Scaffolding Program

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1. PURPOSE

This program provides the minimum procedures to be followed when scaffolds and platforms are erected and utilized at Mosaic Phosphates facilities.

2. SCOPE

The Scaffolding Program applies to all employees and on-site contractors. The program does not apply to crane suspended personnel baskets, which are covered under the Mobile Crane Program or the Aerial Lift Program. Scaffolding types covered under this program are:

2.1 Supported scaffolding
- 2.1.1 Fabricated frame
- 2.1.2 Form
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3. DEFINITIONS

3.1 Brace - A rigid connection that holds one scaffold member in a fixed position with respect to another member or to a building or structure.

3.2 Cleat - A structural block used at the end of a platform to prevent the platform from slipping off its supports. Cleats are also used to provide footing on sloped surfaces.

3.3 Competent person - 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.

3.4 Fabricated frame scaffold – A scaffold consisting of a platform(s) supported on fabricated end frames with integral posts, horizontal bearers, and intermediate members.

3.5 Form scaffold – A supported scaffold consisting of a platform supported by brackets attached to formwork.

3.6 Guardrail - A vertical barrier, consisting of, but not limited to, toprails, midrails, and posts, erected to prevent employees from falling off a scaffold platform or walkway to lower levels.

3.7 Lifeline - A component consisting of a flexible line that connects to an anchorage at one end to hang vertically (vertical lifeline), or that connects to anchorages at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of a personal fall arrest system to the anchorage.

3.8 Management – For purposes of this program, contractor or Mosaic Phosphates managers, superintendents or supervisors responsible for the scaffold.

3.9 Maximum intended load - The total load of all persons, equipment, tools, materials, transmitted loads, and other loads reasonably anticipated to be applied to a scaffold or scaffold component at any one time.

3.10 Mobile (rolling) scaffold – A powered or unpowered, portable, caster or wheel-mounted supported scaffold.

3.11 Mudsill - A rigid piece of material used to fully support vertical scaffolding members on surfaces that could allow vertical movement.

3.12 Outrigger - The structural member of a supported scaffold used to increase the base width of a scaffold in order to provide support for and increased stability of the scaffold.

3.13 psf – Pounds per square foot.

3.14 Qualified person - One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work or the project. Qualified person for the Scaffolding Program is normally a Registered Professional Engineer.

3.15 Rated load - The manufacturer's specified maximum load to be lifted by a hoist or to be applied to a scaffold or scaffold component.

3.16 Scaffold - Any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage) used for supporting employees or materials or both.

3.17 Scaffolding Supervisor - Any management person directing the building of scaffolding.

3.18 Scaffold tag – A written document filled out and signed by a competent person and attached to the scaffold certifying that the scaffold has been erected to meet the regulatory standards and is safe to use (see Appendices A, B, C).

3.19 Scaffold user – Any person using scaffolding for any purpose, which may include mechanical work, environmental testing, inspections, etc.

3.20 Single-point suspension scaffold (spider) – A suspension scaffold consisting of a platform suspended by one rope from an overhead support and equipped with means to permit the movement of the platform to desired work levels.

3.21 Supported scaffolds – One or more platforms supported by outrigger beams, brackets, poles, legs, uprights, posts, frames, or similar rigid support.

3.22 Suspended scaffolds - Scaffold with one or more platforms, suspended by ropes or other non-rigid means from an overhead structure.

3.23 Systems scaffold – A scaffold consisting of posts with fixed connection points that accept runners, bearers, and diagonals that can be interconnected at predetermined levels.

3.24 Tank builders' scaffold – A supported scaffold consisting of a platform resting on brackets that are either directly attached to a cylindrical tank or attached to devices that are attached to such a tank.

3.25 Top plate bracket scaffold – A scaffold supported by brackets that hook over or are attached to the top of a wall. This type of scaffold is similar to carpenters' bracket scaffolds and form scaffolds and is used in residential construction for setting trusses.

3.26 Three points of contact - Term used for a method of safe ladder climbing where between a climber's two hands and two feet, at least three of them are in contact with the ladder rungs/rails at all times while ascending or descending the ladder.

3.27 Tube and coupler scaffold - A supported or suspended scaffold consisting of a platform(s) supported by tubing, erected with coupling devices connecting uprights, braces, bearers, and runners.

4. GENERAL REQUIREMENTS

4.1 All scaffold components shall be designed by a qualified person or manufacturer, and shall be erected, loaded and used in accordance with that design or manufacturer's specifications.

4.2 Scaffolds shall be erected, altered, moved, or dismantled by trained scaffold erectors and under the supervision of competent persons.

4.3 Employees required to perform work on scaffold platforms shall be trained in the recognition and the control measures for the hazards associated with the type(s) of scaffold being used.

4.4 A scaffold shall be capable of supporting, without failure, its own weight and at least 4 times the maximum intended load.

4.5 Scaffolds with work platforms of 4 feet or more above the ground or next lower level should have complete guardrails and toeboards installed.

4.6 All scaffold work platforms must be completely decked between the uprights and/or guardrail supports.

4.7 Scaffold platforms shall be a minimum of 18 inches wide unless obstructions require a deviation, which shall be approved by management.

4.8 All scaffold decking shall be approved scaffold grade (#1 grade – no knots).

4.9 The footing or anchorage for all scaffolds shall be sound, rigid, and capable of supporting the loaded scaffold without settling or displacement.

4.9.1 Supported scaffold poles, legs, posts, frames, and uprights shall bear on base plates and mudsills or other adequate foundations. (An adequate foundation is one that, like base plates on a mudsill, will prevent the scaffold from settling into the ground, such as a concrete slab.)

4.9.2 Mudsills shall not be made of inferior material (eg. plywood), but of substantial material such as 2'x10" lumber cut to a minimum 12" in length.

4.9.3 Unstable objects such as barrels, boxes, loose bricks, or concrete blocks will not be used to support scaffolds.

4.10 The poles, legs, or uprights of scaffolds shall be plumb, secure and rigidly braced to prevent swaying and displacement.

4.11 Manufactured scaffold components shall not be modified.

4.12 Scaffold components manufactured by different manufacturers or of dissimilar metals shall not be intermixed unless the components fit together without force or modification and the scaffold's structural integrity is maintained as determined by a competent person.

4.13 Supported scaffolds with a height to base width ratio of more than four to one (4:1) shall be restrained from tipping by guying, tying, bracing, or equivalent means.

4.14 Scaffolds shall not be moved while they are in use. All persons and equipment should be completely removed from scaffolding before it is moved.

4.15 Any damaged scaffold component shall not be used until it is repaired. If a damaged scaffold cannot be immediately repaired, it should be labeled on the scaffold tag as damaged so it will not be used.

4.16 Scaffolds should not be used during storms, high winds, or when covered with snow or ice.

4.17 Materials hoisted to a scaffold should have a control line separate from the hoist line to control the load. Tools, materials, and debris on scaffolds should be minimized.

4.18 Where overhead hazards exist, appropriate overhead protection should be provided.

4.19 Fiber ropes supporting suspended scaffolds should be made of polyester or dacron material (resistant to corrosive substances) when corrosives are present in the area. Wire rope should be used when appropriate.

4.20 Scaffolds over 125' high must be designed by a qualified person (registered professional engineer) competent in this field. Design drawings must be approved and sealed prior to erection and kept on site.

5. COMPONENTS INSPECTION AND STORAGE

5.1 Components Inspection

5.1.1 Scaffold users shall read scaffold tags prior to using any scaffold. The instructions or warnings outlined on the tag must be followed. Users shall inspect the scaffold prior to and during use and report any defects or concerns to their supervisor immediately.

5.1.2 Scaffolds and scaffold components shall be inspected for visible defects by a competent person prior to initial use, before each work shift during which the scaffolding will be used, and after any occurrence which could affect a scaffold's structural integrity. The competent person shall sign and date the tag upon each inspection.

5.1.3 Before erecting and during dismantling, trained scaffold erectors shall inspect all scaffold components. Those found with defects must be repaired or replaced immediately.

5.1.4 Handrails, midrails, cross bracing, and steel tubing shall be inspected for nicks, especially near center span, and indications where a welding arc has struck.

5.1.5 Scaffold components shall be straight and free from bends, kinks, dents, and severe rusting.

5.1.6 Scaffold frame weld zones shall be inspected for cracks and ends of tubing for splitting or cracking.

5.1.7 Manufactured decking shall be inspected for loose bolt or rivet connections and bent, kinked, or dented frames. Plywood surfaces should be checked for softening due to rot or wear, and peeling or delaminated layers at the edges. Scaffold boards should be inspected for rot, cracks, notches, and other damage. Cleats should also be inspected if used.

5.1.8 Each quick-connecting device, whether spring, threaded connection, or toggle pin arrangement, should be inspected to see that it operates properly.

5.1.9 Casters, if used, should be inspected for smooth rolling surfaces, free turning, free acting swivel, and to be sure that the locking mechanisms are in good working order.

5.2 There are no scaffold storage requirements established for this program.

6. SCAFFOLD TAGS

6.1 All scaffolds must be tagged. Scaffold tags shall be designed to withstand site conditions and will be large enough to display subsequent inspections after erection.

6.2 An untagged scaffold shall not be used.

6.3 The competent person that inspects the scaffold will complete and attach the appropriate tag, and sign and date the tag.

6.4 The tag should be placed at eye level on or near the access ladder so it is easy to locate and plainly visible.

6.5 A competent person shall ensure that the scaffold is erected properly and that the tag attached is proper and completely filled out.

6.6 If the scaffold needs to be altered in any way, the person who signed the tag must be contacted to authorize the change and re-tag if necessary. If this person is not available, a scaffold supervisor may supervise the change, sign the tag and identify the alteration.

6.7 If a scaffold is to be left in place for an extended period of time it must be inspected as per the inspection requirements in section 5.1.

6.8 Tagging Systems

6.8.1 Any scaffold under construction or being dismantled must be red tagged.

6.8.2 A three tag system will be used to identify complete and incomplete scaffolds.

a. A green tag is completed and attached by the erecting crew to scaffolds which have complete handrails, midrails, toeboards, and decking.

b. A yellow tag is completed and attached to scaffolds which cannot be erected with all components complete or when there are other hazards present to the scaffold users. The yellow tag allows the erecting crew to note what portion of the scaffold is incomplete and any additional hazards that the scaffold user needs to be aware of. A yellow tag is also used when a fall protection device is required while on a scaffold. The scaffold may be used with the cautions noted.

c. A red tag means the scaffold is being dismantled, not yet completely erected, or for some reason is not safe and shall not be used.

7. SCAFFOLD DECKING (BOARDS)

7.1 Scaffold decking may be aluminum, carbon steel, or scaffold grade wood.

7.2 Scaffold grade 2” X 10” or 2” x 12” board (nominal thickness or full thickness) material will be used. The maximum length of deck board is:

	Nominal thickness	**Full Thickness**
Loading	**Maximum span (ft.)**	**Maximum span (ft.)**
25 psf	8	10
50 psf	6	8
75 psf	0 (zero)	6

7.3 No paint or material which would affect proper visual board inspection or work surface safety may be applied to scaffold boards.

7.3.1 Scaffold boards may be painted 10 to 12 inches on each end to denote use for scaffold decking only.

7.4 Scaffold boards are not to extend over their end supports more than 12” or less than 6” unless cleated or otherwise restrained from movement.

7.5 All decking on platforms shall be overlapped (minimum 12”) or secured from movement.

7.6 Cleated boards are not to be used with cleats turned up.

8. ACCESS TO SCAFFOLD PLATFORMS

8.1 When scaffold platforms are more than 2 feet above or below a point of access, an attached ladder or other approved ladder/stair system must be used by scaffold users to reach the platform.

8.2 Hook-on and attachable ladders shall be positioned so that their bottom rungs are not more than 24 inches above the scaffold supporting level.

8.3 Access ladders must extend 36” above the platform being accessed, or equivalent safe access shall be provided.

8.4 Where practical, access entry points shall be equipped with swing gates for entry to the work platform. This will be included in the initial design and installation of the scaffold.

8.5 Scaffold bracing shall not be used for access or climbing. Integral prefabricated scaffold access frames must be specifically designed and constructed for use as ladder rungs to be used for access to platforms.

8.6 Hook-on and attachable ladders shall be broken with rest platforms at 20-foot maximum vertical intervals.

8.7 Ladder cages, guardrails or equivalent fall protection (retractable lifelines) shall be required for all access ladders where fall potential from the access ladder is more than 20 feet above the next lower level.

8.7.1 In determining if additional protection is needed on scaffold access ladders from existing fixed platforms; if the existing guardrail is less than 4 feet behind or less than 3 feet to the side of the scaffold ladder, additional protection is required to include:

a. Extended guardrail, ladder cage installed or,

b. Fall arrest system including retractable lifeline anchored above the ladder.

8.8 Hook-on and attachable ladders shall be specifically designed for use with the type of scaffold being used.

9. SCAFFOLD USE

9.1 Scaffolds and scaffold components shall be inspected for visible defects by a competent person as per the inspection requirements in 6.1 below.

9.2 Any part of the scaffold damaged or weakened such that its strength is less than required shall be immediately replaced or the scaffold removed from service.

9.3 Scaffolds shall be erected, moved, dismantled, or altered only under the supervision of a competent person.

9.4 Scaffolds shall not be loaded in excess of their maximum intended loads or rated capacities.

9.4.1 It is the user’s responsibility to determine the maximum intended load and to communicate that to the competent person.

9.4.2 The scaffold’s load limit shall be marked if it is any other than the standard construction of 25 psf.

9.5 Brick, tile, block, or similar material shall not be stacked higher than 24” on the scaffold deck.

9.6 Makeshift devices, such as boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees.

9.7 Ladders shall not be used to increase the working level height of scaffold users, except when:

9.7.1 The ladder is placed and secured against a structure which is not a part of the scaffold, and the scaffold/platform is secured against movement and any side thrust exerted by use of the ladder, and,

9.7.2 The ladder is secured against movement at the top and the bottom legs and proper guarding or fall protection is in place or used when the user is within 3 feet distance of the guardrail.

9.7.3 This ladder use is approved by a Mosaic supervisor, the scaffold supervisor, or a competent person.

9.8 When swinging loads are being hoisted onto or near scaffolds such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.

9.9 Scaffolds shall never be altered except under the supervision of a scaffold competent person.

9.10 Scaffolds shall not be moved or dismantled without users first removing all loose tools, materials, and equipment resting on the scaffold deck.

9.11 The clearance between scaffolds and power lines shall be as follows:

Insulated Lines

Voltage	Minimum Distance
Less than 300 Volts	3 Feet
330 Volts to 50 KV	10 feet
More than 50 KV	10 feet Plus 4 Inches for each 1 KV over 50 KV or 2 times the length of the line insulator but never less than 10 feet

Uninsulated Lines

Voltage	Minimum Distance
Less than 50 KV	10 feet
More than 50 KV	10 feet plus 4 inches for each 1 KV over 50 KV or 2 times the length of the line insulator, but never less than 10 feet

Note: High voltage lines that appear to have an insulation jacket may be misleading. The covering is often a weather and corrosion protection for the wire rather than an insulated jacket. The covering does not provide the protection of an insulated barrier.

9.12 Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might get closer to exposed and energized lines than shown in the above chart.

9.13 Scaffolds and materials may be closer to power lines than specified above where such clearance is necessary for performance of work, and only after the lines have been de-energized, relocated, or protective coverings installed to prevent accidental contact with the lines.

10. FALL PREVENTION AND FALL PROTECTION

10.1 Each employee on a scaffold more than 4 feet above the ground or next lower level shall be protected from falling to that lower level by means of a complete guardrail system (fall

prevention) or approved personal fall protection. This requirement applies to both scaffold users and scaffold erectors/dismantlers.

10.2 Scaffold work platforms 4 feet high should have a complete guardrail system to prevent accidental falls. Personal fall protection is required if the guardrail is incomplete or missing. This will be noted on the yellow scaffold tag attached to the scaffold.

10.3 Fall Prevention

10.3.1 Guardrail systems shall be installed along all open sides and ends of platforms.

10.3.2 Guardrail systems shall be completely installed before the scaffold is released for use by employees other than erection and dismantling crews.

10.3.3 Where guardrail systems are incomplete, missing, or moved to allow access for work, personal fall protection shall be used on the affected platform(s).

10.3.4 In some cases, a building, structure, equipment, or piping may prevent the proper installation of a complete scaffold guardrail. A competent person can determine whether these obstructions meet or exceed the applicable guardrail requirements. The competent person should use the scaffold tag to indicate when these conditions are acceptable.

10.4 Personal Fall Protection

10.4.1 Approved personal fall protection is required any time employees work on or erect a scaffold which is not protected by a complete deck and guardrails and 4 feet or more above the ground or next lower level, or anytime on a suspended scaffold platform.

10.4.2 Personal fall protection used on scaffolds shall be attached by a lanyard to a vertical lifeline, horizontal lifeline, a secure structural member or an approved scaffold structural member.

a. Approved scaffold members include vertical posts that have at least two horizontal braces secured to them at 90 degree angles to each other.

b. The competent person shall identify proper anchorage points for the scaffold users on request.

10.4.3 Personal fall protection is not required while using a designed ladder or access system, provided three points of contact are maintained when ascending or descending a scaffold ladder (access way).

a. Fall protection will be required for all access ladders where the fall potential from the access ladder is more than 20 feet above the next lower level (see 4.5.7).

10.4.4 Employees may not climb any ladder with anything in their hands. Tools and materials may be hoisted up or down by rope or other devices.

11. FALLING OBJECT PROTECTION

11.1 Scaffolds shall be provided with protection from falling hand tools, materials, debris and other small objects through the installation of toeboards, barricades, mesh/screens, debris nets, or catch platforms/canopies.

11.2 Where there is a hazard of tools, materials, or small objects falling from the surface of scaffold platforms and striking employees below, the area below the scaffold to which objects can fall shall:

11.2.1 Be barricaded and employees shall not be permitted to enter the hazard area; or

11.2.2 Have a 2” X 4” (nominal) toeboard which is erected along all edges of scaffold platforms more than 4 feet above lower levels.

11.3 Tools or materials shall not be stacked above toeboard height. Where necessary, the height of the toeboard will be increased or two additional protective measures will be provided:

11.3.1 Higher toeboards, or

11.3.2 Mesh/screen put up against the guardrail with openings which are small enough to contain materials on the platform.

11.3.3 Secured from movement.

11.4 Tools and materials will be stored in appropriate tool buckets, containers and/or be tethered to prevent falling or being dropped by workers from scaffolds.

11.5 In some cases, due to the nature or configuration of the scaffold/work area, debris nets, catch platforms or canopy structures may be required to protect employees from falling objects, rather than the protective mechanisms listed above.

11.5.1 If used, these structures must be strong enough to withstand the impact forces of the potential falling objects, and shall be erected over the employees below.

11.5.2 When potential falling objects are too large, heavy or massive to be contained by any of the above listed measures, those materials shall be placed away from edges and further secured from falling.

12. REQUIREMENTS FOR SPECIFIC TYPES OF SCAFFOLDS

12.1 Tank Builders' Scaffold

12.1.1 Tank builders' scaffolds will only be utilized for applications where system scaffolding is deemed infeasible. Justification and approval to utilize tank builders' scaffolding will be obtained from the Facility Manager, Maintenance Manager and site Safety Superintendent or Manager. Documentation will be obtained prior to the project and maintained by the project manager.

a. The Purchasing Department will include the use of tank builders' scaffolding in the pre-bid and contract packages to ensure proper pre-planning and approval.

12.1.2 Contract companies utilizing tank builders' scaffolds will have written programs and training specific to the safe erection and use of the scaffold.

12.1.3 Tank builders' scaffold is required to be inspected prior to each shift by a competent person. Inspections will be documented on the scaffold tag affixed to the scaffold.

12.1.4 All loose tools and equipment shall be kept in well-designed tool containers.

12.1.5 No more than 2 people are allowed on any one board and no more than 3 people in one span at the same time.

12.1.6 Areas beneath the scaffold shall be roped off and posted with clearly visible signs stating "Danger Overhead Work" unless proper protection is provided to prevent falling objects from entering a lower work area or entrance to the tank.

12.1.7 If the space between the scaffold platform and the tank exceeds 6", then a taut wire rope supported on the scaffold brackets shall be installed at the scaffold plank level between the innermost edge of the scaffold platform and the curved plate structure of the tank shell to serve as a safety line in lieu of an inner guardrail assembly. In the event the open space on either side of the rope exceeds 12", a second wire rope appropriately placed shall be installed.

12.1.8 The maximum distance between brackets to which scaffolding and guardrail supports are attached shall be 10'6". These brackets shall be welded to the steel plates. The bracket spacing should not cause the span of the scaffold planking to exceed the maximum length.

12.1.9 All planking shall be secured from movement.

12.1.10 Guardrails shall be constructed of taut wire rope or other structural member capable of supporting a minimum of 200 lb. force in any downward or lateral load and shall be supported by steel angle, pipe or channel iron attached to brackets welded to the steel plates.

12.1.11 Toe boards or equivalent means (mesh, etc.) will be installed on the exterior sections of the scaffold to prevent falling materials or tools. Toe boards also provide additional fall prevention for workers.

12.1.12 A fall protection system will be utilized for all workers on tank builders' scaffolds. The system will be designed and anchored separately from the scaffold structure. The design will be provided by the installation contractor and the anchorage system will ensure adequate rating for number of workers using it.

a. All workers will maintain 100% fall protection while working from tank builders' scaffolds.

12.2 Tubular Welded Frame and System Scaffolds

12.2.1 Cross bracing or equivalent shall be used to secure vertical members together. All brace connections must be secure.

12.2.2 Frames and accessories shall be maintained in good repair. Any broken, bent, altered, excessively rusted or otherwise damaged components shall not be used.

12.3 Mobile (Rolling) Scaffolds

12.3.1 Mobile scaffolds shall be used only on level, smooth surfaces free of major defects, or the wheels must be contained in wood or channel iron runners.

12.3.2 Mobile scaffolds shall be braced by cross, horizontal, or diagonal braces, or a combination thereof, to prevent racking or collapse of the scaffold and to ensure scaffolds remain plumb, level and squared at all times. All brace connections shall be secured.

a. Install a plan brace (horizontal diagonal) at the base of the scaffold. The plan brace ensures that the scaffold will stay square when it is moved. Plan braces must be installed as the height of the scaffold increases in accordance with manufacturer's recommendations and /or regulations.

b. Placing the second post onto the connecting pin of the first post, and locking it in position, will prevent any uplift.

12.3.3 Scaffold height during movement shall not exceed two times the minimum base dimension.

12.3.4 Outrigger frames, when used, are installed on both sides of the scaffold, and would be included in the base/height limit calculations.

12.3.5 Mobile scaffolds should never be moved while occupied.

12.3.6 Outrigger frames when used, shall be installed on both sides of the scaffold.

12.3.7 All casters used with mobile scaffolding shall be provided with a positive locking device to hold the scaffold in position when the scaffold is stationary or while employees are on the scaffold.

12.3.8 Caster stems and wheel stems shall be pinned or otherwise secured in scaffold legs or adjustment screws.

12.3.9 Manual force used to propel the scaffold shall be applied as close to the base as possible, and never more than 5 feet above the supporting surface.

12.3.10 Power systems used to propel mobile scaffolds shall be designed for such use. Forklifts, trucks or other similar motorized vehicles shall not be used to move scaffolds, unless the scaffold is specifically designed to be moved in this manner.

12.4 Suspended Scaffolds

12.4.1 The use of suspended scaffolds will only be performed at the direction of a qualified person and with approval of the site Maintenance Manager.

12.4.2 Wire or fiber rope used for scaffold suspension, including connecting hardware, shall be capable of supporting at least 6 times the maximum intended load. All other

components of suspended scaffolds, including support devices, must be capable of supporting at least 4 times rated load capacity of the scaffold system.

12.4.3 The suspended scaffold, suspension ropes, connecting hardware, and the support devices must be inspected per manufacturer's recommendations.

12.4.4 Approved personal fall protection is required for all occupants of a suspended scaffold, and shall be anchored to a fixed safe point of anchorage, which shall be independent of the scaffold, and shall be protected against sharp edges and abrasion.

a. Each individual working on the scaffold shall have a separate life line and fall arresting device.

b. Anchorages shall be capable of supporting 5000 pounds per person attached.

12.4.5 Only those items specifically designed as counterweights shall be used as per the manufacturer's specifications on counterweight scaffold systems.

12.4.6 Outrigger beams which are not stabilized by bolts or other direct connections to the floor or roof deck shall be secured by tiebacks. Tiebacks shall be equivalent in strength to the suspension ropes and secured to a structurally sound anchorage on the building or structure.

12.4.7 The suspension wire rope shall be covered with insulating material extending at least 4 feet above the hoist.

12.4.8 Non-active lines, independent lines, excess suspension wire rope, tail lines, etc., shall be covered/insulated for protection near the point of welding operations, and to prevent possible grounding contact with the platform, as well as secured so as not to provide a potential ground to the building/structure or the ground.

12.4.9 Each hoist shall be covered with protective covers.

12.4.10 When welding or cutting is performed from a suspended platform, precautions must be taken to cover/insulate any wire rope and attachment points exposed to potential heat or slag hazards.

12.4.11 When electric welding is performed from a suspended platform an insulated thimble shall be used to connect the wire rope to its hanging support.

12.4.12 In addition to the work lead attachment required by the welding process, a grounding conductor shall be connected from the scaffold to the structure. The size of this conductor shall be at least the size of the welding process work lead, and this conductor shall not be in series with the welding process or the work piece.

12.4.13 If the scaffold grounding lead is disconnected at any time, the welding machine shall be shut off.

12.4.14 The active welding rod or un-insulated welding lead shall not be allowed to contact the scaffold or its suspension system.

13. TRAINING

13.1 Training Requirements for Scaffold Erectors:

13.1.1 These requirements are applicable to each employee who is involved in erecting, altering, disassembling, moving, repairing or inspecting a scaffold.

13.1.2 Training shall be provided by a qualified person and shall cover any hazards associated with scaffold erection.

13.1.3 The training shall include the following topics as applicable:

a. The nature of scaffold hazards.

b. The correct procedures for erecting altering, disassembling, moving, repairing, and inspecting, the type(s) of scaffold intended to be utilized.

c. The design requirements, as well as the maximum intended load and load-carrying capacity and intended use of the scaffold.

d. The requirements of this program.

13.2 Training Requirements for Scaffold Users

13.2.1 These requirements are applicable to each employee who performs work while on a scaffold.

13.2.2 Scaffold user training shall be performed by a person designated by the Safety Training Department.

13.2.3 The training shall include the following topics as applicable:

a. The proper use of the scaffold, and the proper handling of materials on the scaffold.
b. Safe work behaviors including line of fire, rushing, eyes and mind on task.
c. The maximum intended load and load carrying capacities of the scaffolds used.
d. The nature of any overhead work/falling objects, personal fall, and electrical hazards in the work area, and;
e. The correct procedures for dealing with electrical hazards.
f. The proper use of personal fall protection equipment, and fall protection systems.
g. The overhead work/falling object protection systems being used.
h. The requirements of this program applicable to scaffold users.

13.3 Training Requirements for a Competent Person

13.3.1 A competent person shall possess the skills, knowledge, and experience of the erector and user noted above and shall be able to do the following:

a. Identify existing and predicable hazards in the surroundings or working conditions.
b. Inspect the integrity of both suspended and supported scaffold.
c. Ensure structural soundness and absence of galvanic action on scaffolds if different manufacturers or metals are used.
d. Identify the causes and significance if any deterioration is present in scaffold components and take necessary corrective actions.
e. Ensure that all scaffold platforms are designed and capable of supporting the loads to be imposed.
f. Determine the feasibility and safety of using a “safe means of access” for erectors, dismantlers and users.
g. Determine and implement fall protection requirements.
h. Ensure that there is full contact between the base plates, screw jacks, pads, or sills with the foundation. Be able to make adjustments if there is evidence of settling, wet soil or erosion.

13.4 Retraining for scaffold erectors, scaffold users and competent persons is required at least every five years, or when:

13.4.1 There are changes in the types of scaffolds, fall protection, falling object protection or other equipment or procedures related to the hazards associated with site scaffolding.

13.4.2 Changes in the worksite present new hazards to which the employee has not been previously trained.

13.4.3 An employee or contractor demonstrates a lack of skill, understanding or where inadequacies in an affected employee’s work involving scaffolds indicates that the employee has not retained proficiency.

14. INSPECTIONS

14.1 Scaffolds and scaffold components shall be inspected for visible defects by a competent person prior to initial use, before each work shift during which the scaffolding will be used, and after any occurrence which could affect a scaffold’s structural integrity.

14.2 Scaffold inspections shall be documented on the scaffold tag affixed to the scaffold.

15. CONTRACTORS

15.1 Any contractors using or erecting scaffolding within Mosaic's facilities shall follow the procedures set forth in this Program.

16. APPENDICES

16.1 Appendix A - Green Scaffold Tag

16.2 Appendix B - Yellow Scaffold Tag

16.3 Appendix C - Red Scaffold Tag

17. REFERENCES

17.1 OSHA

17.1.1 29 CFR 1910.28 - 1910.29

17.1.2 29 CFR 1926.450 -1926.454

17.1.3 29 CFR 1926 Subpart L App A - D

17.1.4 Publication 3124 - Stairways & Ladders

17.2 MSHA

17.2.1 Title 30 CFR Part 56.11001 - 56.11017

18. REVISION LOG

Revision Log				
Rev. No.	Requested By	Approved By	Revised By	Rev. Date
0	Initial Issue	Safety Advisory Panel	Task Team	1/30/04
1	Logo Change	Safety and Health	J. Marshall	11/13/06
2	Safety & Health - Initial issue for Mosaic	Safety & Health	F. Thorpe	7/10/07
3	Reformatted for ISO		D. Allen	6/15/2011
3	Scaffold Improvement Team	Mike Neal – Dir. HSS	Todd Smith	8/2/2011
3	Correct typos; correct 4.11.5 – restrict scaffold movement.	Todd Smith	D. Allen	8/9/2011
4	Review date past due	PMO	PMO	06/30/2021

Contact the Subject Matter Expert for additional information on this program.