



Underground Construction (Tunneling)

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Husky Construction

Description of Work

- ✎ The severity of injuries and recuse difficulty are much higher than other types of construction
- ✎ OSHA Standards 1926 Subpart S - Underground Construction, Caissons, Cofferdams, and Compressed Air

Description of Hazard

- ✎ 7 hazards
- ✎ Air Contaminants
- ✎ Ventilation
- ✎ Illumination
- ✎ Communications
- ✎ Flood Control
- ✎ Mechanical/ Mobile Equipment
- ✎ Explosive/ Fire Prevention and Protection

Description of Hazard

∞ Air Contaminants

- Dust and toxic gases are emitted during concreting and equipment operation
- Measured by PEL and LEL

∞ Ventilation

- Accumulation of dangerous and toxic gases and dust
- Can cause respiratory diseases

∞ Illumination

- Ensure safe working environment
- No natural light



Description of Hazard

∞ Communications

- Insufficient communication systems can increase chance of accident and affect rescue procedure

∞ Flood Control

- Groundwater ingress can cause falls or electrocution



Description of Hazard

⌘ Mechanical/ Mobile Equipment

- Can cause struck-by incidents, hearing loss, and caught in/between

⌘ Explosive/ Fire Prevention and Protection

- Tremendous damage if explosion occurs



Description of Controls

∞ Air Contaminants

- Competent person should be assigned to perform all the air monitoring
- Have the authority to stop the work

∞ Ventilation

- Mechanical ventilation
- Dust control measures



Description of Controls

∞ Illumination

- Inspect regularly by the electricians
- Locate electrical power lines away from disruption
- Provide portable hand or cap lamps

∞ Communications

- Handheld transceivers
- Independent power supply for powered communication systems
- Test the communication systems before each shift



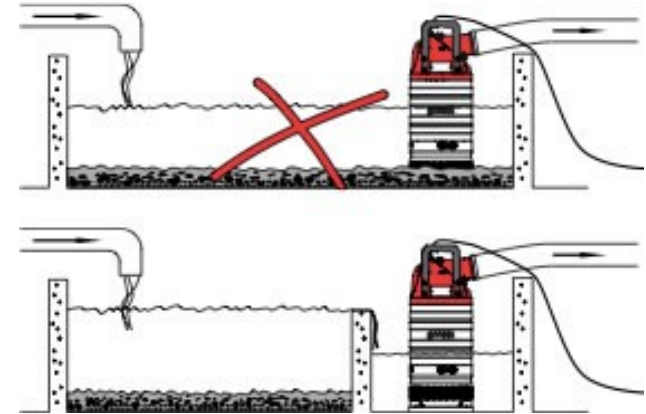
Description of Controls

∞ Flood Control

- Adequate water pumps
- Inspect and maintain the pumps regularly
- Stop all work when flooding occurs

∞ Mechanical/ Mobile Equipment

- Inspect and maintain according to owner's manual
- Report any damaged equipment and stop using it
- Avoid using multiple pieces of equipment at the same time to maintain noise level
- audible warning devices and visible lights



Description of Controls

∞ Explosive/ Fire Prevention and Protection

- Smoking and flame-producing materials must be prohibited
- Signs
- Flammable materials should not be stored near any lighting fixtures
- Self-rescuers (Respirator) must be provided



Description of Controls

∞ Other Controls

- Routine housekeeping
- Toolbox training
- Safety information
- Safety walk with Project Managers and Safety Managers every week
- Encourage employees to report any hazardous acts and conditions
- Fire drill



Thank you

