UNGER
CONSTRUCTION CO.

# Proof of Training

Print name: _____Signature: _____ Date: _____

**Removing Raised Floor Tile (Computer Room)**

Purpose

To establish appropriate expectations and safe work practices for the removal of raised floor tile.

Scope

This policy will apply to all work performed by Unger employees and our subcontractors including, but not limited to the following activities: construction, installation, demolition, remodeling, relocation, refurbishment, testing, and servicing or maintenance of equipment or machines, and at other times when raised floor tiles are removed.

Objective

Due to the nature of the hazards and the potential for business interruptions, specialized work techniques are required whenever raised floor tiles are to be removed. When a floor tile is removed and the under floor area is open there is a potential for serious injury. Proper protective measure must be put in place.

**Responsibilities**

Management (Board of Directors and Project Managers)

Management is responsible for ensuring that the materials (e.g., tools, equipment, personal protective equipment) and other resources (i.e., worker training materials) required to fully implement and maintain this program are readily available where and when they are required. Additionally, management will monitor the effectiveness of the program, provide technical assistance as needed, and review the program bi-annually.

Program Manager

Dave Simpson is responsible for the development, documentation, training and administration of the program. This position carries the responsibility of insuring this program is adhered to and that proper reporting is executed.

Supervisors (Superintendents and Foreman)

Supervisors are responsible for ensuring that a task specific job hazard analysis (JHA), also known as a safe work plan, is developed. The JHA will select, implement and document the appropriate site-specific control measures as defined within this policy. Supervisors will direct the work in a manner that ensures the risk to workers is minimized, adequately controlled and that practices defined by this policy will be followed. Supervisors are responsible for ensuring Unger Construction employees and subcontractors

are following expectations. Supervisors will be held accountable for enforcing the requirements of this program. Undesirable behavior will not resolve itself, therefore supervisors must be directly involved with modifying behaviors inconsistent with program expectations. Supervisors will be held accountable for enforcing Unger Construction's disciplinary program.

Workers (Employees and Subcontractors)

Unger Construction has high expectations and requires safety excellence for each employee, crew, project and for our entire company. Workers are required to follow the minimum procedures outlined in this program. Workers are responsible for knowing the hazards and the control measures established in the JHA. Workers are responsible for using the assigned PPE in an effective and safe manner. Workers are responsible for stopping unsafe acts and correcting unsafe conditions on the spot as soon as they are discovered. Any deviations from this program must be immediately brought to the attention of your supervisor. Workers that choose to conduct themselves in a manner that is inconsistent with these expectations will be held accountable for those decisions and may incur disciplinary actions.

Hazardous Material Survey

Unger Construction requires hazardous materials surveys before demolition or renovation work begins. The survey shall include all of the following: A visual inspection of a facility or a portion thereof for suspect materials, sampling and laboratory analysis of any suspect materials found for the presence of asbestos. The hazardous materials survey will also furnish a written report that includes: a description of the area(s) visually inspected, a detailed description of any suspect material sampled, the results of any laboratory analysis of suspect materials, the method of analysis, and the total amount of asbestos containing material. Typically a floor or roof plan is included with the report to reference the written information visually.

The person conducting the survey must be certified pursuant to OSHA and/or EPA regulations. The survey may be performed by a certified Site Surveillance Technician (SST) under the supervision of a licensed consultant. Note: The survey may be performed by a certified Site Surveillance Technician (SST) under the supervision of a licensed consultant. Note: The survey needs to be kept in a project file so that it can be accessed when working on future projects.

If lead or asbestos have been confirmed to be present employees and subcontractors must follow Unger Constructions Lead and/or Asbestos program. If hazards such as asbestos or lead will be disturbed during remediation, a properly licensed professional must perform the work and follow appropriate regulations.

Job Hazard Assessment (Safe Work Plan)

Unger Construction utilizes JHA's as our means of hazard assessment and establishing a safe work plan. JHA's are performed by supervisors and/or workers. Our library of hazard assessments is maintained on the "S" drive. Before beginning a new task refer to the JHA library, generally speaking all scopes of our work are covered. For situations that have not yet been covered select one that is substantially similar and use it as a baseline. JHA's on the "S" drive are organized by work area and job description. JHA's include strategies for elimination, substitution, engineering and administrative controls. After applying all appropriate reduction and elimination technique, the remaining hazards will be analyzed and the proper PPE to reduce the hazards will be selected. PPE will be identified for hazards that are in the

process of being reduced or eliminated and/or when hazard-reduction efforts are not 100% effective in eliminating the hazards.

For complex or moderate to high hazard tasks, tasks where an additional level of safety planning is needed, the safety director will perform the JHA with the supervisor and workers.

Training

Before any employee is allowed to remove raised floor tiles they must first receive training. Each employee must demonstrate an understanding of the required training to their supervisor before being allowed to perform work.

Proof of training is available on the "S" drive. The training data base can be sorted by employee name or by subject. This ensures supervisors and employees are able to confirm they have the necessary training and if they don't which employees do. Employees that need training should contact their project manager or superintendent to make arrangements for them to be trained.

Retraining

The need for retraining will be indicated when: An employee's work habits or knowledge indicate a lack of necessary understanding, motivation or skills required, new equipment is installed/purchased, changes in the workplace make previous training obsolete, or upon a supervisor request.

Discussion

Raised floor environments can range in size from a few hundred square feet to more than 100,000 square feet. The height from the subfloor can range from 6 inches to several feet. The raised floor tiles serve multiple purposes which may not be obvious. In essence they distribute weight and transfer loads functioning as an integral part of the structural stability of the floor. Additionally, they serve as a plenum for under floor air conditioning. Air is forced under the floor and vented into critical locations with special air flow panels. Removing raised floor tiles will alter both the structural stability of the floor and the air flow patterns which could disrupt the cooling requirements for sensitive equipment resulting in overheating, and potentially equipment failure.

Raised floor tiles come in a variety of configurations and compositions each with a unique functionality. Tile color and composition can be indications of the tiles purpose and rating. Weight ratings can range from 300 pounds per square foot to over a thousand pounds per square foot.

General Rules

While each raised floor environment is unique Unger has general rules to follow, with that said the owners' rules and procedures will take priority and should be followed to the letter. Deviations from the owners established protocol will require written approval before work can proceed.

Due to adverse effects on structural integrity and sub-floor pressure the number of floor tiles pulled must be kept to a minimum.

No more than 6 raised floor tiles total can be removed from any area at one time. This will preserve static pressure; prevent the raised floor from shifting or collapsing.

No more than two contiguous tile may be opened at the same time.

If one or two tiles are removed, the tiles must be reinstalled before leaving for any reason except in the case of an emergency evacuation.

If three tiles or more are removed and the individual(s) working in the open floor tile must walk away for any reason such as break, lunch, or getting a tool etc, the opening must remain guarded by barriers and warning signs. Replace floor tiles at the end of each day.

Pre-Task Plan

Floor tiles cannot be removed without permission and coordination of the data center owner, facility managers' representative.

Identify each tile and the tiles position such that you ensure each floor tile is returned to its original position and orientation. All vented floor tiles must be returned to the position which they were removed and all air dams maintained in the position they were found. Plan accordingly.

Pulling the Tiles

Upon receipt of the floor tile removal approval the worker must communicate the hazard to others working in the area; and position barriers and warning signs around the entire hazard area.

Floor tiles must be removed using the approved tile pulling tool/device.

Due to the weight and fit often times two people are required to remove a floor tile safely. One person may lift the floor tile providing the weight does not create a manual handling risk.

When tiles are removed the load distribution will change which could cause unexpected movement or shifting of the floor.

Protecting the Opening

Use safety cones, barricades or other safety devices to direct people away from the hazardous areas. Such barriers must not obstruct walkways entrances or exits unless given permission to do so.

Barricading the floor opening –Floor tile openings must be protected by either:

A hard barrier constructed of Unistrut or equivalent, with a top-rail at least 42 inches in height, capable of supporting 200 lbs., a mid-rail set halfway between the top-rail that is zip tied to the raised floor surface.

Danger tape with stanchions (danger tape 6 feet from the leading edge or if space requirements are difficult stanchions placed at the leading edge) A soft barrier consisting of plastic chains and cones can

be used. This method requires an attendant at the leading edge. The attendant must constantly monitor the space and shall perform no other duties. Their sole responsibility is to monitor the opening and protect personnel from inadvertently walking into the opening.

An approved hole cover that meets the strength requirements for the tile position

Storing the Tiles

Removed floor tiles must be stored in a location and manner where they will not cause a slip or tip hazard to others in the area. The removed tile and any associated pieces must be positioned away from the opening and well away from travel paths so as not to create trip hazards. If this is not possible, then a suitable soft barrier with warning signs must be erected.

Returning the Tiles

Each floor tile is returned to its original position and orientation.

All vented floor tiles must be returned to the position which they were removed and all air dams maintained in the position they were found.

Remove the opening protection and signage.

Quality Control

Ensure the tiles have been properly positioned; the leading and trailing edges are flush with the adjoining surfaces.

All tools, materials and debris have been removed, no slip, trip or rolling hazards.

The area is free and clean of construction materials.

The area looks as it did before the project began.

Close the Loop

Communicate to others working in the area that the work is complete.

Communicate to the data center owner, facility managers' representative that the work is complete.