

TAKE CONTROL

Prevent Serious Injuries
and Fatalities

Be careful whenever working at any height. Even falls from what may seem like a small distance can be deadly, so working at heights should never be taken lightly. Consider how you can eliminate the need to work at heights; prevent falls; and control falls, should something go wrong when working at heights.



WHEN WORKING AT HEIGHTS

ARE YOU ABOUT TO...

- Work on an **elevated platform**?
- Work at a height where there is **no handrail or guardrail** present?
- Work at a height where **fall arrest equipment** is required?



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IMPLEMENT THESE CRITICAL CONTROLS:

- **Inspect your fall protection** (harness, lanyards, connectors, positioning devices, anchor points, etc.) for wear and tear before using.
- **Barricade, cover or guard surface openings** — caution tape does NOT count as a barricade.
- Set **ladders on a firm base at the correct 4:1 angle** and tie them off.
- If you're using a full body harness **use 100% tie off**.
- Set anchor points high enough so you will **clear obstructions if you fall**.
- Have a **plan in place to rescue** fallen or suspended employees and make sure everyone knows the plan!

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A confined space is any space or structure that has limited openings for entry/exit and is not intended for continuous occupancy, but you can still fit inside to perform work. Entering a confined space has a high potential to cause a serious injury or fatality – especially if there is a hazardous atmosphere because even though you probably won't be able to see the hazard, it can still kill you.



WHEN ENTERING A CONFINED SPACE

ARE YOU ABOUT TO...

- Conduct maintenance or other work in a **permit-required confined space**?

Not sure? Does a space you're about to enter have **any of the following characteristics**?

- Contains or has a potential to contain a **hazardous atmosphere**;
- Contains a material with the **potential for engulfing** an entrant;
- Has an **internal configuration such that an entrant could be trapped or asphyxiated** by inwardly converging walls or a floor that tapers to a smaller cross-section; or
- Contains any other **recognized serious safety or health hazard**.

If **yes**, then it's a permit-required space.



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IMPLEMENT THESE CRITICAL CONTROLS:

- Consider if there is another way to do the job that **doesn't require entering the confined space**.
- **Fully complete a Confined Space Entry Permit.** Make sure a supervisor signs the permit certifying the space is safe for work. This includes a pre-entry meeting, atmospheric monitoring, establishing communication procedures, and preparing the area for entry.
- Use **all necessary PPE and check for wear, tear and damage** before use.
- Have a **rescue plan** in place and make sure all rescue and retrieval equipment is readily available.

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Electricity and stored energy are all around you at work. Always be vigilant about locking out, tagging out, and trying out before beginning work. But there are also many stored energy hazards to stay aware of, like mobile equipment that can roll if unsecured, hydraulic lines that need to be drained, or conveyor belts that can move, shift, or rotate while you're doing maintenance.



WHEN WORKING WITH ELECTRICITY OR STORED ENERGY

ARE YOU ABOUT TO...

- Work with **electrical energy**?
- Work with **stored energy** where energy could suddenly release (e.g., maintenance of hydraulic or pneumatic equipment)?
- Work with **potential energy** where something could move, shift, or rotate (e.g., equipment in an unstable position when not operating)?
- Work with **gravitational energy** (e.g., materials with potential for engulfment)?



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IMPLEMENT THESE CRITICAL CONTROLS:

- **Lock-out, tag-out and try out** electrical energy sources.
- Remember to also lock-out, tag-out and try out **equipment adjacent to, directly above, or below** equipment you're working on.
- **Release stored energy** from lines carrying pressurized material.
- **Secure all components from movement or activation** prior to performing maintenance on stationary or mobile equipment.

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Mobile equipment is consistently one of the most frequent causes of SIFs in the aggregates industry. Operators, pedestrians and light-duty vehicles have been run over or crushed by haul trucks, mobile equipment has gone over high-walls, and accidents have occurred due to distracted driving. Even though operating mobile equipment is commonplace at aggregate facilities, you must stay mindful about critical controls to keep yourself and others safe.



WHEN OPERATING OR WORKING AROUND MOBILE EQUIPMENT

ARE YOU ABOUT TO...

- Operate **mobile equipment around pedestrians?**
- Operate **mobile equipment around hazardous areas** like water, dump points, or powerlines?
- Operate mobile equipment and **interact with other equipment** (e.g., loading or unloading material)?
- **Walk around mobile equipment?**
- Drive a **light duty vehicle like a pickup truck around large equipment** like a haul truck?



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IMPLEMENT THESE CRITICAL CONTROLS:

- **Wear your seatbelt. Every. Single. Time.**
- Designate **safe travel ways for driving and walking.**
- **Make sure you're visible** – wear high visibility clothing and have whip flags on pickup trucks and light support vehicles.
- **Communicate** and let other operators know where you are and where you're going. **Use three-part or repeat back communication** with other drivers.
- Operate mobile equipment **free of distractions**, like cell phones.
- Ensure **safety features like lights, cameras, and backup sensors are working properly.**
- Dump material a safe distance from an edge and **push with a dozer.**

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Suspended loads must always be treated with caution, and anyone involved must have the proper training and qualifications to operate lifting devices like cranes. But it's not just operators who need training and certification – remember anyone attaching a load to a lifting device (crane, boom truck, overhead hoist, floor hoist, etc.) must also be properly trained. You need to know the capacities of both the lifting device and rigging you're using to keep you and everyone involved safe.



WHEN LIFTING AND RIGGING

ARE YOU ABOUT TO...

- Use a **loader or crane (mobile, overhead or truck) to perform a lift?**
- **Rig a load** to be lifted?
- Do a **tandem lift?**

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IMPLEMENT THESE CRITICAL CONTROLS:

- Double check that anyone who will be involved is a **qualified or certified** crane operator, rigger, or signalman.
- **Designate one person as signaler**; the crane operator should only move loads based on signals from this person.
- **Calculate the weight of the load *before* selecting rigging** equipment and hardware.
- **Inspect** all lifting devices prior to use.
- Use **non-conductive tag lines** to guide loads. Check there is **proper clearance from powerlines or other obstructions** and **consider the crane's full extension radius**.
- **Secure and barricade crane operating areas**.

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Blasting is an integral part of many surface mining operations and each step of the process from loading the explosive material to detonation has critical safety elements that must be taken into consideration. Make sure your company has a Blasting Program in place that includes proper training and that everyone onsite knows critical blasting procedures, like warning signals.



WHEN DRILLING AND BLASTING

ARE YOU ABOUT TO...

- Drill or blast near the **edge of a highwall**?
- **Load explosive material**?
- **Load shot material**?
- **Detonate**?
- Deal with a **misfire**?
- **Scale a highwall** after a blast?

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IMPLEMENT THESE CRITICAL CONTROLS:

- **Properly store** all explosives in a clean, dry, orderly area and rotate your inventory so oldest stock is used first.
- **Never use damaged or deteriorated explosive materials**, including detonating devices, boosters, dynamite and blasting agents. **Contact the manufacturer** if you discover damaged materials.
- **Guard or barricade access routes** to the blast area and strictly prohibit access before blast is fired.
- Give **ample warning before blasting** and ensure everyone knows the warning procedures.
- Remember, only the blast crew will handle explosives, but **anyone can stop the job**.

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Settling ponds that provide process and wash water are essential features at aggregate facilities. Therefore, you will likely find yourself working around water and need to take steps to stay safe while working around these or other bodies of water. Always follow policies and procedures and be sure to inspect, maintain, and use proper PPE, including personal floatation devices.



WHEN WORKING AROUND WATER

ARE YOU ABOUT TO...

- Work or operate equipment **around water's edge?**
- Work **over water?**

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IMPLEMENT THESE CRITICAL CONTROLS:

- Have a **means of escape like a seatbelt cutter/window break tool** within reach in case of emergency.
- Keep **equipment a safe distance back from water's edge.**
- Wear a **personal floatation device (PFD) when working around water.**
- **Inspect your PFD** for wear, tear, and damage.
- **Do not work alone** near or over water when possible. If you must work alone, have a communication plan in place.

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At work, you're likely to be around highwalls all the time. Whether loading or dumping material, benching, or preparing to blast, highwalls present potential hazards. They can fail, rock can fall and injure you, or mobile equipment can go over the edge. Time and again we're reminded of the dangers of highwalls when a miner is seriously injured or killed when their equipment goes over the edge. Always stay vigilant when working around highwalls.



WHEN WORKING AROUND HIGHWALLS

ARE YOU ABOUT TO...

- Work at or around the **base of a highwall**?
- Work at or around the **edge of a highwall**?
- **Dump material near the top** of a highwall?
- Work on a **bench**?
- **Scale** a highwall?
- **Drill or blast** around a highwall?

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IMPLEMENT THESE CRITICAL CONTROLS:

- Be aware of **work that is occurring around you**, like drilling, blasting, heavy equipment operation above you, or excavation.
- **Check regularly for signs of instability, like loose, unconsolidated materials at the base of a highwall.** Stay aware of changes and notify your supervisor.
- **Barricade and block unsafe areas;** also post **warning signs** around these areas.
- Approach dump areas from a **clear line of sight** and follow established setbacks.
- **Do not stand or park at the base of a highwall** where a rock fall could occur. Do not stand or work between a highwall and parked equipment.

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Moving machine parts are located throughout aggregate facilities – especially at the plant and on conveyors. Hands, limbs, clothing, and long hair can all get caught in moving machine parts and cause a serious injury or fatality. Be sure to inspect any area you're working and double check that all moving machine parts you could reach are properly guarded.



WHEN WORKING AROUND MOVING MACHINE PARTS

ARE YOU ABOUT TO...

- Do **maintenance on moving machine parts** (e.g., conveyor drives, heads, or tail pulleys)?
- Work in an area where you will be **close to moving machine parts**?



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IMPLEMENT THESE CRITICAL CONTROLS:

- Ensure all moving machine parts **within 7 feet of a walk or working surface** are properly guarded.
- **Inspect your work area** and double check all moving machine parts are properly guarded (you cannot get your hand around it and reach a moving machine part), secured, and undamaged.
- **Secure guards with materials that can withstand wear, corrosion, vibration, and shock** of normal operations.
- **Never walk on, across, or over** a conveyor.
- **Check emergency stop cords** for proper function and **maintain adequate tension**.

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Having contractors on a mine site can present safety challenges. Contractors may be far less familiar with your operation, have different safety training, or be conducting non-routine or other specialized work. Clear, consistent communication and implementation of critical controls are essential for everyone. Step up and help contractors on your site stay safe, recognize situations with high SIF potential, and ensure critical controls are in place.



HELP KEEP CONTRACTORS SAFE ONSITE

ARE YOU ABOUT TO...

- Welcome a **contractor on site**?
- **Hire** a contractor?
- Have a contractor do **tasks with a high-SIF potential**?

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IMPLEMENT THESE CRITICAL CONTROLS:

- Confirm that contractors have appropriate **pre-qualifications**, including licensing and training.
- Give contractors **site-specific training** and confirm or provide appropriate task training.
- Conduct a **pre-job walk** that includes outlining a clear scope of work and job hazard analysis (JHA) prior to contractors beginning work.
- **Isolate contractor work from active operations** when possible.
- Designate a **site/safety person to do contractor work approvals, spot checks, work verifications, etc.**