-tagged before use.

*H—MMSD PROJECT SAFETY NOTEBOOK:*

1. Riggers/signal men are trained and documentation of training maintained in Notebook.
2. Shop made or custom design grabs, hooks, clamps, or other lifting accessories must be engineered and the engineered data included in the Project Safety Notebook.

*H—MMSD REQUIREMENTS:*

1. Heavy (greater than 50 lbs.) materials and tools to be transported to a different level must incorporate a hand line with a “well wheel” or some other mechanical device. The lowering or lifting container must be designed for material weight capacity
2. Loads that are lifted manually should be reviewed for proper lifting techniques. Heavier loads may require another person or use of lifting equipment

3. On Jones Island and South Shore all paint must be stored in a CONTRACTOR/SUBCONTRACTOR provided storage area. This is a VWM requirement and must be coordinated with VWM at Jones Island and South Shore facilities.

## ***I—Tools—Hand and Power***

### *I—JOB SITE:*

1. Always use the proper hand tool for the job.
2. All air hoses are fitted with whip-checks at each connection—nine-wire does not provide whip check protection on a Chicago fitting.
3. Always inspect hand tools for defects (e.g., splintered, loose, bent, or cracked tool handles, mushroomed tool heads, sprung tool joints, worn tool teeth) prior to use. If it's worn, cracked or mushrooming, discard it.
4. Cutting tools should be kept sharp for greater safety and efficiency.
5. Factory installed guards may not be removed.
6. When cutting with a gas-powered saw, grinding, or using a chain saw the employee will wear safety glasses, hearing protection and face shield.
7. Chop saws used for cutting concrete must eliminate the silica dust hazard using water.
8. Hand tool handles are in good repair. Duct tape repair is not adequate and is not allowed.
9. Rebar, concrete stakes or other objects that expose persons to an impalement hazard must be protected to prevent this exposure
10. The use of electrical cords or hoses for hoisting is prohibited.
11. Cords that hang over sharp objects or service lower levels must be protected from damage by use of a strain relief and supported by a non-electrically conductive material.
12. All electrical cords that pass through doors or similar equipment must be protected from pinching of the cords outer jacket.
13. Extension cords will be attached to a GFI and be inspected quarterly and taped.
14. Extension cord cannot create a tripping hazard. Ramps or some other protective devise must be provided when hoses/electrical cords cross a road or pedestrian walkway. Bump signs in public traffic zones are required.
15. Sandblasting nozzles are equipped with a remote control deadman switch that allows the operator to control the sandblast at the nozzle.
16. The sandblasting dead man switch is tested before each use.
17. The sandblast pot is shut off while being filled with abrasives.
18. The sandblast pot is grounded at all times.
19. All air line filter containers must be tagged with the date of the filter replacement.
20. Compressed air supplying blasting hoods must be monitored for carbon monoxide.
21. Only persons certified in the use of powder-actuated tools can operate same.
22. Whip checks are used to secure pneumatic tools or hoses. Using 9 wire to secure Chicago fittings is not adequate.
23. Chop saws used for cutting concrete must eliminate the silica dust hazard using water.

*I—PROJECT SAFETY NOTEBOOK:*

1. Documentation of required training for any person using powder actuated tool.

*I—MMSD MMSD REQUIREMENTS:*

1. Only an electro statically conductive blast hose can be used during sandblasting operations.

***J—Welding and Cutting***

All workers must be properly trained before using welding and cutting equipment.

*J—JOB SITE:*

1. Cylinders transported in a vehicle are in a vertical position and have valve protection caps in place.
2. Flashback arrestors need to be installed at the regulator and the torch side of Oxy-Acetylene system.
3. Oxygen cylinders in storage are separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high and having a fire-resistance rating of at least one-half hour.
4. Cylinders are kept far enough away from a welding or cutting operation so that sparks, hot slag, or flame will not reach them.
5. Cylinders containing oxygen or acetylene or other fuel gas are not taken into confined spaces.
6. Torches are lighted by friction lighters.
7. Only electrode welding cable free from repair or splices 10 feet from the cable end to the electrode holder can be used.
8. Individuals that are welding or cutting must be provided with Class II Flame Resistant Hi Vis Safety Vests or perform the work with their safety vests removed.
9. Hard hats are required at all times. Welders must have welding hoods that attached to hard hats.
10. A designated fire watch is required if sparks or slag cannot be contained by fire blankets or some other means. If sparks or slag fall to another elevation a designated fire watch will be required at each elevation exposed.
11. CONTRACTOR/SUBCONTRACTOR at Jones Island and South Shore facility must complete their company's Hot Work Permit and attach it to the "Daily Contractor Work Permit." (Appendix 10—Example Hot Work Permit)
12. Before welding, cutting or grinding the work area is reviewed. At Jones Island and South Shore the work area must be reviewed with the facility operator. These operations are not to proceed if there is an application of flammable paints, flammable compounds, or in the presence of heavy dust concentrations.
13. Fire extinguishing equipment is available in the work areas where cutting, welding, and grinding is taking place—a fire watch may be required.
14. Employees performing any type of welding, cutting, or heating are protected by suitable eye protective equipment.
15. Grinding operations require safety glasses, hearing protection and face shield.

16. General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits.
17. Oxygen shall not be used for ventilation, blowing dust from clothing or for cleaning work area.
18. Welding/cutting or using base or fillers containing Zinc, Cadmium, Lead, Chromium, Beryllium, chlorinated solvents, or a toxic preservative may require a Job Safety Analysis and/or industrial hygiene information that shows that employee exposure levels while performing this activity.
19. At the end of the work-shift the cylinder valves are closed, lines bled and gauges removed and cylinder caps installed.
20. All hoses/torches must be bled down when another person begins to use cutting equipment. Each individual sets up their cutting torches.
21. Hot Work Permits and fire watches will be required when welding, grinding or cutting inside of Jones Island or South Shore facility buildings. VWM requires this documentation at the JIWRP and SSWRF locations. MMSD may require this documentation and fire watch on other construction sites.
22. Cylinder carts that are hoisted with a crane are manufactured or engineered for that purpose. MMSD will request documentation if cart is questionable.
23. Cylinders cannot be hoisted or transported by choker slings.

***J—PROJECT SAFETY NOTEBOOK:***

1. JSA may be required for welding, cutting or grinding operation in combustible dust areas, when fillers containing Zinc, Cadmium, Lead, Chromium, Beryllium, chlorinated solvents and/or a toxic preservative are used or where there is a potential of damage by fire.
2. Industrial hygiene documentation in conformance with CONTRACTOR/SUBCONTRACTOR Safety Plans will be required when welding/cutting base or fillers containing Zinc, Cadmium, Lead, Chromium, Beryllium, chlorinated solvents, or a toxic preservative quantifying any employee exposures.

***J—MMSD REQUIREMENTS:***

1. Employees welding are required use a welding helmet that attaches to their hard hats.
2. Flashback arrestors need to be installed at the regulator and the torch side of Oxy-Acetylene system.
3. Employees cutting or welding must wear a non-flammable Type II traffic vest or remove their vest when performing these activities.

***K—Electrical***

***K—JOB SITE:***

1. A Job Safety Analysis may be required if work is to take place in a NFPA classified Hazardous Area. A meeting with Veolia and MMSD safety will be a minimum requirement prior to starting work in these areas.
2. Electrical panels are properly covered and labeled.
3. Before work begins the employer must ascertain by instruments if the system is deenergized. Proper safety equipment is required during this review. Should work be required on a live system, a Job Safety Analysis needs to be completed.

4. Electrical panels that are accessible to the public are properly identified and locked.
5. Extension cords are fastened with a non-conductive fastener. The following cannot be used; metal staples, tie wire, hanging from nails...
6. Damaged electric cords or cables will be removed from service.
7. Electrical equipment cannot be energized during repair. Proper lockout/tagout procedures are used.
8. Only trained electricians may work on electrical equipment and connections.
9. Equipment and materials cannot be stored in front of electrical panels or switchgear. A 3-ft. clearance is maintained.
10. Extension cord sets used with portable electric tools and appliances shall be of three-wire type and shall be designed for hard or extra-hard usage.
11. Wet locations use only GFCI for electrical connectors.
12. The use of electrical cords or hoses for hoisting is prohibited.
13. Cords that hang over sharp objects or service lower levels must be protected from damage by use of a strain relief and supported by a non-electrically conductive material.
14. All electrical cords that pass-through doors or similar equipment must be protected from pinching of the cords outer jacket.
15. Extension cords cannot create a tripping hazard.
16. Extension cords are to be attached to a GFCI and be inspected quarterly.
17. Ramps or some other protective devise must be provided when hoses/electrical cords cross a road or pedestrian walkway. Bump signs in public traffic zones are required
18. Some Jones Island, South Shore JOBSITE areas, and pump stations are classified NFPA hazardous locations. MMSD contract documents should be reviewed for Class I or Class II locations. These classifications may require special equipment/procedures and compliance.
19. The assured equipment grounding conductor program shall be documented in the Project Safety Manual.

*K—PROJECT SAFETY NOTEBOOK:*

1. A Job Safety Analysis will be required when working on any live electrical equipment. The JSA will be reviewed by CONTRACTOR safety, MMSD and discussed and documented with crew. The “hierarchy of construction hazard control” must be reviewed before live electrical work is approved.

*K—MMSD REQUIREMENTS:*

1. Electrical drop cords and power tools are inspected every three months with color bands located at each end designating the inspection period.
2. GFCI use is required.
3. Electrical equipment used in damp or wet conditions will have water tight connections.
4. All portable generating equipment is equipped with GFCIs.

## **L—Scaffolds**

### **L—JOB SITE:**

1. Each working level of a scaffold are fully planked or decked. The end of the scaffold working level must have a shut off to prevent walking off of plank.
2. All scaffold components are inspected before erecting. Planks will meet OSHA requirements.
3. Scaffold is erected plumb, level and square. Levels must be used during erection of scaffold.
4. All scaffolds must have base plates.
5. All erected scaffolds must be inspected by a competent person daily—inspection must be documented on a tag attached closely to the access ladder. Appendix 11—Example—Daily Scaffold Inspection Tag)
6. Mud sills are required when scaffold is established on ground. Mud sills must be level, sound, rigid and capable of supporting the loaded scaffold without settling or displacement. Mud sills may vary depending on the soils and the employer's competent person's determination. Any mud sill under the base plate cannot be smaller than a 2"X10"X18".
7. Electrical lines must be reviewed prior to erecting scaffold or using a lift of any sort. A 15 ft. clearance must be maintained.
8. Each end of a plank is cleated, restrained by hooks, secured or extend over the centerline of its support by at least 6 inches.
9. Scaffold components manufactured by different manufacturers should not be intermixed.
10. Scaffolds must have an engineered access or provide a secured ladder access that conforms to OSHA requirements.
11. Cross braces cannot be used as a guardrail system.
12. Employees will be prohibited from working on scaffolds covered with snow, ice, or other slippery material except during removal.
13. Each employee on a scaffold more than 6 feet above a lower level is protected from falling. If a guardrail system is not in place, a fall protection system must be established.
14. Manually transferring or lowering materials or equipment from a scaffold will require the use of a hand line.
15. Occupants of an aerial lift or scissors lift will wear a harness and tie off at all times, stand firmly on the floor of the lift, and not climb the rails or use a ladder to change working position. If employee cannot reach work area in this manner a Job Safety Analysis will be required to address fall protection.
16. The public and JOB SITE employees must be protected when there is elevated scaffold/scissor or articulating lift work.
17. Daily inspection tags are completed and placed on the scaffold system at the main point of entry by the competent person.
18. CONTRACTOR must ensure a level and stable ground surface for erecting scaffold systems.

19. The public and JOB SITE employees must be protected when there is elevated scaffold/scissor or articulating lift work.

***L—PROJECT SAFETY NOTEBOOK:***

1. Scaffold competent persons is listed and documented in the Project Safety notebook for erection, dismantling and daily inspections. Training should include topics listed in 1926 Subpart L Appendix D
2. All employees working on a scaffold will have documented training.
3. Documented employee training for any person using/operating an aerial or scissors lift.

***L—MMSD REQUIREMENTS:***

1. Mud sills are required when scaffold is established on ground. Mud sills must be level, sound, rigid and capable of supporting the loaded scaffold without settling or displacement. Mud sills may vary depending on the soils and the employer's competent person's determination. Any mud sill under the base plate cannot be smaller than a 2"X10"X18".
2. The 6 foot fall rule applies to scaffold erection and scaffold work.

***M—Fall Protection***

***M—JOB SITE:***

1. All holes (as defined by OSHA 2 inches or greater) must be covered or guard railed off immediately after the exposure was created.
2. All holes are covered with a material that is capable of holding twice the intended load, labeled "HOLE" and secured.
3. An open hole will never be left unattended unless it is properly covered or protected by guardrail system. Flagging of a hole is not considered adequate protection unless discussed with MMSD and reviewed with the exposed crew during roofing operations.
4. When guardrail systems are used at holes they shall be erected on all unprotected sides or edges of the hole.
5. Fall exposures that cannot be eliminated will require use of an active or a passive fall protection system (fall restraint or a guardrail are examples).
6. Wire rope or cable used for top rails are flagged every 6 ft. with high-visibility material
7. A personal fall arrest system can be used when other options based on the "hierarchy of construction hazard control" cannot be implemented.
8. Employees are trained to properly use and inspect fall protection equipment before each use.
9. The self-retracting lifeline connects directly to the body harness Dee-ring. A one foot lanyard extension may be used to facilitate hook-up to retractable.
10. Horizontal lifelines are engineered, reviewed prior to use and may require load testing.
11. CONTRACTORS stating that fall protection is not feasible or creates a greater hazard must submit to MMSD a Fall Protection Plan that complies with 1926 Subpart M Appendix E/Sample Fall Protection Plan—Non-mandatory guidelines for complying with 1926.502 (k). MMSD can accept or reject the plan based on feasibility. Acceptance will require crew training on the plan.

12. The 6 foot fall rule applies to all construction activities. For example roofing, scaffold operations, confined space, man-hole operations, steel erection, leading edge, and all other activities must comply with 6 foot fall rule.
13. CONTRACTOR designed fall protection systems must be engineered systems and documentation of an engineer data must be submitted to MMSD.

*M—PROJECT SAFETY NOTEBOOK:*

1. Training documentation on the use and inspection of fall protection equipment is filed in the Project Safety notebook.

*M—MMSD REQUIREMENTS:*

1. The 6 foot fall rule applies to all construction activities. For example, roofing, scaffold operations, confined space, man-hole operations, steel erection, leading edge, and all other activities must comply with 6-foot fall rule.
2. CONTRACTORS stating that fall protection is not feasible or creates a greater hazard must submit to MMSD Safety and Fall Protection Plan that complies with 1926 Subpart M Appendix E/Sample Fall Protection Plan—Non-mandatory guidelines for complying with 1926.502 (k). MMSD can accept or reject the plan based on feasibility. Acceptance will require crew training on the plan.

## ***N—Helicopters, Hoists, Elevators, and Conveyors***

*N—JOB SITE:*

1. Following assembly and erection of hoists an inspection and test of all functions and safety devices are made under the supervision of a competent person.
2. A competent person will review elevator per manufacturer requirements at the required intervals. Rated load capacities, operation speeds and special hazard warnings or instructions are posted on cars and platforms.
3. Moving parts such as gears, projecting screws, setscrews, chain, cables, chain sprockets, and reciprocating or rotating parts are guarded.
4. Conveyor emergency stop switches are identified and employees trained in their use.
5. Before any conveyor is started a warning signal is initiated.
6. The emergency stop switches are tested per manufacturer requirements after each set up.
7. Open conveyors without covers will provide signage indicating “Falling Materials.”
8. When moving radial stacking conveyors an alarm or signal horn is sounded during the moving process.
9. Conveyor Lock-out Tag-out procedure is written and discussed with maintenance crew. Any deviation from procedure must be documented.

*N -PROJECT SAFETY NOTEBOOK:*

1. Competent persons are listed in the Project Safety notebook and their area of competent person training.
2. Documentation of Lock-out Tag-out training on applicable pieces of equipment.

*N—MMSD REQUIREMENTS:*

1. A conveyor repair requires a written lock out tag out procedure and training on the Lock-out Tag-out procedure. This is a VWM requirement.

## **O—Motor Vehicles, Mechanized Equipment, and Marine Operations**

### **O—JOB SITE:**

1. Heavy machinery, equipment and parts which are suspended or hoisted above workers are substantially blocked or supported to prevent from falling. These support structures are engineered and manufactured for the intended load.
2. Employees must wear seat belts in all motorized equipment per manufacturer's specifications.
3. All equipment operators must be properly trained on the equipment they operate.
4. Motorized vehicles on MMSD worksites must maintain a 10/15 mph speed limit within the work site perimeter.
5. Any modification or addition to a manufactured piece of equipment must be reviewed and have documented manufacturer's permission.
6. Bulldozer and scraper blades, end-loader buckets, dump bodies and similar equipment, are either fully lowered or blocked when being repaired or when not in use. All controls are in a neutral position, with the motors stopped and brakes set.
7. Lock-out devices are used when equipment maintenance is being performed.
8. All off-road equipment will have functioning, brake lights, flashing amber lights, turn signals, back up lights, driving lights and audible back-up alarm.
9. All manufactured warning alarms and lights related to the safe operation of the equipment are in functioning condition.
10. Cab glass is replaced if broken or damaged.
11. Seat belts are installed, functioning, and used in all motor vehicles.
12. All equipment is inspected before each shift by the equipment operator to determine if the equipment is in safe operating condition.
13. All defects are corrected before the vehicle is placed in service.
14. NO "riders" are allowed on moving equipment unless they are seated and belted-in.
15. Riding in the back of a pick-up truck is prohibited.
16. All rubber-tired motor vehicle are equipped with fenders and a roll over protective system (ROPS).
17. Stop blocks shall be provided for the pile driving leads to prevent the hammer from being raised against the head block.
18. Employees not involved in the pile driving operation shall be kept clear when piling is being hoisted into the leads (distance is 1.5 X's the piles length).
19. Site clearing employees shall be protected from hazards of irritant and toxic plant and instructed in the first aid treatment available if exposed.
20. Equipment used in site clearing must have roll over protection and operators wear safety belts.
21. Employee using chain saws when clearing site must wear safety glasses, face shields and chaps.
22. Documented training for all employees operating forklifts on JOB SITE.

*O—PROJECT SAFETY NOTEBOOK:*

1. Documented training for all employees operating forklifts on JOB SITE.

*O—MMSD REQUIREMENTS:* None

***P—Excavations***

*P—JOB SITE:*

1. Each CONTRACTOR will contact Diggers Hotline to identify underground utilities prior to excavating.
2. Each CONTRACTOR must have their own Hot Line number if excavating below grade. "Piggy-backing" off of another CONTRACTOR's Hot Line number is NOT ALLOWED. This is a state law.
3. CONTRACTORS will hand dig or pot-hole for utilities identified by Digger's Hotline markings until utility is found or excavation is to installation depth.
4. While the excavation is open underground utilities are protected, supported or removed.
5. Overhead utilities and hazards are identified and safe working distances maintained at all times. Signage and/or spotter may be required.
6. A stairway, ladder, ramp or other safe means of egress is provided in excavations that are 4 feet or more in depth and positioned to provide no more than 25 feet of lateral travel for employees.
7. CONTRACTOR/SUBCONTRACTOR will maintain the stability of adjoining buildings, walls, or other structures impacted by their excavation.
8. Excavations 6 ft. or greater will comply with 6 ft. fall rule—fall protection must be provided.
9. A stable backfill must be provided at all access point to the excavation.
10. Tabulated data for support system is maintained at the JOB SITE.
11. Excavations greater than 20 ft. require an engineered system maintained at JOB SITE.
12. Employees will not be allowed in trench shields when they are being installed, removed, or moved vertically.
13. All rigging used on site is in good condition, inspected before use and not stored on the ground to create a trip hazards.
14. All trench box locking pins, guide pins and sockets are in good condition.
15. Trench box components are engineered and designed for the intended working conditions.
16. Trench boxes must be installed per manufacturer. Typically, this requires soils to be in contact with the sides of the trench box. If voids exist around the sides of the trench box access or signaling is not allowed in the unprotected, voided area.
17. Top man/signal man must be protected from falls greater than 6 ft.
18. Spoils piles are kept at a minimum of 2 ft. from edge of excavation—heavier side loads may require an increase in this distance.
19. JOB SITES are kept free of slip, trip and fall hazards.
20. Gasoline equipment and/or diesel equipment should not be used below grade. If this equipment is required, the equipment must be reviewed by MMSD. Alternatives will be discussed and if none can be incorporated the reviewed equipment will require installed scrubbers. Ventilation will be required along with air monitoring

21. Equipment producing CO exhaust may not be allowed to operate in an open excavation unless equipped with an exhaust scrubbing device and/or sufficient ventilation.
22. Open trenches that tie into existing live underground structures will require continuous air monitoring and comply with confined space entry protocol noted in “C—General Safety and Health Provisions—MMSD CONSTRUCTION SAFETY REQUIREMENTS” section.
23. If any utilities are damaged, the excavating CONTRACTOR will contact MMSD immediately.
24. Open excavations with hand rail systems will have toe boards to protect workers working in the excavation from falling surface materials.
25. Spoils piles are kept at a minimum of 2 ft. from edge of excavation—heavier side loads may require an increase in this distance.
26. Competent person must document soil classification and method used to determine classification. Classification should be noted in competent person’s daily report (diary).

*P—MMSD PROJECT SAFETY NOTEBOOK:*

1. Excavation competent persons are listed and training documented in the Project Safety notebook.

*P—MMSD REQUIREMENTS:*

1. Air monitoring in all below ground excavations will be continuous basis.
2. All voids around the outside of the excavation protection system will be eliminated by backfilling on a continuous basis.
3. Ventilation is readily available at all times.
4. If any utilities are damaged, the excavating CONTRACTOR will contact MMSD immediately and complete the form titled “Damage Information Reporting Tool (DIRT).” (Appendix 12—DIRT Form)
5. Air monitors must be used at all times when work is taking place below grade or below ground structure or manhole.
6. Excavations left open over night or longer are covered or a 6 ft. fence installed to protect the public.

***Q—Concrete and Masonry Construction***

*Q—JOB SITE*

1. Rebar, concrete stakes or other objects that expose persons to an impalement hazard must be protected or eliminated to prevent this exposure.
2. Employee working with concrete buckets being lowered should avoid exposure to overhead load and be attentive while load is being placed.
3. Concrete buckets, rigging and chute are closely inspected before use. Nine wire is not an engineered repair.
4. Tag lines are used to position concrete buckets.
5. Employees working with concrete or concrete based semi-liquid materials will wear protective head, eye and in some situations face and hand safety equipment.
6. Eyewash and neutralizer must be available at worksite when working with concrete products.

7. Limited access zones shall be established/maintained with red flagged tape and signage prior to the start of construction of masonry walls.
8. A proper working surface is provided to employees during a concrete pour—free from fall and impalement hazards.
9. CONTRACTOR must provide a designated and contained clean out area. Concrete clean ups cannot create a tripping hazard or create an uneven surface.
10. Maintenance on any concrete pumping equipment is locked out to prevent the inadvertent operation of the equipment.
11. Individuals that mix mortar or grout that are exposed to dust must comply with respirator program requirements.
12. Cutting of concrete, stone or masonry/silica based materials will be wet cut to mitigate dust.
13. When concrete buggies or any equipment that creates CO are used in an enclosed area the atmosphere must be monitored for oxygen, CO and LEL.
14. Piping and couplers on concrete pump trucks must be inspected before use. The unit must be placed on solid ground with pads for outriggers.
15. The 6 ft. fall rule applies to the installation of precast concrete.
16. All employees engaged in concrete operations will wear the necessary PPE to protect from chemical burns to the body, face or eyes. Eye wash solutions, skin barrier cream and skin neutralizer are available for immediate use.
17. Scaffolding used during masonry construction must comply with Subpart L-Scaffolds and this Manual section L on Scaffolds.
18. Piping and couplers on concrete pump trucks must be inspected before use. The unit must be placed on solid ground with adequate pads for outriggers.
19. Scaffold must be inspected daily and a scaffold inspection tag placed at access point before use.
20. CONTRACTOR must supply Industrial Hygiene monitoring information in conformance with CONTRACTORS/SUBCONTRACTORS Safety Plan (dust dosimeter or equivalent) that verifies the use of particle mask or respirator is adequate protection from silica dust.

*Q—PROJECT SAFETY NOTEBOOK:*

1. If individuals that mix mortar or grout wear a particle mask or respirator the CONTRACTOR must include a copy of their respirator program and documentation that the employee is trained and is medically reviewed.
2. CONTRACTOR must supply Industrial Hygiene monitoring information that verifies the use of particle mask or respirator is adequate protection from silica dust.
3. If scaffolding is used during masonry/concrete construction the employer must provide names of competent persons and documentation of employee scaffold training.

*Q—MMSD REQUIREMENTS:*

1. Cutting of concrete, stone or masonry/silica based materials will be wet cut to mitigate dust.
2. Piping and couplers on concrete pump trucks must be inspected before use. The unit must be placed on solid ground with adequate pads for outriggers.
3. CONTRACTOR must provide a designated and contained clean out area. Concrete clean ups can create a tripping hazard or create an uneven surface which is not acceptable.

## **R—Steel Erection**

### *R—JOB SITE:*

1. CONTRACTOR must document notifications required in 1926.752.
2. Fly zones are coordinated and pre-planned to prevent overhead exposures.
3. All rigging is tagged and inspected before use.
4. The crane operator shall have the authority to stop and refuse to handle loads until safety has been assured.
5. Cranes are visually inspected by a competent person before each shift.
6. Multiple lift rigging, “Christmas treeing” of loads will require a Job Safety Analysis.
7. Tag lines are used when a load needs to be controlled
8. The 6 ft. fall rule applies to all erection operations.
9. Lay down areas are coordinated with RE/CONTRACTOR/SUBCONTRACTOR facility operator on Jones Island and South Shore facility locations.
10. Face shield and safety glasses are worn when grinding.
11. Hot Work permit may be required when welding, torching or grinding.
12. Roof holes and floor openings shall be covered and the cover capable of supporting twice the weight imposed, secured and labeled “HOLE.”
13. All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement.
14. The controlling CONTRACTOR shall not permit other construction processes below steel erection.

### *R—PROJECT SAFETY NOTEBOOK:*

1. Rigger, signal man, operator, is qualified and documentation reviewed by MMSD and put in MMSD Contractor Information Project Notebook.
2. A copy of the annual crane inspection for all cranes used at JOB SITE
3. Steel erection competent person identification is submitted.
4. Training that complies with 1926.761 documentation must be inserted in MMSD binder.

### *R—MMSD REQUIREMENTS:*

1. MMSD may request a Steel Erection Plan to be submitted to MMSD for review before the operation begins.
2. MMSD may request a Job Safety Analysis on any specific operation.

## **S—Underground Construction Cassions, Cofferdams, and Compressed Air**

### *S -JOB SITE:*

1. Two means of safe access/egress to underground operations must be available at all times.
2. CONTRACTOR will control access to work areas to prevent unauthorized entries.
3. An In/Out board is maintained so above-ground personnel can determine an accurate count of the number of persons underground in the event of an emergency.

4. No employee rides haulage equipment unless it is equipped with seating for each passenger.
5. Electrical power lines are insulated or located away from water, telephone or airlines so that a damaged circuit will not energize the other systems. Distances must conform to the new crane standard.
6. A power-assisted means of voice communication shall be used to provide communication between the work face, the bottom of the shaft, and the surface. The system must have an independent power supply and tested at the beginning of each shift.
7. Self-rescuers must be immediately available to employees at all work stations. Crew must be trained on the use of the self-rescuers before working underground and have refresher training every three months.
8. Every employee will have a headlamp, flashlight or cap-lamp on their person when working underground.
9. The employer must provide a rescue team per OSHA requirement.
10. A written tunnel evacuation/ plan that has documented review on a quarterly basis.  
(Appendix 13—Example Tunnel Evacuation and Re-entry Procedures)
11. A competent person must monitor the underground air continually. Gas monitors will monitor for oxygen, lower explosive limit of methane, carbon monoxide, hydrogen sulfide. If diesel equipment is used the atmosphere will be monitored for nitrogen dioxides.
12. A record of all air quality tests is maintained above ground at the worksite and available for review. The record shall include the location, date, time, substance, and amount monitored.
13. At least one designated person is on duty above ground whenever any employee is working underground.
14. Any diesel equipment underground will have scrubbers.
15. Employees walking the tunnel will use proper light signals to notifying loci of presence.
16. Mechanical ventilation will supply fresh air to all underground work areas.
17. The direction of mechanical ventilation must be reversible.
18. Whenever the ventilation system has been shut down employees must be removed from underground operations affected by ventilation system.
19. A ventilation calculation must be completed for each tunnel bore.
20. Documented lockout tag-out procedures are required when crew enters the heading to change out cutter heads. Training on this procedure must be documented.
21. The diesel loci operator must check horn, lights (at both ends of equipment), and brakes before use.
22. Safety chains or other connections shall be used in addition to couplers. These units will be capable of maintaining connection between cars in the event of either coupler disconnect, failure or breakage.
23. Underground conveyors must comply with 1926 Subpart N and MMSD section N of this manual.
24. Parked equipment should be chocked or blocked to prevent movement.
25. Shafts and tunnels are inspected for ice buildup during winter period and scaled before work begins.

26. A warning light and horn signal at the shaft bottom shall flash and sound whenever a load is being moved into the shaft. The shaft is then cleared of all employees to receive load—employee exposure to overhead loads is not allowed.
27. A load being lowered into the shaft will be stopped at least 15 feet above the bottom of the shaft and held there until the signalman at the bottom of the shaft directs the load to the bottom of shaft.
28. Temporary heating of a shaft/tunnel will require MMSD review for compliance with OSHA standards.
29. Gas monitors worn by competent person will continuously monitor for oxygen, lower explosive limit of methane, carbon monoxide, hydrogen sulfide. If diesel equipment is used the atmosphere will be monitored for nitrogen dioxides.
30. Two means of access/egress to underground operations must be available at all times.
31. Rescue team (s) must don breathing apparatus monthly with annual review of initial training.
32. All crane lowered man cages or attached work platforms must conform to OSHA and Section CC of this manual.

*S—PROJECT SAFETY NOTEBOOK:*

1. Documentation of required training listed in 1926.800 (d)
2. A competent person for each shift is identified that is responsible for inspecting and evaluating workplace conditions, including air monitoring and the presence of air contaminants, ground stability, and the drilling, hauling and hoisting of equipment, to identify and correct any deficiencies.
3. A written tunnel evacuation/reentry plan that has documented review with crew on a quarterly basis. (Appendix 13—Example—Tunnel evacuation and Re-entry Procedures)
4. Document: rescue team training (rescue, use and limitations of breathing apparatus and firefighting), don breathing apparatus monthly, review qualifications annually
5. Documented lockout tag-out procedures are required when crew enters the heading to change out cutter heads.
6. Documented lockout tag-out procedures for any conveyor system used in tunnel.
7. Inspection certification records for all hoist equipment indicating the date of the most recent inspection and load-test, the signature of the person performing the inspection and test, and a serial number or other identifier for the hoist must be maintained on file until the project is complete.
8. A copy of annual crane inspection for all cranes on site is maintained in notebook.
9. Rigger, signal man, operator, are qualified and documentation reviewed by MMSD and put in MMSD Notebook.
10. Document all TBM Gas monitor monthly test and/or when the TBM is moved to another shaft.
11. Documentation of any prelift tests of man baskets
12. Documentation of quarterly meeting reviewing self-rescuers and the project Tunnel Evacuation/Re-entry Procedures.

*S—MMSD REQUIREMENTS:*

1. Potentially gassy and gassy tunnels must have a top side read out of TBM gas monitor. The readings will be reviewed before entry into the tunnel.

2. The Resident Engineer and the MMSD Safety Advisor must be notified if the any CONTRACTOR's gas monitor reads any of the following: oxygen level below 19.5%, 10% of the LEL, 5 ppm of hydrogen sulfide, 5 ppm nitrogen dioxides or 20 ppm CO.
3. A written tunnel evacuation/reentry plan that has documented review on a quarterly basis. (Appendix 13—Example Tunnel Evacuation and Re-entry Procedures).
4. Gas monitor on the TBM is tested monthly and/or when the TBM is moved to another shaft or run. All tests of TBM monitor must be documented with MMSD safety representative present. TBM gas monitor is maintained by a competent person.
5. Documented training on written lockout tag-out procedures are required when crew enters the heading to change out cutter heads.
6. A ventilation calculation is completed for each tunnel bore. Ventilation calculations must account for the number of workers (200 cfm per person) and diesel equipment (100 cfm per brake horse power). The minimum linear flow of air in a tunnel is 30 feet per minute unless contract specifies a greater flow. Ventilation must be tested daily as boring progresses.

## ***T—DEMOLITION***

### *T—JOB SITE:*

1. Prior to beginning demolition operations, a written engineering survey will be conducted by a qualified person and reviewed by the Resident Engineer and MMSD Safety Advisor before work starts.
2. The CONTRACTOR will coordinate all MMSD facility demolition required by contract with the facility operator and MMSD Resident Engineer.
3. Demolition within MMSD active facilities may require a cleaning, flushing or lockout/tagout procedure to be implemented before work begins.
4. If lead and/or asbestos materials are identified the CONTRACTOR shall stop work and notify the Resident Engineer and Resident Inspector.
5. All floor and wall openings, which pose a fall exposure, are protected by guardrails and/or covers.
6. CONTRACTORs performing hot work at Jones Island or South Shore facilities will fill out hot work permits and follow all listed requirements.
7. Housekeeping must be addressed immediately—demolition materials cannot obstruct walkways or work areas.
8. 6 foot fall rule applies to all demolition work.

### *T—PROJECT SAFETY NOTEBOOK*

1. Site Safety Plan. The CONTRACTOR, after reviewing the engineer survey, will list the sequence of the demolition and submit a safety plan that addresses the hazards of each sequence and how the CONTRACTOR proposes to alleviate these hazards. This document is reviewed by MMSD.

### *T—MMSD REQUIREMENTS:*

1. Site Safety Plan. The CONTRACTOR, after reviewing the engineer survey, will list the sequence of the demolition and submit a safety plan that addresses the hazards of each sequence and how the CONTRACTOR proposes to alleviate these hazards. This document is reviewed by MMSD.

## ***U—Blasting***

### *U—JOB SITE:*

1. Before blasting begins the CONTRACTOR will submit a blasting plan, blaster license, seismograph calibration, seismograph setup location(s), and blasting pattern to Resident Engineer.
2. CONTRACTOR will distribute a written notification of blasting operations and blasting signals to local residents. A copy of this written notification is sent to the RE and MMSD for review.
3. Blasting signals (Table U-1 1926.909) are posted on one or more places at the JOB SITE.
4. Blasting signals will be reviewed in a toolbox talk with all employees on site.
5. All explosives are accounted for at all times and locked in proper storage containers (day boxes) when on site.
6. No smoking, open flames, heat or sparks while handling, moving or transporting explosives.
7. Sufficient time is allotted, not less than 15 minutes in tunnels, for the smoke and fumes to leave the blasted area before returning to the shot.
8. Blasted area must be monitored after the blast for—Oxygen, CO, LEL, H2S, and NO2.
9. Blasting operations will be suspended during the approach and progress of an electrical storm—the blaster will make the decision.
10. The blaster in charge will determine if all charges have been exploded before employees are allowed to return to the operation.
11. If a misfire is found, the blaster in charge will remove the misfire.

### *U—PROJECT SAFETY NOTEBOOK*

1. Blaster will have Blasting card and documentation put in Project Safety notebook.
2. CONTRACTOR maintains all paperwork associated with the Department of Transportation regulations.

### *U—MMSD REQUIREMENTS:*

1. Extra JOB SITE signage for public notice may be requested by MMSD
2. Blast mats are used to control flying rock.

## ***V—Power Transmission and Distribution***

*V—JOB SITE:* None

*V—PROJECT SAFETY NOTEBOOK:* None

*V—MMSD REQUIREMENTS:* None

## ***W—Rollover Protective Structures, Overhead Protection***

### *W—JOB SITE:*

1. CONTRACTORs maintain manufacturers installed ROPS.
2. Employees riding in equipment with ROPS will wear seat belts.

### *W—PROJECT SAFETY NOTEBOOK*

1. OSHA required operator training documentation is maintained in this notebook.

*W—MMSD REQUIREMENTS:*

1. All rubber tired, self-propelled scrapers, rubber tired front end-loaders, rubber tired dozers, wheel type industrial tractors, crawler tractors, crawler type loaders, and motor graders will have rollover protection Grandfathered equipment will not be used on MMSD projects.

***X—LADDERS***

*X—JOB SITE:*

1. Employees inspect ladders before use—damaged ladders must be tagged and immediately removed from site.
2. All ladders will be set up with a 4-1 pitch and have clear access at the bottom and top of the ladder.
3. Ladders are equipped with proper feet.
4. Employees always face the ladder when ascending and descending
5. Step ladders are to be used in only the open position.
6. Job-made ladders will conform to current OSHA regulations.
7. Employees will maintain 3 point contact at all times.
8. Never set up a ladder in front of a door unless the door is locked or blocked off to prevent access and a sign must be posted “Do not enter—ladder work”
9. Materials are not carried while climbing a ladder. .Materials and equipment are raised by hoisting equipment with a hand-line or other mechanical means
10. Stored ladders must be properly secured to prevent displacement and/or cause a tripping hazard.
11. Extension ladders are not work platforms. If an employee works from an extension ladder and cannot maintain 3 point contact another means of access needs to be considered.
12. No aluminum ladders are permitted on site.
13. Extension ladders must be tied off and/or monitored by a spotter when in use.
14. Ladders set-up on soft ground will require a mud sill. The mud sill must used, at a minimum, a 2”X10” (length may vary). Ladder will be secured on the top and the bottom.
15. Step ladders are not manufactured for access due to tipping moments and stability when stepping off of ladder.
16. Extension ladders are not work platforms. If an employee works from an extension ladder and cannot maintain 3 point contact or has to lean out over the side rails the employee must wear fall protection connected to an overhead anchorage.

*X—PROJECT SAFETY NOTEBOOK;*

1. Ladders must be inspected before each use. If MMSD notes use of damaged ladder MMSD may require retraining of the individual using said ladder.
2. Training documentation of ladder use.

*X—MMSD REQUIREMENTS:*

1. If work is taking place in a structure or building greater than 20 ft. in height, for more than 30 calendar days a stair tower or caged ladder must be supplied by the prime CONTRACTOR. Extension ladders will be permitted if access is required for less than 30 calendar days.
2. CONTRACTOR/SUBCONTRACTORS ladders must be properly identified with CONTRACTOR/SUBCONTRACTOR name and properly stored.

## ***Y—Commercial Diving Operations***

### *Y—JOB SITE:*

1. The CONTRACTOR will list the divers/diver tender qualifications including first aid training and submit to the Resident Engineer.
2. A Job Safety Analysis for the contracted diving operation (pre-dive, dive, post-dive) and the CONTRACTOR's safe practice manual are submitted to the RE to be reviewed by MMSD.
3. An "Emergency Aid" list is kept at the dive location. Use of an emergency decompression chamber (if not at the dive location) must be coordinated with provider.
4. An appropriate (physician approved) first aid kit, Red Cross Handbook, manual resuscitator is available at the dive site.
5. An employee briefing takes place before each dive. The submitted JSA is discussed at a minimum and a sign off sheet attached.

### *Y—PROJECT SAFETY NOTEBOOK*

1. Divers and tenders qualifications are submitted to RE and copies kept in Site Notebook.
2. Submitted Job Safety Analysis and crew review documentation is posted in notebook.

### *Y—MMSD REQUIREMENTS:*

1. Equipment maintenance logs are onsite for review.

## ***Z—TOXIC AND HAZARDOUS SUBSTANCES***

### *Z—JOB SITE:*

1. CONTRACTOR/SUBCONTRACTORS exposed to chemicals listed in Subpart Z will conform to the applicable OSHA Standards for that chemical. These include (not all inclusive) exposure assessments and monitoring, hygiene practices, respiratory protection, signage, medical surveillance, recordkeeping, competent person....
2. A JSA will be required for each operation and reviewed by MMSD.

### *Z—MMSD CONTRACTOR INFORMATION PROJECT NOTEBOOK:*

1. Competent person training documentation is put in MMSD binder
2. CONTRACTOR/SUBCONTRACTOR MSDS location is documented in the Project Safety notebook
3. Proper training for each employee for working with a particular listed toxic and hazardous substance.
4. A respirator program, medical and fit test must be submitted to MMSD if required by OSHA. Training documentation of exposed employees must be maintained in notebook.
5. Industrial Hygienist review of exposure limits to specific chemicals is to be posted in notebook.

### *Z—MMSD REQUIREMENTS: None*

## **CC—Cranes and Derricks**

### **CC—JOB SITE:**

1. The operator must be qualified based upon the latest Subpart CC with documentation on site.
2. After assembly of a crane, the equipment must be inspected by a qualified person to assure that the configuration is in conformance with manufacturer's criteria (which must be available on site).
3. Each crane or derrick must be inspected by a competent person each day or shift of operation and these inspection forms must be kept on site.
4. The operator is the final authority on the adequacy of ground conditions, lifting a load and stopping an operation.
5. The CONTRACTOR will provide a graded area sufficient to support a crane (in conjunction with blocking, mats, etc.)
6. Operators cannot use cell phones while operating equipment.
7. If 20 ft. clearance cannot be maintained (360 degrees or boundaries established by flags or range limit device) the CONTRACTOR/SUBCONTRACTOR will meet or receive documentation from We Energies to determine if the distance can be lowered due to voltage. If a site visit is required MMSD will attend.
8. Over 1000 KV We Energies is notified and reviews the site. Boundaries and required flagging, procedures will be discussed before a crane can be placed. MMSD will attend site meeting.
9. Required daily and monthly inspections are available for MMSD review.
10. The crane operator determines shut down due to storms and/or winds.
11. The operator must use installed seat belt.
12. A copy of the manufacturer's manual must be maintained on site preferably in/on the unit for reference.
13. All crane safety devices are operational; level indicator, boom stop, jib stop (if applicable), horn, outriggers will hold, and foot pedal brakes will have locks.
14. Only one person will signal the crane. Anyone can stop a crane operation with a signal. If there is any confusion the operation is stopped and the crane operator and signal person discuss and resolve the area of confusion before the lift proceeds.
15. Steps, handholds, ladders and guardrails/railings/grab rails are maintained.
16. Swing radius of crane is permanently or temporarily mounted. If not mounted onto the crane the swing radius is identified and protected at all times.
17. 6 ft. fall rule applies to maintenance and assembly and disassembly of crane (except when monitoring draw works during operation).
18. Taglines are used unless they create an unsafe condition.
19. Contractor's employees using facility overhead cranes will have documented training in the inspection and operation of crane.
20. A facility overhead crane used for a capital improvement project must be inspected prior to contractors use. A copy of this crane inspection form must be kept in MMSD Site Notebook.

21. Contractor overhead crane operator must complete “Overhead Crane Daily Operator Inspection Form” (Appendix 14—Veolia Overhead Crane Daily Operator Inspection Form) before use.
22. Operator cannot leave controls with a suspended load.
23. When working on equipment energy sources are locked out. All persons participating will review lockout procedures and document same before work begins.
24. All personnel platforms will be engineered and engineering data must be on site.
25. All personnel platforms must have load limit posted.
26. Personnel platforms will conform to OSHA regulation and inspected by MMSD Safety Advisor prior to use on site.
27. Loads can only be rigged by a certified rigger with his documentation of training on site.

*CC—PROJECT SAFETY NOTEBOOK:*

1. Assembly—disassembly is done with competent person and assisted by qualified persons following the manufacturer’s recommendations. The employee’s qualifications and training are posted in the Project Safety notebook.
2. Rigger and signal man documentation of training is supplied.
3. Annual and monthly inspections for each crane that has worked onsite.
4. A documented pre-lift test of man basket or work platform with weights is required initially and whenever crane changes position (Appendix 15—Example—Man Basket, Work Platform Pre-lift Documentation)
5. All personnel platforms will be engineered and engineering data must be available in the Notebook.
6. A copy of the facility overhead annual crane inspection form must be kept in project Safety Notebook.

*CC—MMSD REQUIREMENTS:*

1. A copy of the manufacturer’s manual must be maintained on site preferably in/on the unit for reference
2. A critical lift plan is required when the load exceeds 75% of the crane capacity, dual crane lifts or when MMSD requests due to other hazards. The critical lift plan is reviewed by MMSD Safety Advisor and a pre-lift meeting conducted.
3. A documented pre-lift test of man basket or work platform with weights is required initially and whenever crane changes position (Appendix 15—Example—Man Basket, Work Platform Pre-lift Documentation).
4. Cranes lifting personnel platforms must have a tested and working anti-two block system in place.
5. Mobile cranes require that all DOT requirements for road worthiness be met before leaving the job site.
6. Contractor’s employees using facility overhead cranes will have documented training in the inspection and operation of crane.
7. A crane used for a capital improvement project must be inspected prior to contractors use. A copy of this and the annual crane inspection form must be kept in MMSD Site Notebook.
8. Contractor overhead crane operator must complete “Overhead Crane Daily Operator Inspection Form” (Appendix 14—Veolia Overhead Crane Daily Operator Inspection Form) before use.

## ***DD—Cranes and Derricks used in Demolition and Underground Construction***

### *DD—JOB SITE:*

1. Regulation in Subpart DD for electrical line clearance as established for demolition and construction apply.
2. Cranes that lift personnel require a documented pre-lift trial and whenever the crane is moved. MMSD will attend or review the pre-lift trial and/or documentation.
3. When a personnel basket is used for operations other than transporting employees to workplace (a work platform) a JSA is submitted and reviewed by MMSD and then a documented review by all employees involved is completed. MMSD will attend this crew review.
4. All requirement stated in OSHA Subpart CC apply to this section (except for electrical line clearance regulation).
5. The swing radius of the crane is permanently or temporarily mounted
6. Damaged safety glass is replaced.

### *DD—PROJECT SAFETY NOTEBOOK:*

1. All requirement stated in Subpart CC apply to this section.

### *DD—MMSD REQUIREMENTS:*

1. All requirement stated in Subpart CC apply to this section

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## Emergency Procedures

These procedures are designed to provide general guidance for emergencies arising in the course of the project. These procedures do not address all potential emergency situations; rather, they are directed to major emergencies within the general confines of the JOB SITE.

By way of definition, a disaster or catastrophic situation could include (and is not limited to) any of the following: tornado, storm, flood, cave-in, mudslide, snow/ice storm, fire, explosion, structural collapse, hazardous waste spill or other occurrence which severely impacts the project. Should an emergency procedure be implemented it is imperative the MMSD Resident Engineer be notified immediately. **CONTACT WITH THE MEDIA WILL BE DONE BY THE OWNER.**

### ***Procedures at a Construction Site***

#### *Medical Emergency*

The CONTRACTOR/SUBCONTRACTOR will **call 911 (or 3911 at JIWRP or SSWRF) in all life or death emergencies** or the appropriate emergency agencies and the outside medical facilities designated to handle Job Site medical cases. Stay on the line and answer all questions.

On projects outside of the Jones Island and South Shore Facilities CONTRACTOR/SUBCONTRACTOR should clear the area for emergency vehicles and send someone out to direct the emergency personnel to the proper location. The area may have to be cordoned off to prevent the public from entering the area.

At Jones Island and South Shore the facility operator needs to be contacted immediately to initiate the facility emergency action plan. The facility operator will contact the emergency agency. Facility phones can be used dialing 3911. The individual reporting to Veolia Central Control must stay on the line answer all the questions the operator asks.

The CONTRACTOR/SUBCONTRACTOR shall also inform the MMSD RE or RI, who will call the RM.

#### *Tornado Warnings*

In the event of a tornado, personnel shall be signaled or verbally warned of the potential danger and should be moved to structurally protected areas. Personnel should be kept away from windows and glass during a tornado. Personnel should avoid waste piles or stacks of building materials as points of safe refuge.

The JOB SITE office will maintain a continuous awareness of weather in the construction project area. All CONTRACTOR/SUBCONTRACTOR must be notified when an alert is given.

## *Chemical Release*

The same signal or verbal warning will be used if there should be a substantial gaseous chemical release. Where possible, personnel downwind of the release will be alerted to the danger by radio, telephone or messenger. Once the fire department (or Veolia at 3911) and the CONTRACTOR/SUBCONTRACTOR Site Safety Representative have been alerted, CONTRACTOR/SUBCONTRACTOR personnel and equipment will be employed to control the spill if possible and if they are trained to do so. Personnel must have the proper personal protective equipment and training and knowledge of the involved chemical before attempting to control the spill. If fire or explosion hazards are present, control will be left to trained professionals. Where feasible, booms and absorbent material should be used to contain the spill.

If an individual is transferred to a medical facility due to chemical exposure a copy of the chemical's Material Safety Data Sheet should accompany the victim. When other medical emergencies occur, contact the designated JOB SITE medical facility. Provide medical and first aid as feasible, and await the response of trained professionals.

## *Emergency Evacuation*

Emergency evacuation procedures during the event of a fire or other emergency will assist in the safe evacuation of all workers at the site. Workers at facilities should be aware of the audible and visible signals in their work areas that will be used to signify an emergency at their location. Workers should be aware of at least two means of exit from any area. This is especially important when workers are working above or below grade.

Upon activation of the emergency evacuation signal at a JOB SITE, or if employees become aware of a fire or other emergency within the immediate area, the following steps should be followed:

- A verbal notification or alarm should notify fellow workers within the immediate area.
- Workers should exit any structures using stairways and proceed to pre-designated assembly areas.
- Foremen and supervisors should take an immediate roll call to account for all employees. If an employee is missing, the fire department should be immediately notified upon its arrival.
- If an evacuation is required due to a hazardous materials spill or release, employees will be instructed to move upwind from the release. Depending upon what type of material has been released; employees assemble at a safe distance.
- The fire department and emergency response team are immediately notified of any emergency situation. Even small fires or spills can develop into large losses.

## *CONTRACTOR Responsibilities*

The CONTRACTOR is required to develop a site specific "Employee Emergency Action Plan." CONTRACTORS will be responsible for training supervisory personnel to handle emergency, make the proper contacts, protect employees and public and lend possible assistance during the emergency situation.

CONTRACTOR is also responsible for designating an assembly area away from the construction that is free of other exposures to use during an emergency. Care should be taken to re-assess the assembly site as construction progresses so that a viable site is always available.

CONTRACTOR has the responsibility to inform their employees of the site emergency procedures to be followed.

Should an emergency procedure be implemented CONTRACTOR supervisory personnel will complete a roll call immediately upon assembly to account for all personnel. Personnel not accounted for should be reported to the responding agencies.

Contractor should develop a Project Specific Emergency Evacuation Plan and use horns or other systems to sound any alarm. The Contractor should identify assembly points, protocol, and responsibility for head count and reporting.

# 7

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## Health Services, Accident, and Claim Procedures

### ***Health Services***

Injured parties requiring emergency treatment will be transported to health facilities in the most appropriate manner.

Each CONTRACTOR/SUBCONTRACTOR must maintain the required OSHA Form 300 Log and is available for review by the OWNER, its Consultants, Insurance Carriers, and appropriate regulatory authorities.

First-aid kits must be provided by all CONTRACTORS and SUBCONTRACTORS. Kits should be kept in offices, gang boxes, vehicles (both on and off road), maintenance or warehouse facilities and other structures erected for the duration of the project.

CONTRACTOR employees designated to provide first aid on this project are required to be trained in the First Aid, Blood borne Pathogen Standard and cardiopulmonary resuscitation (CPR). Each CONTRACTOR will maintain a list of those trained personnel MMSD Site Notebook.

### ***Employer's First Report of Injury***

The following is required of each CONTRACTOR/SUBCONTRACTOR:

#### **Employee Injuries**

- Provide necessary immediate medical attention.
- Instruct employees to report all injuries—no matter how minor—to their immediate supervisor, who will arrange emergency first aid and document the injury.
- Injured employees must be drug tested in conformance with the applicable policy.

### ***Serious Accident/Injury Investigation Report***

Immediately inform the MMSD RE/RI, and the MMSD RM, and relevant local authorities in the event of the following:

- Any injury for which an ambulance is called
- Injury to head or neck
- Possible injury to back or spinal cord
- Unconscious employee
- Possible blindness

- Amputation of limbs
- Fatality
- Heart attack or stroke
- Hospitalization
- Property damage estimated over \$1,000
- Auto Accidents
- Accidents involving the public

All incidents involving loss of life, serious injury, or significant property damage must be reported immediately to the MMSD Resident Engineer and the RM, with a faxed/e-mailed written report by the end of the workday in which the incident occurred.

The Contractor will conduct a meeting with all involved parties to determine root cause analysis. MMSD will attend.

In the event of a fatality to one or more employees or the occurrence of an accident which results in the hospitalization of three or more employees, the responsible CONTRACTOR/SUBCONTRACTOR must report incident to the applicable OSHA office within that workday.

The scene of any major accident must be secured until documentary, photographic, and physical evidence can be preserved. No material, machinery, or equipment should be moved until approval is given by the MMSD RR, unless the condition or physical position poses an additional hazard. In the case of a fatality, the site will be preserved until OSHA states otherwise (unless such preservation poses a greater hazard)

Only authorized governmental agencies or project-authorized personnel shall be allowed to photograph the scene of a major accident.

All official notifications to the family of an injured employee shall be made by an individual designated by the employer.

**All news media releases regarding a major accident will be made by the Owner.**

***General Liability Procedures—Injuries to Members of the Public or Damage to their Property***

- Arrange for immediate medical care for the injured person(s) and/or protection of the property from further damage.
- Protection of public may be required.
- Obtain names, addresses and telephone numbers of injured person(s), owner(s) of damaged property and witness (s). All SUBCONTRACTORS must notify the CONTRACTOR immediately of all accidents involving the public.

**The CONTRACTOR/SUBCONTRACTOR must report the accident/incident immediately to the MMSD Resident Engineer and the MMSD RM.**

### ***General Liability Procedures—Injuries to MMSD or VWM or Damage to MMSD Property or other’s property***

- Arrange for immediate medical care for the injured person(s) and/or protection of the property from further damage.
- Protection of public may be required.
- Obtain names of injured person(s), and witness (s). All SUBCONTRACTORS must notify the CONTRACTOR immediately of all accidents involving the public.
- The CONTRACTOR/SUBCONTRACTOR must report the accident/incident immediately to the MMSD Resident Engineer. (Who will immediately inform the MMSD’s RM). Be prepared with all the applicable information.

Any subsequent inquiries or correspondence received relative to such an accident, including legal summons or other legal documents, must be immediately referred to MMSD RM.

### ***Builders Risk Insurance Procedures—Damage to Owner’s Property***

The prime CONTRACTOR in charge will be responsible for taking immediate action to protect undamaged property from further loss or damage.

Preliminary information should be gathered concerning the damaged property and complete the project specific form “MMSD Report of damage to MMSD property” (found in Site Emergency Procedure Packet or Appendix 7).

The RM will work with the Resident Engineer to approve the costs and settle the claim.

The filing of a damage report is mandatory. The claim details, costs, etc. must be filed in a timely fashion not to exceed 45 days after the incident occurred. The claim will be reviewed by MMSD RE/RI and the MMSD RM. If claim settlement is disputed, the contractor will be notified.

# 8

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## Property Fire Prevention, Protection and Control

### ***CONTRACTOR's Responsibilities:***

The designated CONTRACTOR Safety Representative is responsible for implementing the fire protection, prevention and control programs for the project. The program will include the following:

- Providing, inspecting and maintaining firefighting equipment as required.
- Training employees on use of fire extinguishers.
- Protecting installed fire suppression systems to ensure that work does not inadvertently activate system due to CONTRACTOR operations.
- Regular inspection of all flammable gas systems including temporary heating systems, on site propane tanks, fuel tanks, oxygen-acetylene, pressurized vessels
- Liaison with local fire departments.
- Periodic inspection of all CONTRACTOR's operations and areas for compliance with the measures outlined in this section. These inspections should be conducted at least monthly and are subject to the MMSD Project Safety Representatives concurrence.
- Monitoring and issuing of hot work permits when warranted.
- Monitoring and implementing of fire protection equipment impairment procedures.
- A 2A-rated fire extinguisher will be provided at least every 3,000 square feet or fraction thereof of protected building area. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet.

### ***SUBCONTRACTOR Responsibilities:***

Each SUBCONTRACTOR is responsible for implementing the following measures and must designate an individual to be responsible for the fire prevention program and ensure that it is carried out.

### ***Hazards and Protective Measures***

Protection of all site fire hazards should be provided in accordance with applicable OSHA and NFPA Standards.

Additional guidelines for the general safeguarding of construction operations are referenced in the NFPA standards. This document should be used as a guideline during the entire life of this project.

### **Facility Fire Equipment Temporarily Taken out of Service**

Fires occurring when fire protection systems are impaired pose a serious hazard to the site and the employees. Sprinkler heads, stand pipes ... may be required to be temporarily disabled for a construction operation to be completed. Proper management of impairment conditions can help

minimize the potential for, and the consequences of, fires during those periods of time. The following procedures apply to disabling of any component of a permanently installed fire protection system.

A written and documented impairment procedure should be followed whenever fire protection water supplies, fire suppression or fire detection systems which are otherwise operational are taken out of service. The Facility Operator will be responsible for administering the impairment procedures.

The CONTRACTOR/SUBCONTRACTOR must submit a written request to the MMSD RE to temporarily disable a component of a fire protection system. The MMSD RE will coordinate the operation with the Veolia Water Facility Operator. The CONTRACTOR/SUBCONTRACTOR is then responsible for displaying a "Fire Protection Out of Service" tag on the impaired system or component. The CONTRACTOR/SUBCONTRACTOR is expected to expedite repairs, alterations, or other construction measures which have necessitated the impaired conditions.

The following measures must be employed prior to any impairment condition:

- All hazardous operations must cease. If welding or cutting is required to take place the CONTRACTOR/SUBCONTRACTOR will submit a Job Safety Analysis listing the steps to the operation and safety procedures that will be in place during the operation.
- Where applicable, alternative fire protection measures will be employed. This may include laying hose lines for the affected area or cross-connecting systems with hose lines. The CONTRACTOR/SUBCONTRACTOR and the Facility representatives should be consulted for the applicability of such measures.
- A hot work permit and fire watch will be required at all times.
- Employees in the affected area of the impairment must be made aware of the conditions in which they are working.

# 9

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## Site Security

The goal of site security is to protect the public from inadvertently or purposefully entering the project site and being injured and secure onsite equipment and materials. 6 ft. high metal fencing shall be installed around the site perimeter that establishes clear physical boundaries that limit access to the site. "No Trespassing or Danger—Keep Out" signs must be installed at all access points and if fencing is removable on panels signage must be placed on each side of the construction site. The signage and fencing must prevent casual entry by the public. Vehicle and pedestrian gates and openings and the construction operation must be locked after hours of operation. Perimeter fencing may be removed when there is no longer outside storage of building materials or when there are no remaining exterior construction activities requiring separation of non-construction related personnel and public from exterior construction activity.

Construction sites on public streets must maintain proper traffic control devices for the length of construction. This will require inspection after all storm and wind events. These sites must be enclosed with the 6 ft. perimeter fencing with signage. "Closed Sidewalk" signs must be placed at all ADA ramps near the JOB SITE and maintained for the duration of the project as needed. All traffic control plans must be approved by the City of Milwaukee or the local municipality if required.

CONTRACTOR/Subcontractor electrical panels must be properly posted with signs stating danger and level of voltage; these panels must be locked when not in use.

Care should be taken to eliminate all fire sources. Portable heaters should not be left unattended. Fuel reserves should be locked preventing access from the public when site is unattended.

CONTRACTORS/SUBCONTRACTORS are responsible for securing their own equipment, office trailers, storage areas, shafts, excavations or openings. Motorized equipment must be rendered inoperable when the hours of operation have ceased, making them unable to start, operate, or move. Equipment must be properly secured in storage trailers or sheds.

All portable fuel storage tanks must have locks and electrical sources must be locked or disconnected after work hours. Suitable protection around these fuel storage tanks should be capable of protecting them from motor vehicle damage.

All materials that will be installed as part of the project must be stored and secured from theft and according to manufacturer's requirements.

# 10

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## OSHA Inspections

It is the policy of the OWNER to comply with applicable OSHA standards and to cooperate with OSHA compliance officers in the performance of their duties.

### ***OSHA Inspection Protocol***

The MMSD RE/RI shall be immediately notified of any OSHA correspondence or notice of inspection. At any VWM facility **Veolia (Michelle Helm—cell 414-236-9390) should also be immediately notified.** The MMSD RE/RI Staff must also be advised of the inspection.

The Compliance Officer normally shows identification and will begin with an opening conference to explain the purpose of the visit, scope of the inspection and standards that apply. The Compliance Office will provide copies of applicable safety and health standards involved as well as any employee complaints. The Compliance Officer should be treated with respect and courtesy.

A CONTRACTOR representative will be designated to accompany the Compliance Officer during the inspection. An MMSD representative will accompany all OSHA inspections. **Veolia will also accompany the Compliance Officer at any VWM facility.** The CONTRACTOR representative will be responsible for duplicating the OSHA Compliance Officer's notes, videos, photographs, etc. during the inspection. During the inspection, the Compliance Officer will be afforded full and complete cooperation. Actions to correct identified violations will be taken immediately with appropriate disciplinary measures.

After the inspection, a closing conference will be held with the Compliance Officer, appropriate CONTRACTOR/SUBCONTRACTOR representatives, **Veolia, MMSD** and other interested representatives to discuss the inspection findings. The CONTRACTOR or CONTRACTOR Site Safety Representative will submit a full and complete report of the visitation or inspection to the MMSD Project Safety Director within 48 hours.

### ***Citations and Penalties***

After the Compliance Officer files a report, the OSHA Area Director will determine what citations, if any, will be issued and what penalties, if any, will be imposed.

Any citation and/or notice of proposed penalties will be then sent by certified mail to the site. The citation will contain the regulations and standards alleged to have been violated and the proposed length of time set for abatement of the violation. It will also list the proposed penalties if any.

Upon receipt of such notice, a copy of the citation must be posted for three days or until the violation is abated, whichever is longer. In posting a citation, it is suggested that the proposed penalty column on the right hand side of the citation be omitted before posting.

All citations, notices or other correspondence related to OSHA inspections will be immediately sent to the MMSD RE who will distribute them to MMSD staff and the RM.

## Third-Party Legal Action

In the event of a third-party lawsuit against the Owner, its officers, employees, consultants, or CONTRACTORS, the original Summons and Complaint must be directed to the MMSD RM for delivery to the appropriate insurer. Any verbal or written response associated with third-party legal action must be reviewed by the MMSD RM and MMSD legal counsel.

# 12

## Appendices

### Appendix 1—Job Hazard Analysis

Company	Job Title:	Date:	<input type="checkbox"/> New <input type="checkbox"/> Revised
Subject:		Analysis By:	
Required And/Or Recommended Personal Protective Equipment:		Reviewed By:	
		Approved By:	
PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	CORRECTIVE MEASURES/ACTIONS	

## Appendix 1a—Example—Completed Job Hazard Analysis

<b>JOB HAZARD ANALYSIS</b>		
<b>Work Activity:</b> Loci Operation	<b>Date Prepared:</b> 3-28-2003	<b>Prepared By:</b> Crews & Safety
<b>Tasks/ Procedures</b>	<b>Hazards</b>	<b>Preventative Measures</b> Engineering Controls—Substitution –Administrative Controls—PPE
Hitching loci to muck cars	Pinch Point, bodily injury or death	<ul style="list-style-type: none"> <li>• Equipment must be completely stopped before hookup begins</li> <li>• Communication between brakeman and loci operator must be established at all times—after hookup the loci operator must wait for brakeman's signal</li> <li>• Use flashlight or miners light—only one person should signal the loci operator and this should be established before the operation begins.</li> </ul> <p>Once a car is hitched safety chain must be in place before moving.</p>
Hitching loci to flat car	Pinch Point, bodily injury or death	<ul style="list-style-type: none"> <li>• Equipment must be completely stopped before hookup begins</li> <li>• Communication between brakeman and loci operator must be established at all times—after hookup the loci operator must wait for brakeman's signal</li> <li>• Use flashlight or miners light—only one person should signal the loci operator and this should be established before the operation begins.</li> </ul> <p>Once a car is hitched safety chain must be in place before moving. Load must be secure before travel</p>
Stepping in between Cars	Pinch points, slip and fall, death	<p>Always communicate with equipment operator to let them know what your intentions are and get confirmation that it is OK. Equipment must be completely stopped</p>
Signaling Operator	Miscommunication	<p>Flashlight or miners lights must be used to communicate with loci operators:</p> <ul style="list-style-type: none"> <li>• <b>Side to side—STOP</b></li> <li>• <b>Up and Down—Go away from me</b></li> <li>• <b>Circular—Move toward me</b></li> </ul>

## JOB HAZARD ANALYSIS

<b>Work Activity:</b> Loci Operation	<b>Date Prepared:</b> 3-28-2003	<b>Prepared By:</b> Crews & Safety
<b>Tasks/ Procedures</b>	<b>Hazards</b>	<b>Preventative Measures</b> Engineering Controls—Substitution –Administrative Controls—PPE
Loading muck cars	Miscommunication	Approaching trailing gear the following signal system must be used: <ul style="list-style-type: none"> <li>• Green—go coming in or out</li> <li>• Yellow—moving toward shaft (for filling purposes)</li> <li>• Red—Stop</li> <li>• Tail gunner uses flashlight system when appropriate</li> </ul>
	Personal injury/ Pinch points	No unauthorized personal should be on gantry while muck is being loaded. No one—should ever get between cars while loading—if the tailgunner needs to go between cars loading operation must stop.
	Eye injury from flying muck	Anyone on the gantry should wear safety glasses
Dumping muck cars	Miscommunication	Flashlight or miners lights must be used to communicate with loci operators: <ul style="list-style-type: none"> <li>• <b>Side to side—STOP</b></li> <li>• <b>Up and Down—Go away from me</b></li> <li>• <b>Circular—Move toward me</b></li> </ul> <b>Loci operator must not move until given signal by grizzly operator</b>
	Possible injury	No one should stand on grizzly
Competent Person for this Task _____		

## Appendix 2—Example—Veolia Daily Work Permit

 <b>VEOLIA DAILY MMSD CONTRACTOR ACTIVITY FORM</b>	
<i>IN CASE OF EMERGENCY – Dial 3911 from a plant phone or (414)747-3854 from a cell phone</i>	
<b>Section 1 – General</b>	
<ul style="list-style-type: none"> <li>✓ Complete ALL sections of this Activity Form.</li> <li>✓ Make a photocopy of this Activity Form and keep it with you.</li> <li>✓ Place the original copy of this form with any applicable special permits in the box outside the shift supervisor's office.</li> <li>✓ At the end of your day, complete the Time Out on your photocopy and place in the box by the shift supervisor's office.</li> </ul>	
Date	Time In:      am pm      Time Out:      am pm
Contractor Company	
On-Site Contact	Name      Cell Phone
<input type="checkbox"/> MMSD Project	MMSD Resident Engineer:
List All Contractor Employees	1.      5.
	2.      6.
	3.      7.
	4.      8.
Describe Scope of Work	



# Appendix 4—Example—Job Site Safety Inspection Checklist (all inclusive)

**MMSD  
JOBSITE SAFETY INSPECTION CHECKLIST**

Revision: 01  
Date: 7/3/2013

Note: The following jobsite safety inspection checklist is to be used at all MMSD Project Sites.

Project Name:	Project No:
Inspector:	Date:
On-site Contractors: (Site Safety Rep, Haz Comm, Drug Testing needs to be in notebook):	
Cranes: (Contractor, Type, Size, Contractor Number)	
This checklist has been divided into two basic sections. The first section (A–Y) can be applicable to any jobsite, while the second section (Z) is applicable more to hazardous waste sites. There may be some duplication between Sections A–Y and Z.	

Check “Yes” for Items Complete	Req'd	Full	Needs improvement	Not acceptable
<b>A. JOBSITE OFFICE</b>				
1. Posters and safety signs in place:				
a. OSHA safety poster				
b. OSHA Form 300 (February 1 <sup>st</sup> to April 30 <sup>th</sup> )				
c. Emergency Procedures posted				
d. Project Safety Notebook on site to review and update				
2. First-aid Kit:				
a. Fully stocked/sufficient supply				
b. First-aid person with a valid certificate				
3. Accident/injury reporting:				
a. Employees briefed that all accident must be reported immediately				
b. Forms available				
c. All injuries and illnesses reported and logged				
<b>B. HAZARD COMMUNICATION</b>				
1. Employee training:				
2. MSDSs: location filed for all onsite contractors in MMSD Notebook				
a. Review MSDSs for one onsite contractor				
3. Written program on file				
<b>C. EMPLOYEE TRAINING</b>				
1. All site employees have MMSD safety sticker on hard hat				
2. Daily huddles discussing recognition and avoidance of job hazards; unsafe conditions; and job rules, regulations, and procedures				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
3. Employees instructed to report unsafe or hazardous conditions to proper job supervisor				
4. Employees instructed to promptly report injury, illness, and accidents involving damage to equipment and materials				
<b>D. JOBSITE LOGISTICS AND LAYOUT</b>				
1. Traffic routes around construction areas:				
a. Traffic control devices maintained, properly placed, and stop/go paddle available.				
b. Crane swing flagged or protected				
2. Open trenches or ditches:				
a. Flagged or barricaded				
3. Trucks and heavy equipment:				
a. Backup signals working				
b. Seat belts installed and used				
4. Motor graders and other earth movers:				
a. If traveling public streets all signaling devices working (brake lights & turn light with slow symbol posted)				
b. Good mechanical conditions				
c. Backup signals working				
d. Seat belts installed and used				
<b>E. PUBLIC PROTECTION</b>				
1. Traffic control and warning signs in place				
2. After-hours hazards:				
a. Open trenches/shafts protected				
b. Ladders access shut down				
3. Traffic control lights on barricades are working				
<b>F. HOUSEKEEPING</b>				
1. Material storage yard:				
a. Stacked neatly and properly				
b. Aisles, walkways, roads clear				
2. Check work areas for:				
a. Loose and waste materials				
b. Vicinity of ladders, stairs, ramps, and machinery clear with no tripping hazards				
c. Trash cans, dumpsters available and emptied regularly				
d. Nails, boards, debris removed				
e. Trash receptacles provided for drinking cups				
<b>G. PERSONAL PROTECTIVE EQUIPMENT (PPE)</b>				
1. Hard hats				
2. Traffic work vest				
3. Safety shoes/boots				
4. Eye/face protection				
5. Safety belts/lanyards				
6. Ear protection				
a. Noise level areas of 90 dBA and above identified				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
b. Signs notifying personnel of "Hearing Protection Required" posted as required				
7. Specialized safety equipment required—Identify				
8. Tools				
a. Handles in good shape				
b. Tool guards in place				
<b>H. SANITATION</b>				
1. Temporary toilets:				
a. Serviced regularly				
b. Sufficient Quantity (20 or fewer employees—1 required; 20 or more employees—one toilet and one urinal per 40 workers)				
2. Portable Water:				
a. Tightly closed containers				
b. Equipped with tap				
c. Paper cups available				
d. Containers labeled "Drinking Water"				
<b>I. FLOOR AND WALL OPENINGS—GUARDS</b>				
1. All floor covered labeled "HOLE" or guarded by standard railing and toe board				
2. Wall openings with a drop of more than 4 feet guarded as required				
3. All open-sided floors, walkways, platforms, ramps, and runways guarded with standard railing and toe-board as required				
4. All stairs with four or more risers provided with railings				
5. Railing, posts, and wall opening barriers able to withstand force of at least 200 pounds				
6. Floor coverings built to withstand two times the intended load				
7. Screens used between the board top rail where needed to prevent material from falling				
<b>J. PORTABLE LADDERS (straight, extension, and step)</b>				
1. Inspected and in good conditions (not painted)				
2. Properly secured top and bottom				
3. All straight and extension ladders equipped with safety shoes and/or blocked off in use				
4. Rails extend at least 36 inches above landing or work platform				
5. Step ladders fully open when in use				
6. Metal ladders not allowed on jobsite				
7. Defective ladders tagged and removed from the work area				
8. Properly maintained and stored				
9. Ladder areas barricaded where required				
<b>K. SCAFFOLDING</b>				
1. Erected under proper supervision of competent person				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
2. All structural members straight and in good condition by same manufacturer or fit together without force.				
3. All connections adequate, pins, cross-bracing provided and support plumb				
4. Proper footings provided (sound, rigid, and secured)				
5. Safely tied into structure according to manufacturer's recommendations				
6. Access ladder or safe equivalent provided and used				
7. Defective and damaged parts, planks, etc., removed from service				
8. Ladders and working areas kept free of debris, ice, snow, chemicals, and grease				
9. Complete platform, planks, close together and overlapped by at least 12 inches or secured by wire or proper cleating				
10. Guard rails, mid-rails, and toe boards installed on all open sides of platforms 6 feet and over in height (applies to both maintenance and construction)				
11. Daily inspections made by competent person and documented				
<b>L. ELECTRICAL</b>				
1. Cords/devices have current inspection color code tape installed				
2. Frayed cords, broken plugs fixed				
3. Temporary wiring:				
a. Panels labeled, secured, and GFCIs working				
b. Away from vehicle pathways				
c. Out of water/moisture				
4. Temporary lighting with cages				
5. Lock-out or tag-out system used when necessary				
6. Electrical dangers posted and guarded				
7. Fire hazards checked, proper extinguishers available				
<b>M. TEMPORARY HEATERS</b>				
1. Equipped with pilot and automatic shutoff valve to prevent flow of fuel if flame goes out				
2. Installed, serviced, and relocated only by authorized employees				
3. Frequently checked to ascertain safe conditions and clearance from combustible and flammable material				
4. Sufficiently ventilated				
<b>N. FIRE PROTECTION</b>				
1. Office trailer fire extinguisher in working order and inspected regularly				
2. One extinguisher, 2A rating, for each 3,000 square feet of protected area				
3. Trash, paper, other combustibles picked up				
4. Welders/roofers have extinguishers nearby and firewatch if required				
5. Stop work ½ hr. before shutdown and inspect area for smoldering fire (facilities may require inspection of				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
floors below work).				
6. "No Smoking" signs posted and enforced in wastewater treatment plants.				
7. Supervisors and employees trained in proper use of extinguishers				
<b>O. MATERIAL STORAGE AND HANDLING</b>				
1. Neat storage area, clear passageways				
2. Power equipment used to handle heavy or awkward loads				
3. Stacks on firm footing and all tier stacked materials secured against sudden movement				
4. Storage platforms, skids, bins, shelves, etc. in good repair				
5. Protruding nails and wires removed and rugged metal edges protected before material is handled				
6. Employees using proper lifting methods, picking up loads correctly				
7. Proper number of employees for each operation, physically suited for task				
8. Tag lines used to control loads				
9. Protection provided against falling hazards				
10. Dust protection observed				
11. Extinguishers or other fire protection available				
12. Combustibles, flammable, and other unrelated materials separated and clearly identified				
13. "No Smoking" signs posted where necessary				
14. Safe loading limits observed in wastewater treatment plants.				
<b>P. DEMOLITION WORK</b>				
1. Operations planned ahead extensive demolition may require an engineering survey				
2. Safety work permit required and necessary blinding of lines, etc., accomplished				
3. Adjacent structures shored or braced				
4. Electrical, water, sewer, steam lines cut off, locked out, or tagged				
5. Area signed, roped off and/or barricaded				
6. Proper safety, danger, and warning signs provided and used				
7. Adequate lighting and ventilation provided where necessary				
8. Material chutes has proper guardrail protection if used and meets OSHA requirements				
9. Adequate safe access provided				
10. Clear operating space provided for equipment and vehicles				
11. Overhead protection provided where required				
12. Proper fire extinguishing equipment in place				
13. Full clothing, serviceable shoes, and adequate PPE (hard hats, goggles, gloves, safety belts, respirators,				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
ear plugs, or muffs, etc.) provided				
14. Regular supervision maintained				
15. Safe housekeeping, welding, rigging, and scaffolding practices observed				
16. If hot work is taking place—stop work ½ hr. before shutdown and inspect area for smoldering fire (facilities may require inspection of floors below work).				
<b>Q. CONCRETE CONSTRUCTION</b>				
1. Forms properly installed and braced				
2. Adequate shoring used, plumbed and cross-braced				
3. Heating devices checked and serviced by a competent person				
4. Concrete trucks has an approved traffic route				
5. Adequate runways, walkways guarded, etc.				
6. Employees wear full clothing, serviceable shoes, long-sleeve shirts, eye protection				
7. Hard hats, gloves, boots, plus goggles and respirators provided for protection from cement dust				
8. Protruding nails and stripped form material removed from area				
9. Good housekeeping and safe hoisting and scaffolding practices observed				
10. 6' fall protection rule is followed throughout entire operation				
<b>R. STEEL ERECTION</b>				
1. Safety nets used, if required				
2. Hard hats, eye protection, harnesses, steel-toed boots, gloves, and full clothing used				
3. Tag lines used for hoisting tools and material				
4. Ladders, stairs, or other safe access provided				
5. Hoisting apparatus checked				
6. Good housekeeping, welding, and rigging practices observed				
7. 6' fall protection rule is followed throughout entire operation				
<b>S. MASONRY WORK</b>				
1. Proper scaffolding erected				
2. Masonry saws properly equipped with water to prevent dust				
3. Hard hats, eye and face protection, and dust respirators provided				
4. Good housekeeping and rigging practices observed				
<b>T. EXCAVATION, SHORING, AND TRENCHING</b>				
1. Prior installation, gas lines, conduit, etc., located and updated as needed—contractor doing the work has own digger hotline number.				
2. Competent person for excavation is identified				
3. Tabulated data on site for equipment used, soil and depth				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
4. Atmospheric conditions tested continually				
5. Adjacent structures shored				
6. Roads and sidewalks supported and protected				
7. Banks more than 5 feet are shored or sloped to angle of repose—excavation less than 5 ft. not shored or sloped must be examined by a competent person to determine there is no indication of potential cave in.				
8. Adequate traffic control, trench covered and/or barriers, lighting provided at night				
9. Materials and spoil at least 2 feet away from edge of excavations				
10. Equipment at safe distance from edge				
11. Water controlled				
12. Ladders or stairs provided as required (trenches 4 feet deep or greater require ladder for every 25 feet of lateral travel)				
13. Equipment ramps adequate, slope not too steep				
14. Frequent inspections made by competent person				
15. Full clothing, workboots, traffic vest, hard hats, safety glasses				
<b>U. FLAMMABLE AND COMBUSTIBLE LIQUIDS</b>				
1. All containers clearly marked to show contents (gas cylinders, cans, drums, fuel tanks, etc.)				
2. Proper storage practices observed:				
a. Storage areas enclosed or protected from heat and mobile equipment exposure				
b. Fire hazards checked				
c. Sufficient fire extinguishers				
d. UL approved safety cans for 1 to 5 gallons of flammable liquids				
e. Approved cabinet for indoor storage of liquids in excess of 25 gallons, but not more than 120 gallon storage				
f. Sign labeled "Flammable—Keep Fire Away" posted on cabinet				
3. Drums and tanks used for outdoor dispensing and fueling purposes:				
a. Located at least 25 feet from buildings and work areas				
b. Bonded, grounded, and equipped with self-venting bungs and self-closing faucets				
c. Identified and restricted from smoking or other heat sources; "No Smoking" signs posted				
d. Diked and drainage provided for spills				
e. Protected from traffic and kept free of weeds, debris, etc.				
f. Engines of vehicles and other combustion equipment shut off when being fueled.				
<b>V. FLAMMABLE GAS (Oxygen/Acetylene)</b>				
1. Cylinders:				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
a. Away from heat				
b. Stored upright (secured)				
c. Valves closed on empty cylinders				
d. Valve protection caps in place if cylinder not in use				
e. Valve key wrench available				
f. Portable rack with bottles secured				
g. Never drag or slide bottles				
h. Designated storage area				
i. "No Smoking" signs posted				
j. Oxygen bottles stored 20 feet from acetylene bottles or 1/2-hour fire barrier installed between them				
2. Gauges/valves/hoses:				
a. Good condition				
b. Fire arresters installed (both hoses)				
3. Cutting glasses provided and used				
4. Spark igniters used to light torches				
5. Ventilation adequate for operation and materials				
6. When in use, gas lines properly located to prevent tripping and falling hazard				
7. All burning torches bled and free of oxygen and acetylene and/or other gases during lunch breaks and other extended periods of time				
<b>W. WELDING OPERATIONS</b>				
1. Performed by qualified personnel				
2. Screens, shields, or eye protection provided and used to protect employees from welding operation				
3. Employees wear proper clothing and PPE				
4. Equipment checked before use and in operative conditions				
5. Electrical equipment grounded				
6. Welding leads free from repairs or splices 10 ft. from electrode holder/rest of cable is in good repair				
7. Power cables properly located to prevent tripping and falling hazards				
8. Dry chemical fire extinguisher within 30 feet				
9. Exposed combustible materials removed to safe location or properly protected from sparks and slag				
10. Valid hot work permit when required (wastewater treatment plants)				
11. Overhead protection provided where required				
12. "Danger—No Smoking, Matches or Open Lights" signs posted when required				
13. Adequate lighting and ventilation provided				
14. Machines turned off at end of shift or when not in use for extended periods				
15. If hot work is taking place—stop work ½ hr. before shutdown and inspect area for smoldering fire				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
(facilities may require inspection of floors below work).				
<b>X. PERSONNEL HOISTS</b>				
1. Before hoisting personnel the operator must perform a test run whenever the personnel cage has not been used for one complete shift.				
2. When a crane used to hoist a personnel cage is set up or moved a documented weight test of the cage hoisting procedure must take place with 125% of its rated load capacity and a pre-lift meeting.				
3. All personnel baskets must be designed by a qualified engineer				
4. When hoisting personnel cranes must be within 1% of level, have firm footing and if equipped with outriggers have them fully extended.				
5. All shackles, hooks and other personnel hoist rigging must be able to support 5X the maximum intended load and must be closed or locked with a bolt, nut or retaining pin. All eyes on wire rope must have thimbles.				
6. Hoisting speed for personnel cages must not exceed 200 fpm.				
7. All personnel platforms must have a plate that indicates the weight of the platform and its load capacity.				
8. All sides of a personnel cage must be enclosed by ½" wire mesh of 14 gauge to a height of 6 ft., a protective canopy with an emergency egress, a grabrail, and a positive locking door that does not open outward.				
9. All sides of a personnel work platforms must be enclosed by ½" wire mesh of 14 gauge to a height of 42" with a positive locking door that does not open outward.				
10.				
<b>Y. BLASTING</b>				
1. Neighborhood informed on the blasting operation				
2. Qualified blaster must be present and licensed				
3. All signs, warning signals, PPE in place				
4. Seismographs in place if needed				
5. Blasting signals used before and 'All Clear' after blast				
6. Radio transmissions limited				
7. Blasting mats in place				
8. Blasting log maintained				
9. Crew allows area to properly ventilate and test atmosphere before mucking out blasted materials.				
10. Competent person reviews muck after blast for misfires.				
<b>Z. TUNNELING/UNDERGROUND CONSTRUCTION</b>				
1. In-out boards on site and updated				
2. A warning light must be located at the top and bottom				

Check "Yes" for Items Complete	Req'd	Full	Needs improvement	Not acceptable
of the shaft to warn employees that a load is being moved in shaft				
3. Crane has an anti- two-block system installed if crane is used for lifting personnel				
4. Access point is controlled to prevent unauthorized entry into underground—openings must be tightly covered, bulkheaded, or fenced off and posted "Keep out."				
5. An effective means of communication between workface, bottom of the shaft and surface. Its power source must be independent of power supply and tested upon initial entry each shift.				
6. Self-rescuers are available and of adequate number.				
7. Employees and visitors have individual emergency lighting should it be needed for escape.				
8. Tunnel Rescue is regularly updated on project progress and makes regular visits to communicate with crew				
9. TBM gas monitor is tested regularly or whenever TBM is launched. Testing information is logged (power to TBM and lighting shuts down/ventilation stays on).				
10. Ventilation complies with OSHA requirements of contract specs whichever is more demanding.				
11. Ventilation is reversible.				
12. Atmosphere is regularly tested. Describe number of handhelds.				
13. All diesel require scrubbers and when diesel is being used atmosphere is tested for NO2				
14. Illumination is adequate.				
15. Material storage is organized throughout.				
16. Walkways and ladders are unobstructed and clear of any debris.				
17. Flammables stored properly.				
18. Proper ground support installed				
19. Shaft is cleared when materials are brought into or out of shaft.				
20. Jumbo decks must have proper fall protection installed				
21. Locis must have audible warning device to warn employees of movement, safety glass, windshield wipers, lights, braking, and seats for driver and passengers.				
22. Equipment to be hauled shall be loaded and secured to prevent sliding or dislodgement				
23. Electric power must be secured with non-conductive materials				

# Appendix 5—Veolia Lock-out Tag-out Procedure

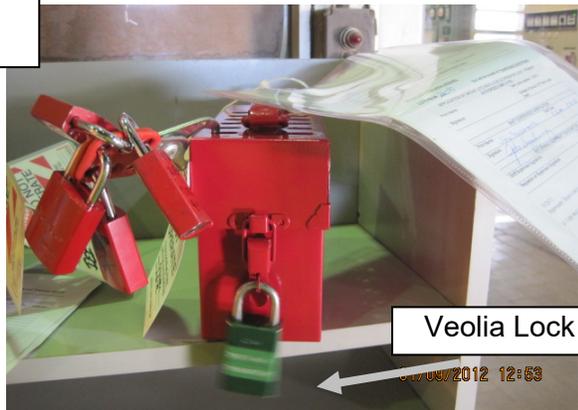
## Veolia Lock-out Tag-out (LOTO) Summary

1. Contractor notifies RE of need to initiate a LOTO of Veolia equipment (lead time varies by contract).
2. Veolia writes a lock out procedure for equipment and then installs locks and put keys in lock box. A list of the installed locks is attached to the Veolia lock box.
3. Veolia conducts a walk through/explanation of the locks installed with the contractors working on the equipment that is locked out.
4. Each contractor working on locked out equipment installs a company identified hasp on the Veolia lock box.
5. Each contractor employee installs his/her own lock on their company's hasp. Lock must have employee's name and telephone number on lock (use of tape is acceptable).
6. The employee also signs the Veolia sheet with their name and the date their lock was installed.
7. When employee removes lock he/she will then sign the date their lock was removed.

Lock Out Procedure  
 (#1 & #2 Turbine with Air Intake)  
 Lock Box # 45106\_4510

Steps for LOTO	Location	Type of Hazardous Energy	Magnitude	Hazard/Injured
#1 Turbine - Tag on Electrical Switch	PH Control Room	Electrical	V	No
#2 Turbine - Tag on Electrical Switch	PH Control Room	Electrical	V	No
#1 Gas Fuel (Do not Operate Tag on Valve)	Next to Turbine On Floor	Gas		No
#2 Gas Fuel (Do not Operate Tag on Valve)	Next to Turbine On Floor	Gas		No
#1 Fuel Oil Valve (Do not Operate Tag on Valve)	Yellow Grate on South Side of Turbine	Fuel		No
#2 Fuel Oil Valve (Do not Operate Tag on Valve)	Yellow Grate on South Side of Turbine	Fuel		No
#1 Turbine Feed Breaker to Panel (LCP-26-16) - 1 lock on the Breaker	Boiler Electrical Room	Electrical	480V	No
#2 Turbine Feed Breaker to Panel (LCP-26-18) - 1 lock on the Breaker	Boiler Electrical Room	Electrical	480V	No
#1 Isolation Damper Motor - 1 lock on Breaker	Basant of PH	Electrical	480V	No
#2 Isolation Damper Motor - 1 lock on Breaker	Basant of PH	Electrical	480V	No
#1 Isolation Crank Valve Damper - 1 Lock & Chain on Wheel Valve	Basant of PH	None	480V	No
#2 Isolation Crank Valve Damper - 1 Lock & Chain on Wheel Valve	Basant of PH	None	480V	No
#1 Diesel Starter (Breaker #4) - 1 lock on the Breaker	Basant of PH	Electrical	480V	No
#2 Diesel Starter (Breaker #4) - 1 lock on the Breaker	Basant of PH	Electrical	480V	No
#1 Hydraulic Ratchet (Breaker #3) - 1 lock on the Breaker	Basant of PH	Electrical	480V	No
#2 Hydraulic Ratchet (Breaker #3) - 1 lock on the Breaker	Basant of PH	Electrical	480V	No
#1 Auxiliary Hydraulic Pump - 1 lock on the Breaker	Basant of PH	Electrical	480V	No

2.



Veolia Lock

01/08/2012 12:50

01/08/2012 12:53



3.



4.-5.

01/08/2012 12:51

6.-7.

# Appendix 6—Example—Confined Space Permit/Non-Permit Confined Space

**CONFINED SPACE EVALUATION PERMIT**

PERMIT CONFINED SPACE

NON-PERMIT CONFINED SPACE

HOW WAS NON-PERMIT DETERMINATION MADE? (ANSWER MAY CONTINUE ON BACK OF FORM):

---

EVERY SECTION OF THIS FORM MUST BE COMPLETED:

COMPANY	LOCATION OF SPACE:				
PURPOSE OF ENTRY:					
START DATE:		FINISHED DATE:			
PERMIT ORIGINATOR:			PERMIT SUPERVISOR:		
ENTRANTS			ATTENDENT(S)		
<b>HAZARDS IDENTIFICATION (POTENTIAL INCL)</b> Check all that apply and discuss with crew prevention measures.			<b>REQUIRED EQUIPMENT FOR ENTRY</b> Check all that apply – OCIP requires all listed equipment to be onsite for a permit confined space – equipment may not be used but is available.		
Atmospheric hazards			Gas monitor		
Entrapment hazards			Tripod		
Lockout / Tagout required			Safety harness for all entrants		
Fall hazards			Ventilation Equipment		
Chemical hazards			Fall protection around MH		
Weather hazards			Hard hat, traffic vest, safety glasses and safety boots or shoes.		
Biological hazards			Traffic control if required		
Animal, insect and rodents			Waders if entering live sewer		
All checked hazards have been discussed with entry crew or have been alleviated prior to entry			Communication equipment if voice communication is not clear		
			OTHER		
<b>AIR QUALITY TEST</b>					
	TEST 1	TEST 2	TEST 3	TEST 4	COMMENTS
TIME:					
O <sub>2</sub>					
LEL					
CO					
H <sub>2</sub> S					
OTHER TOXIX					
TEST BY:					
RESCUE PROCEDURES:					

# Appendix 7—Example—Hot Work Permit

## HOT WORK PERMIT FORM

**Instructions:** The contractor competent person must complete a hot work permit for any operation involving open flames or producing heat and/or sparks. Hot work includes, but is not limited to: Brazing, torch cutting, grinding, soldering and welding. When working at a Veolia facility complete this form (except for end of work time) and attach a copy to Veolia "Daily Contractor Work Permit". This hot work permit must be available for review at the worksite. At the end of the day, after final inspection of the hot work site, the welder signs off and submit the completed permit to Veolia Shift Supervisor

SECTION 1: SITE INFORMATION		NECESSARY PRECAUTIONS	
MMSD Project:		Before signing this form authorizing the job the Supervisor and Veolia should inspect the proposed work area and check below the precautions taken. Check applicable	
Hotwork Location:		<b>Contractor will Review work site with Veolia at JI / SS facilities.</b>	
Nature of Work:		<input type="checkbox"/>	Sprinklers are in service
Date of Work:		<input type="checkbox"/>	Precautions within 35 ft of work – Floors / beams are clean of dust and combustibles
Time of Hotwork	Begin: _____ End: _____	<input type="checkbox"/>	Enclosed equipment cleaned of combustibles and dust.
<b>SECTION 2: CONTRACTOR INFORMATION</b>		<input type="checkbox"/>	Combustible floor wet down or covered with fire resistive tarps.
<b>COMPANY:</b>		<input type="checkbox"/>	Flammable liquids removed Other combustibles if not removed are protected with fire resistive tarps.
Foreman /Hot work Competent Person : Name: _____		<input type="checkbox"/>	Container purged of flammable liquids.
Cell Phone: _____		<b>Continuation of Contractor Review</b>	
Contractor Welder / if same as above state "Same": Name: _____		<input type="checkbox"/>	Cutting and welding equipment is in good repair
Cell Phone: _____		<input type="checkbox"/>	All walls, floor openings are covered. Conveyor systems that may carry sparks are protected
Foreman / Hot work competent person has examined work location and has reviewed and checked "Necessary Precaution" section of permit. Work can proceed		<input type="checkbox"/>	Explosive atmospheres tested for and eliminated.
Signature: _____		<input type="checkbox"/>	Fire watch will be provided during and for at least 30 minutes after work and during any coffee or lunch breaks
Fire Watch - Name:	_____	<input type="checkbox"/>	Fire watch is supplied with suitable extinguisher.
<b>SECTION 3: FINAL CHECK</b>		<input type="checkbox"/>	Fire watch is trained in use of this equipment and in sounding alarm
Work area and all adjacent areas to which sparks and heat might have spread were inspected 30 minutes after the work was completed and found fire safe.		<input type="checkbox"/>	Fire – resistant tarps suspended beneath elevated hot work
Signature: _____			

## Appendix 8—Example—Daily Scaffold Inspection Form/Tag

Jobsite: \_\_\_\_\_

Contractor: \_\_\_\_\_

Check if OK.

<b>CHECK THE FOLLOWING:</b>	<b>Check if OK</b>
All planks and wooden components are free of split, rot, oil or any paint which would cover defects.	
Work platform free of clutter, mud, snow, oil or any tripping hazard.	
All welds and bolted connections in good condition	
All locking devices on frames and braces in good working order	
All member or parts of the entire steel scaffolding component are straight and free from bends, kinks, dents, cracks and excessive rust.	
All safety equipment installed.	
Scaffold is erected in accordance with manufacturer recommendations	
Scaffold is erected on good foundations and tied to the building (vertically every 26 ft. and horizontally every 30 ft.)	
Scaffold is plumb, level, square.	
Scaffold is on base plates.	
Mudsills are level, sound and rigid (not less than a 2"X10"X18")	
There is safe access to all scaffold platforms	
All working scaffold are fully planked.	
Planks extend at least 6 inches and no more than 12 inches over supports.	
Scaffold has all required guardrails and toeboards.	
Scaffold is not erected above people, access ways or roads.	
All ties are fixed with load bearing couplers.	
Scaffold use does not exceed maximum load capacity	
Caster brakes are in good working condition	
Cross bracing installed on both sides of every lift	
Access ladder properly installed.	
6 ft. fall rule is followed on all scaffold operations	

Competent Person: \_\_\_\_\_

Time and Date: \_\_\_\_\_

## Appendix 9—Example Tunnel Evacuation/Re-entry Procedures

### TUNNEL EVACUATION/RE-ENTRY PROCEDURES

IF THE TBM SENSOR SHUTS DOWN THE MACHINE THE FOLLOWING PROCEDURE WILL BE IMPLEMENTED:

Everyone stops what they are doing immediately and meets at the end of the trailing gear. TBM operator must notify toplander that meter has shut down mining operation and crew is evacuating.

A head count is taken and everyone walks out of the tunnel to the shaft.

Toplander must notify Superintendent, Safety Man and Engineer that an evacuation is taking place.

When crews are evacuated and topside, ventilation is reversed and the tunnel is ventilated for 30-60 minutes before anyone can enter the tunnel. The exhaust air will be tested with a meter checking for LEL and time and readings are documented.

**Two** individuals will return with a meter to the heading after **NO LESS THAN 30 MINUTES OF VENTILATING AND EXHAUST AIR READINGS READ 0 LEL**. Any meters used during re-entry will be recalibrated prior to re-entry to ensure accuracy of readings. A velometer will be taken to test air velocity. The re-entry crew of two will report readings to the toplander at each miner phone location. Toplander will record all information.

When reaching the heading they will monitor air at crown and in the invert and check thoroughly for air quality around TBM heading. **THE RE-ENTRY TEAM WILL NOT START-UP ANY EQUIPMENT AT THIS TIME**. If air throughout trailing gear and TBM is found clean they will report to the toplander their findings.

When heading is found to be clean the electrician can enter the tunnel and test sensor head. If sensor is behaving correctly electricity can be re-established. Superintendent, Foreman and Safety will OK that the crew can return to work.

# Appendix 10-Veolia Overhead Crane Daily Operator Inspection Form

	<b>Overhead Crane Daily Operator Inspection Form</b>			
Equipment No. _____	Capacity: _____			
Building: _____	Serial No. _____			
<b>Inspection Items</b>	<b>Condition</b>			
	<i>S = Satisfactory, M = Marginal, U = Unsatisfactory</i>			
	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><b>S</b></td> <td style="text-align: center;"><b>M</b></td> <td style="text-align: center;"><b>U</b></td> </tr> </table>	<b>S</b>	<b>M</b>	<b>U</b>
<b>S</b>	<b>M</b>	<b>U</b>		
1. Are all directional operations O.K.?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
2. Do all speed steps function properly?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
3. Does the hook drift excessively?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
4. Do bridge or trolley motions drift excessively?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
5. Does the upper limit switch stop the hoist? Hoist should be run up slowly and carefully to check upper limit operation. Hoist limits are a safety device only and should not be used in normal operation.	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
6. Do all switches on controls return to neutral when released?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
7. Are functional and capacity nameplates clearly visible?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
8. Are there any obvious signs of damage to hoisting cables or chains, such as kinks, broken strands or links, excessive wear or corrosion, crushed cable?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
9. Is the cable following in drum and sheave grooves properly?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
10. Are there any loose fasteners or guards on lower block?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
11. Are hook safety latches operable?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
12. Has hook been deformed? A hook that has a throat opening spread more than 15% of it's original dimension, or twisted more than 10 degrees is considered unsafe.	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
13. Do you notice any leaking fluids?	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<b>ANY UNSATISFACTORY CONDITIONS FOUND MUST BE CORRECTED BEFORE OPERATION OF CRANE</b>				
Comments: _____				
_____				
_____				
Date: _____	Operator: _____			
	Signature _____			

3/28/08  
cc: Copy must remain on file for five years

EHS&S-025

# Appendix 11 Example Man Basket, Work Platform Pre-Lift Documentation

## SUSPENDED MAN BASKET / WORK PLATFORM LOAD TEST DOCUMENTATION

Location:		Contract Name / Number:	
Activity:		Date:	
<b>MAN BASKET / PLATFORM INSPECTION</b>			Platform Number:
<b>CRANE PRELIFT TEST OF EMPTY MAN BASKET / PLATFORM TO WORK STATIONS MUST BE DONE DAILY BEFORE UNIT IS OCCUPIED</b>		YES	NO
Designed by a qualified engineer or by a non-engineer with structural design experience. Engineer documentation on site.			
Access gate is equipped so that door will not swing out with latching device to prevent accidental opening.			
Platform has handrail standard guardrail (typically 42") with toeboard. The sides must be closed off from toeboard to the mid-rail with 1/2" (or less) wire mesh and grab rail encircling the inside (typically 30-34" high)			
There must be room to stand-up and overhead protection provided only if there's danger from falling objects.			
Platform labeled with basket's weight and its rated load capacity. It must be capable of supporting its own weight and 5X's the intended load.			
Rigged so it won't tip when lifted. Legs of wire rope bridle connected to a master link (D-ring). All hardware can support 5Xs intended load (except non-rotational then it is 10Xs). Hooks capable of closing and being locked. All wire rope "eyes" have thimbles and connecting bolt pin shackles with cotter pins in place.			
<b>CRANE INSPECTION</b>			Model Number:
Crane Manufacturer:		Serial Number:	Type of Crane:
Load line has no kinks and can support 7xs intended load (non-rotational is 10Xs)			
Load chart reviewed, controls labeled and working. Daily inspection complete			
Operator can see boom angle indicator and anti-two block system is operational			
Hook is able to be locked.			
Outriggers fully extended / Crane is NOT on wheels			
Cribbing or mats required and in place.			
Are electrical hazards within reach of boom - if yes explain voltage and distance:			
<b>LOAD TEST DOCUMENTATION</b>			
Lift Will Be:		On Boom	On Jib
		Over Side	Over End
Load Calculation:		<b>Man Basket - Platform Proof Test</b>	
1. A. # Persons _____ X 250 lb/ea = _____		At job start or when crane moves:	
B. Tools & Equipment = _____		Basket / Platform Weight Capacity _____	
2. Man Basket Weight = _____		X 1.25	
3. Rigging ( Slings, Block, etc.) = _____		Proof Load = _____	
<b>TOTAL</b> = _____		LOAD THE BASKET with proof load and suspend above ground for 5 minutes.	
Crane Operator Signature: _____		Basket and rigging inspected following proof test? _____	