



### Occupational Exposure Hazards for Plumbers

This hazard assessment identifies the hazards to workers and specifies the personal protective equipment (PPE) to protect workers during performance of job task(s).

Task Description	Hazard Description/ Potential Hazard	Hazard Risk Assessment Category	Personal Protective Equipment (PPE)/ Preventative Measures	Specific type (example) Characteristics Applications
<p><b>Unplugging, unclogging;</b> toilets, sink drains, urinals, bathtubs and outside sewer lines. Tools used to remove clogs are plungers and/or flexible augers (commonly called a "snake"). Several types of augers (mechanical and electrical) are used.</p>	<p><b>A. <i>Splash hazard</i></b> - to face and/or body will commonly occur when snake is being pulled out or when using a plunger.  <b>B. <i>Pinch hazard</i></b> - most devices consist of a coiled metal wire with space between the coils at the end. The plumber must handle the coil wire when inserting it and pulling it out.  <b>C. <i>Cuts, lacerations, amputations, breaks and other physical injury hazards</i></b> - can be caused by the electrical snakes (augers): coil can backlash while retracting if it is snagged or caught.</p>	<p>Probability = 4 Severity = 3</p> <p>Probability = 2 Severity = 3</p> <p>Probability = 2 Severity = 4</p>	<p>A. Safety goggles.          B. Gloves (disposable or waterproof and can be sanitized)          C. Coverall - disposable, liquid &amp; particulate proof</p>	<p><b>Yellow Snake Handler Gloves</b></p> <p>Liquid-proof, coated gloves granulated PVC surface abrasion resistance and resistance to being pinched between coils of cable.</p>  <p><b>Black nitrile gloves</b> - disposable texturized, chemically/puncture resistant.</p>  <p><b>Safety Goggles</b></p>  <p><b>Coverall</b></p> 
<p><b>Spill clean up</b> of contaminated standing waste water. This water can contain fecal matter, blood, and other body fluids.</p>	<p><b>A. <i>Splash hazard</i></b> - to face and body during clean up.  <b>B. <i>Contamination hazard</i></b> - of clothing and footwear when walking through standing water.</p>	<p>Probability = 3 Severity = 3</p> <p>Probability = 3 Severity = 3</p>	<p>A. Safety goggles or full face shield.          B. Gloves (waterproof and can be sanitized or disposable gloves)          C. Rubber boots          D. Coverall - disposable, liquid &amp; particulate proof          E. Wadders (<i>need to be used when water level is above boot height</i>)</p>	<p><b>Safety goggles and/or full-face shield, Tyvex coveralls, black nitrile gloves, rubber boots</b></p>     
<p><b>Pumper Truck/Vactor Truck.</b> This truck has a large tank and the capability to pump liquids or slurries into and out of the tank. These trucks are used for cleaning sewers, storm drains and septic tanks.  <i>(If a noise dosimetry has not been conducted on the Vactor/Pump trucks, used here at NMSU, perhaps one should be done. Info sited in the "Hazard Description" column is from other sources.</i></p>	<p><b>A. <i>Splash hazard</i></b> to face and body because of "jetting" which uses high pressure water. Water from "jetting" can be wastewater.  <b>B. <i>Splash hazard</i></b> - Vacuum hose drips onto worker's head and upper body once it is turned off. This water contains raw sewage.  <b>C. <i>Noise hazard</i></b> - noise dosimetry studies done on vactor/pump trucks ranged from 70 - 98 dBA, which exceeds the OSHA Action Level (AL) of 85 dBA over an 8 hour time weighted average.</p>	<p>Probability = 5 Severity = 3</p> <p>Probability = 5 Severity = 3</p> <p>Probability = 5 Severity = 2</p>	<p>A. Safety goggles          B. Gloves (disposable or waterproof and can be sanitized)          C. Rubber boots          D. Coveralls - disposable, liquid &amp; particulate proof          E. Safety Vest          F. Hard hat          G. Ear protection          H. Traffic Cones - to divert traffic around truck</p>	<p><b>Safety goggles, shields, black nitrile gloves, rubber boots, Tyvex coveralls, safety vest, hard hat, ear protection &amp; traffic cones</b></p>          

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Sink drains	<p><b>A. <i>Splash hazard</i></b> - to face and upper body can occur if lying under sink to work. Fluids can drip onto worker. Fluids may contain; vomit, saliva, blood, other body fluids, and various materials.</p> <p><b>B. <i>Chemical hazard</i></b> - chemical used to unclog sink drains could come into contact with skin.</p>	<p><b>Probability = 5 Severity = 2</b></p> <p><b>Probability = 5 Severity = 2</b></p>	<p><b>A.</b> Safety Goggles  <b>B.</b> Gloves (disposable or can be sanitized)  <b>C.</b> Waterproof Tyvex Coveralls</p>	<p>Safety goggles, black nitrile gloves, Tyvex coveralls</p> 
Sump pump repair or replace	<p><b>A. <i>Splash hazard</i></b> - would come from pulling out or putting in a pump. Water would be contaminated with soil and other materials</p> <p><b>B. <i>Lock out tag out</i></b> (follow standard procedures)</p>	<p><b>Probability = 2 Severity = 2</b></p>	<p><b>A.</b> Safety goggles  <b>B.</b> Gloves (disposable or waterproof and can be sanitized)  <b>C.</b> Coveralls - Disposable, liquid &amp; particulate proof  <b>D.</b> Rubber boots</p>	<p>Safety goggles, black nitrile gloves, Tyvex coveralls, rubber boots</p> 
Lift Station/Grinder pumps (chemical treatment of waste water)	<p><b>A. <i>Splash hazard</i></b> - with raw sewage, when pulling out equipment or maintenance of equipment and hosing down walls with a high pressure hose.</p>	<p><b>Probability = 4 Severity = 3</b></p>	<p><b>A.</b> Safety goggles <u>and</u> full face shield  <b>B.</b> Gloves (disposable or waterproof and can be sanitized)  <b>C.</b> Coverall - disposable, liquid &amp; particulate proof  <b>D.</b> Rubber boots</p>	<p>Safety goggles or full face shield, black nitrile gloves, Tyvex coveralls, rubber boots</p> 
Sewer Lines (repair or replacement both inside and outside of buildings)	<p><b>A. <i>Cuts, scrapes, abrasions hazard</i></b> - can occur when cutting sewer line or handling sewer pipes.</p> <p><b>B. <i>Splash hazard</i></b> - to face and body can occur if sewer line is punctured or cut or ruptured. These lines have raw sewage in them.</p>	<p><b>Probability = 3 Severity = 3</b></p> <p><b>Probability = 3 Severity = 3</b></p>	<p><b>A.</b> Safety goggles  <b>B.</b> Gloves - puncture resistant (disposable or waterproof and can be sanitized)  <b>C.</b> Rubber Boots  <b>D.</b> Coveralls - Disposable, liquid &amp; particulate proof</p>	<p>Safety goggles, black nitrile gloves, Tyvex coveralls, rubber boots</p> 

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<p><b>Manholes</b> are entered to do repairs or removal of debris</p>	<p><b>A. Confined space</b> (Follow standard procedures) <b>B. Contamination hazard</b> - potential for contact with waste water.</p>	<p>Probability = 2 Severity = 3</p>	<p>A. Permit required B. Must call Environmental Health &amp; Safety before work can proceed. C. Safety goggles D. Gloves (disposable or waterproof and can be sanitized) E. Coveralls - Disposable, liquid &amp; particulate proof F. Rubber boots G. Traffic cones - used to divert traffic if manhole is in street area.</p>	<p>Safety goggles, black nitrile gloves, rubber boots, Tyvex coveralls, hard hat, &amp; traffic cones</p> 
<p><b>Emergency Response</b> (potential to come in contact with waste water, raw sewage, other body fluids, chemicals and other materials)</p>	<p><b>A. Splash hazard</b> - to face and body <b>B. Contamination</b> - of clothing and footwear <b>C. Pinch hazard</b> <b>D. Cuts, scrapes, abrasions hazard</b></p> <p><b>**WARNING**</b></p> <p>If you are using "Terminator" as the disinfectant <b>DO NOT</b> mix with any bleach product or soap/detergent product. Irritating gases or vapor will form. Make sure before you pour "Terminator" on to a spill that bleach, soap/detergent has not been used on it.</p>	<p><i>Hazard risk would have to be assessed depending on nature of the emergency</i></p>	<p>A. Response Kit that contains: Safety goggles, full face shield, gloves - puncture resistant (disposable or waterproof and can be sanitized), rubber boots, and <b>**Coveralls - <u>waterproof</u> &amp; <u>chemical resistant</u></b>, safety vest, ear protection, traffic cones, a disinfectant (Terminator or 10% household bleach solution) to clean equipment, hand sanitizer gel or wipes and a first aid kit.</p> <p><b>**All vehicles should have a response kit stored in them**</b> <b>**R esponse kit replacement supplies should be located in a central area.**</b></p>	<p>Safety goggles, full-face shield, black nitrile gloves, rubber boots, Tyvex coveralls, safety vest, hard hat, ear protection &amp; traffic cones, disinfectant, hand sanitizer - gel or wipes, and a first aid kit</p>  <p>preferred disinfectant</p>
<p><b>Well Stations</b> (adding Sodium Hypochlorite and Phosphates to water)</p>	<p><b>A. Splash hazard</b> to face and body (this can happen when syphon hose is removed from 55 gallon drum. Syphon hose can also rupture causing a splash hazard.</p>	<p>Probability = 5 Severity = 2</p>	<p>A. Full face shield <u>and</u> safety goggles. B. Gloves (disposable or waterproof and can be sanitized) C. Rubber boots or waterproof shoe coverings D. <b>**Coveralls - <u>waterproof</u> &amp; <u>chemical resistant</u></b></p>	<p>Full face shield, safety goggles, black nitrile gloves, Tyvex coveralls, rubber boots</p> 

**\*\*Note** - Disposal coveralls in "Emergency kits" and "Well Stations", must be *waterproof* and *chemical resistant*.