

Machine Assisted Concrete Slab Removal JHA

Worked instructional example

Work and worksite

A trained equipment crew will break and remove a released outdoor nonstructural slab on grade in a closed building yard. An excavator-mounted breaker fractures the marked slab; after the equipment is made safe under its instructions, a compatible bucket handles debris. The operation does not include digging below the released slab limit. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- The written demolition survey and utility/material review establish slab function, exact removal limits, connected elements and any required isolation before machine disturbance.
- The actual excavator, approved attachments, ground support, movement routes and exclusion boundary are selected for the yard and surrounding structures.
- This is partial coverage of concrete demolition and removal. Suspended slabs, live utilities, excavation, crushing plants, whole-structure demolition and handheld breaker work are excluded.

Questions before work

- What evidence establishes that this slab can be removed without affecting foundations, adjacent supports or embedded services?
- How will workers remain clear of the equipment, fragment throw and debris-handling route during each operating phase?
- Which silica-control method applies to the actual excavator task and any employees outside its cab?

Task Hazard Control

1 Confirm the slab removal release

Hazard: An assumed nonstructural slab or concealed service can become a collapse or utility-strike event.

Control: Demolition lead obtains the written engineering survey and current utility/material review for the marked slab. Resolve connections to foundations and adjacent structures, define the depth/removal boundary and establish required isolation before mobilizing the breaker.

Verification: Lead checks the marked limit against survey and utility-release records.

Reasoning: The machine's ability to break concrete does not prove the concrete is safe to remove.

2 Prepare machine access and separation

Hazard: An unstable operating surface or pedestrian entry can cause overturning or crushing.

Control: Equipment lead selects the actual machine and approved breaker/bucket arrangement and checks support and travel conditions. Mark the operating, fragment and debris-transfer boundaries; establish a protected spotter position and a positive stop/contact method. Separate haul traffic and other trades.

Verification: Operator and lead check the work route, boundaries and spotter communication.

Reasoning: Separation must cover the whole machine and fragment envelope, not only the tracks.

3 Verify attachment and exposure controls

Hazard: A damaged attachment can fail; an unsuitable cab or dust method can expose the crew to silica.

Control: Operator completes the manufacturer's pre-use and attachment checks and rejects defects. Silica competent person verifies the Table1 heavy-equipment fracture/demolition method or the employer's alternative assessment route; confirm cab requirements and any outside-worker dust suppression. Provide noise protection and planned slurry handling.

Verification: Operator records defects; silica competent person checks the actual cab and exposure-control setup.

Reasoning: Excavator breaking has different Table1 conditions from handheld jackhammer work.

Complete the work and hand over

4 Break the marked slab in controlled sections

Hazard: Unplanned fragmentation can throw debris, undermine support or expose an unknown connected element.

Control: Operator follows the released breaker method and removal progression, keeping people outside the operating boundary. The competent person reviews changing ground, loosened material and adjacent supports as work advances. Stop for unexpected reinforcement, voids, services or slab movement rather than probing farther with the breaker.

Verification: Demolition lead records changing conditions and confirms the next section remains within the release.

Reasoning: A changed condition requires a new decision before the next machine impact.

5 Change attachment and remove debris

Hazard: Stored hydraulic energy, falling attachments or unstable debris can crush workers during the phase change.

Control: Use the actual manufacturer's parking, isolation and attachment-change method with the attachment supported and workers protected. Verify the compatible bucket's secure connection before use. Load debris within the machine and container limits on the controlled haul route; keep workers clear of suspended or shifting pieces.

Verification: Authorized operator verifies the attachment connection and lead checks debris-transfer separation.

Reasoning: Changing from breaking to lifting changes both equipment state and the line of fire.

6 Leave a protected removal area

Hazard: Exposed edges, loose fragments or dusty cleanup can injure the next crew.

Control: Remove or stabilize remaining loose material using the planned method and inspect the yard's actual condition. Protect the opened boundary and retain any isolation or access restriction. Collect dust/slurry and hand over the removal limits and findings; further excavation requires a separate release.

Verification: Competent person records final findings and lead confirms waste and access handover.

Reasoning: A cleared slab area is not automatically an approved excavation or traffic route.

Pause and reassess

- The slab reveals uncharted services, connected structural elements, reinforcement or a void beyond the survey assumptions.
- Ground, adjacent supports or debris conditions change, or someone enters the equipment/fragment boundary.
- An attachment defect, communication failure or loss of the selected silica controls prevents the released method.

Improve the controls

Needs improvement: Break it out carefully and keep people back.

More useful: Demolition lead releases the exact removal limit and a marked machine/fragment boundary; operator stops when actual conditions differ from the survey.

Needs improvement: Use water like a handheld breaker.

More useful: Silica competent person selects and verifies the actual heavy-equipment Table1 method or alternative exposure route, including cab and outside-worker conditions.

Decisions that change the analysis

Does the existing concrete saw-cutting example cover breaking and removal?

No. It expressly ends with protected cuts and excludes slab breaking, lifting and excavation. This operation creates fragments with powered mobile equipment and then changes equipment state to handle debris; it needs a demolition release and machine separation controls.

What must the crew record for actual use?

Record the written survey and utility/material findings, marked slab and depth limits, machine/attachment identities, support and route checks, exposure-control basis, communication and exclusion arrangements, changing-condition findings, actual attachment-change verification and final access restrictions.

Training needs

- Equipment and attachment-specific operator instruction, including permitted use, safe attachment changes, isolation and spotter communication for the actual machine.
- Supervisor and crew instruction in demolition-release boundaries, continuing hazard review, equipment/pedestrian separation and the applicable silica-control plan.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

OSHA 1926.850 Demolition preparatory operations

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.850>

OSHA 1926.859 Mechanical demolition and continuing inspections

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.859>

OSHA 1926.1153 Table1 Heavy-equipment fracture and demolition

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1153>

References reviewed October 9, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.