VCSU SAFE OPERATING PROCEDURES:
Scaffolding Safety

The guidelines below cover work done with tubular welded frame scaffolding, power scaffolding, elevating platforms, forklift personnel lifts, and telescoping scaffolding.

Terminology

- **Cleats**: Structural block used at the end of a platform to prevent the platform from slipping off its supports.
- **Coupler**: A device for locking together the tubes of a tube and coupler scaffold.
- **Elevating Platform**: A platform that rises to any desired working height.
- **Guardrail System**: A vertical barrier erected to prevent employees from falling off a scaffold platform or walkway to lower levels.
- **Independent Pole Scaffold**: A supported scaffold consisting of a platform(s) resting on cross beams (bearers) supported by ledgers and a double row of uprights independent of support from any structure.
- **Mid-Rail**: Horizontal rail installed halfway between the top guardrail and the working platform.
- **Mobile Scaffold**: A powered or unpowered, portable, caster or wheel-mounted supported scaffold.
- **Mudsill**: Horizontal rail installed halfway between the top guardrail and the working platform.
- **Outrigger**: Structural member of a supported scaffold used to increase the base width of a scaffold in order to provide support for and increase stability of the scaffold.
- **Scaffold**: Any temporary elevated platform and its supporting structure, used for supporting employees and/or materials.
- **Toe board**: A vertical barrier installed at deck level along the sides and ends of a platform or scaffold.
- **Tubular Welded Frame Scaffold**: A scaffold consisting of a platform(s) supported on fabricated end frames with integral posts, horizontal bearers, and intermediate members.
- **Tube and Coupler Scaffold**: A scaffold consisting of a platform(s) supported by tubing, erected with coupling devices connecting uprights, braces, bearers, and runners.

Procedure

Additional procedures/information concerning assembly, use, parts, and accessories can be found in the manufacturer’s guide.

- **General requirements for all scaffolds:**
  - Scaffolds will be furnished and erected in accordance with this standard for persons engaged in work that cannot be done safely from the ground or from solid construction.
  - All scaffolding and elevating platforms, either leased or purchased, will have the manufacturer’s safety instructions available for erection and use. Scaffolding and elevating platforms must be erected and used following the manufacturer’s instructions and the Safe Operating Procedure. Scaffold components manufactured by different vendors will not be mixed.
  - The footing or anchorage for scaffolds will be sound, rigid and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks will not be used to support scaffold planks.
  - Scaffold poles, legs and uprights must be plumb. Additionally, poles, legs, and uprights will be securely and rigidly braced to prevent swaying and displacement. Scaffolding will be tied and securely braced to the building or structure at least every 30 feet in length and 25 feet in height.
  - Scaffolds whose working platform is 10 feet or greater in height will have a standard guardrail, mid-rail, and toe board installed.
  - Scaffolding having a width of less than 45" must have standard guardrails on all open sides and ends when the working platform height is 4 feet or greater.
o Scaffolds and their components will be capable of supporting without failure at least four times the maximum intended load.

o Each platform on all working levels of scaffolds will be fully planked or decked according to 29 CFR (Code of Federal Regulations) Part 1926.451(b).

o Scaffolds and other devices mentioned or described in this section will be maintained in safe condition. Scaffolds will not be altered or moved horizontally while they are in use or occupied.

o Head protection is required for workers on or around scaffolding when there is a danger of falling objects and head injury.

o Working on scaffolds or platforms during storms, high winds or when covered with snow or ice is prohibited.

o The live load of the scaffolds or platforms will NOT be exceeded.

o A visual inspection will be conducted immediately when a scaffold or platform has been damaged or weakened by any cause. The structure will not be occupied until the inspection has been completed and all identified discrepancies corrected.

o Frames and accessories for scaffolds will be maintained in good repair. Every defect, unsafe condition, or noncompliance with the manufacturer’s specifications or recommendations or this Safe Operating Procedure will be corrected immediately. Any broken, bent, rusted, altered, or otherwise structurally damaged item/section or accessory will not be used.

o Ladders or make shift devices will not be used to increase the height of a scaffold or platform.

o Scaffolds will not be loaded in excess of the working load for which they are intended.

o All load-carrying timber members of scaffold framing will be a minimum of 1,500 f. (Stress Grade) construction grade lumber.

o All planking will be Scaffold Grade as recognized by grading rules for the species of wood used.

o Wood planking will extend over end supports at least 6” and a maximum of 12”. Additionally, planking will be cleated to prevent movement.

o Tools and parts will not be carried in hands or pockets when ascending or descending access ladders. Tool belts, tool buckets and ropes, or other acceptable means will be used to raise and lower such items.

o Slippery conditions on scaffolds and platforms will be eliminated as soon as they occur.

o Cross braces, runners, and bearers will not be used for climbing. Access to scaffolds will be by stairs and ladders only.

o All scaffold casters will have a positive wheel and/or swivel lock to prevent movement.

o When leveling of the scaffold is required, screw jacks or other suitable means of adjusting the height must be provided in the base section of each scaffold. Maximum adjustment is 12 inches. All sections of scaffolding will be locked together vertically by pins or other equivalent means.

**Tubular Welded Frame Scaffolds**

- The assembly, erection, operations, use and maintenance of tubular welded frame scaffolds will meet manufacturer’s requirements and recommendations.

- Mudsills will be placed under each leg. A continuous mudsill (which is under both legs of a side) that is 2” x 10” x 78” (minimum) is recommended. The minimum mudsill that will be used is 2” x 10” x 18” under each leg. Each leg base will be secured to the mudsill.

- Adjustable screw base panels will be used on each scaffold leg. The minimum height of adjustable is 12” to the top of the adjustment screw.

- Spacing of the panels or frames will be consistent throughout the scaffold being assembled.

- Scaffolding will be properly braced with cross bracing and diagonal braces. Cross braces will be of such length as to automatically square and align vertical members so the erected scaffold is always plumb, square, and rigid. All brace connections will be made secure and checked for proper engagement of the locks.

- The frames will be placed on top of the other with coupling or stacking pins to provide proper vertical alignment of the legs.


**Elevating Platforms**

- Maintenance personnel will conduct preventative maintenance inspections.
- Operators will complete an operational inspection prior to each use.
- The live load must not exceed manufacturer’s recommended capacities.
- Outriggers will always be fully extended and in firm contact with the supporting surface.
- The platform will be operated following the manufacturer’s instructions.

**Aerial Lifts**

- Lift controls will be tested each day prior to use to determine that such controls are in safe working condition.
- Only authorized trained persons will use an aerial lift.
- Workers will stand firmly on the floor of the basket, and will not sit or climb on the edge or use planks, ladders, or other devices for a work position.
- A body harness will be worn and a lanyard attached to the boom or basket when working from an aerial lift.
- An aerial lift truck will not be moved when the boom is elevated in a working position with someone in the basket. These units, if primarily designed as personnel carriers, will have both platform (upper and lower) controls. Upper controls will be on or beside the platform within easy reach of the operator. Lower controls will provide for overriding the upper controls. The insulated portion of an aerial lift will not be altered in any manner that might reduce its insulating value.

**Fork Truck Personnel Lifts**

- Fork truck lifts will have a guardrail, mid-rail, and toe board.
- Personnel lifts will be secured to the fork truck to prevent them from sliding off.
- Employees will not be allowed to ride scaffolds while moving horizontally.
- A qualified person must be in the cab of the forklift if someone is on the platform.

**Telescoping Scaffold**

- The scaffold will be thoroughly inspected prior to each use.
- Outriggers will be fully extended prior to use. When the outriggers on the inside of the scaffold cannot be deployed, the scaffold will be secured and braced to the structure if the top deck is raised.
- Once the desired height is obtained, a safety pin will be placed in each leg of the scaffold. Height adjustment is in 6 inch increments.
- Guardrails will be used at all times with this scaffolding.

**Inspections**

All scaffolds and their components will be thoroughly inspected before each erection to ensure the soundness of the scaffold. At a minimum:

- A visual inspection will be made of all tubular components. All foreign objects on the inside of the tubular part will be removed. If the object cannot be moved, the part will not be used.
- The exterior and interior of all legs, runners, braces, and bearers will be inspected for corrosion. All corrosion found will be corrected. A professional engineer will verify that the part which contained the corrosion meets the design criteria after the corrosion has been removed. Components with corrosion will not be used since their strength is unknown.
- Before scaffold is erected, the surface of the proposed location will be inspected for stability, level, potential obstructions, and electrical hazards.
- Erected scaffolds will be visually inspected before each day’s use to insure a safe condition is maintained.