

HIGH-PRESSURE WATER JETTING AND HYDRODEMOLITION ACTIVITY RAMS — ADAPT TO SITE BEFORE USE

Hand lances and robots · injection injuries and reaction force · exclusion zones · slurry and noise

KD-RA-GW-003 Rev A0

Statutory basis: PUWER 1998 regs 4, 5, 6 and 9 — jetting equipment suitable for its use, maintained, inspected, and used only by trained operatives; the Control of Noise at Work Regulations 2005 for pump and jet noise; COSHH 2002 for silica in slurry and mist and for contaminated water; CAR 2012 for asbestos in or on the surfaces to be jetted; the Environmental Permitting (England and Wales) Regulations 2016 regs 12 and 38 for discharge of water and slurry. This document is the recorded safe system of work required by HSWA 1974 s.2(2)(a) and MHSWR 1999 regs 3 and 5.

1 DOCUMENT AND PROJECT IDENTIFICATION

RAMS REFERENCE	PROJECT / SITE REF	SITE NAME AND ADDRESS	DATE PREPARED	NEXT REVIEW DATE
CLIENT / PRINCIPAL CONTRACTOR	PLANNED START	DURATION	OPERATIVES	SUPERVISING THE WORK

2 SCOPE OF WORKS

Removing concrete and laitance, and cleaning surfaces and drains, with high-pressure water: setting up the pump unit and hoses, hand-lance jetting, robot-mounted hydrodemolition, drain jetting, controlling the exclusion zone, and collecting and settling the water and slurry.

This document does not cover: the extent and depth of any structural break-out (the engineer's — concrete repair is KD-RAMS-CR-002), percussive breaking (KD-RAMS-DM-004), entry into chambers and ducts (KD-RA-GW-002), removal of lead-containing coatings (KD-RAMS-LD-002), and low-pressure washing.

SITE-SPECIFIC SCOPE, LOCATIONS AND LIMITATIONS

3 RISK ASSESSMENT — SCORE EACH RISK FOR THIS SITE, THEN ADD WHAT IS MISSING

The hazards and controls below are the starting point for this activity, written by a working main contractor. They are not complete for your site until a competent person has scored each risk, added the site-specific hazards, and struck out anything that does not apply. Rate risks High / Medium / Low before and after controls.

1. Water injection and cutting injuries from the jet

At risk: Jetting operative, anyone in the zone

Controls: The jet cuts skin and injects water and debris beneath it. Only trained operatives jet; the lance's dump or dead-man control stops the jet when released and is never tied or wedged open; the jet is never pointed at a person; nobody stands in front of the lance or robot. An injection injury is treated as serious however small the wound looks — straight to hospital with the medical warning card the team carries.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

2. Reaction force — losing footing or control of the lance

At risk: Jetting operative

Controls: Pressure and flow set within what the operative can hold for that lance, or a lance support, frame or robot used instead; firm, level footing — no jetting from ladders or stepladders; operatives rotated to avoid fatigue.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

3. Flying concrete, debris and water beyond the work area

At risk: Others on site, the public

Controls: Exclusion zone set round the jetting area and on the far side of any element being cut through, barriered and signed, with screens where debris could leave it; a zone controller stops the pump if anyone enters; robots operated from outside their zone.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

4. Hose, coupling and fitting failure under pressure

At risk: Jetting team

Controls: Hoses, couplings, lances and fittings rated to at least the pump's pressure-relief valve or bursting-disc setting, with that device fitted and working; inspected before every shift and whip-checked at couplings; damaged hose withdrawn, never taped; pressure released before any connection is broken.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

5. Noise, silica mist, slurry and contaminated water

At risk: Jetting team, others nearby

Controls: Pump unit sited away from other work; hearing protection for the team and in the zone as the noise assessment sets out; waterproof suit, visor and gloves; mist and slurry from concrete treated as containing silica — dried slurry never dry-swept; water from drains or contaminated ground treated as contaminated under the COSHH 2002 assessment.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

6. Disturbing asbestos-containing materials in existing buildings

At risk: Operatives, building occupants

Controls: Check the asbestos register before any intrusive work (CAR 2012). No register, or unclear entries, means stop and refer. If suspect material is found: STOP, withdraw, secure the area and report it — the discovery procedure applies before any further work.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

7. Water breaking through onto live electrics and occupied areas below or behind*At risk: Occupants, other trades, the building*

Controls: Areas below and behind the element checked and cleared of people before jetting; electrical equipment there isolated or protected; openings, cracks and joints that could carry water to lower floors sealed or drained; jetting stops if water appears anywhere it was not planned to go.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

8. Water and slurry reaching drains, ground and watercourses*At risk: The environment*

Controls: Water and slurry contained, collected and settled, with pH corrected where required; nothing polluting discharged to a watercourse, surface water drain or ground without an environmental permit (EPR 2016 regs 12 and 38), and nothing to a foul sewer without the undertaker's consent.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

9. Drain jetting — the hose driving back out of the pipe*At risk: Operative at the chamber*

Controls: Nozzle fed into the pipe past a hose guide before pressure is applied; pressure off before the nozzle returns to the chamber; nobody looks into the pipe or stands over the opening while jetting.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

10. Reinforcement, services and tendons exposed by hydrodemolition*At risk: Jetting team, the structure*

Controls: Extent and depth of removal as the engineer specifies; services located before jetting; no post-tensioned element jetted without the engineer's written confirmation; unexpected tendons, ducts or live services stop the work.

INITIAL (H/M/L)	RESIDUAL (H/M/L)	SITE-SPECIFIC ADDITIONAL CONTROLS, OR N/A	ACTION OWNER	BY WHEN

Site-specific hazards not listed above — every site has at least one:

HAZARD	WHO IS AT RISK	CONTROLS	INITIAL HI...	RESIDUAL...	ACTION OWNER	BY WHEN

4 METHOD — SEQUENCE OF WORK

- 101 Confirm the purpose, extent and depth of removal, the engineer's limits, whether any element is post-tensioned, and what the asbestos survey and any lead survey say about the surfaces to be jetted.
- 102 Plan the exclusion zone on both sides of the element, the areas below and behind, the water supply, and collection and settlement of water and slurry.
- 103 Locate services in and behind the work area; isolate or protect them and any electrics water could reach.
- 104 Set up the pump unit away from others; route hoses clear of traffic; inspect hoses, couplings, whip checks, relief device, lance and dump control.
- 105 Barrier and sign the zone; fit screens; brief the zone controller on the stop signal.
- 106 Test the dump control and any robot emergency stop at low pressure before working pressure is applied.
- 107 Jet from firm footing within the pressure the operative can control, or by robot from outside its zone; rotate operatives. For drains, nozzle into the pipe past the guide before pressure on.
- 108 STOP the pump if anyone enters the zone, on a hose defect, an injury, suspect asbestos, exposed tendons or services, water where it was not planned, or slurry escaping containment.
- 109 Release pressure before disconnecting; collect and settle slurry.
- 110 Clean down, wash, and record how water and waste were disposed of.

SITE-SPECIFIC AMENDMENTS TO THE SEQUENCE**5 PLANT, EQUIPMENT AND MATERIALS**

- | | |
|---|--|
| High-pressure pump unit with relief valve or bursting disc (operator's documents) | Drain jetting nozzles and hose guide |
| Rated hoses, couplings and whip checks | Barriers, signs and debris screens |
| Lances with dump control, or hydrodemolition robot | Settlement tank, pH correction where required, slurry collection |

INSPECTION / THOROUGH EXAMINATION REFS**COSHH ASSESSMENT REFS**

6 PPE — THE LAST LINE OF CONTROL, NOT THE FIRST

- ☐ Head protection
 ☐ Safety footwear
 ☐ High visibility
- ☐ Gloves — task-rated
 ☐ Eye protection
 ☐ Hearing protection
- ☐ Waterproof jetting suit, visor and gloves
 ☐ Hearing protection

RPE TYPE, FACE-FIT STATUS, AND ANY OTHER PPE REQUIRED

7 PERMITS REQUIRED BEFORE THIS WORK STARTS

A permit authorises this work in that place, on that day. It extends the safe system of work in this document — it does not replace it (HSE HSG250). The site issues the permit; record its number before work starts.

KD-PTW-SC-028 — Permit to Cut or Core Structure

Where hydrodemolition removes concrete from a structural element.

PERMIT NUMBER

8 EMERGENCY ARRANGEMENTS — COMPLETE FOR THIS SITE

FIRST AIDER AND LOCATION

NEAREST A&E

ASSEMBLY POINT

HOW THE ALARM IS RAISED

EMERGENCY ACCESS FOR THIS WORK AREA

SPILL / ENVIRONMENTAL RESPONSE

9 BRIEFING RECORD — EVERYONE WORKING UNDER THIS RAMS SIGNS BEFORE STARTING

By signing you confirm the contents of this RAMS have been explained to you, you understand the hazards and controls, and you will work to the sequence stated. Tell the supervisor if the work or the site does not match this document — work stops until it does.

NAME	COMPANY	SIGNATURE	DATE

10 PREPARED AND ACCEPTED

Prepared / adapted for this site by — I confirm I have adapted this document to the site, scored the risks, and that it describes how the work will actually be done.

PRINTED NAME	ROLE / COMPETENCE	COMPANY	SIGNATURE	DATE	TIME

Accepted for the site by — principal contractor or site manager review.

PRINTED NAME	ROLE	COMPANY	SIGNATURE	DATE	TIME

Review this RAMS if the work, the site or the law changes, and at least before each new phase of the works. Flatten the completed PDF before filing so the record cannot be silently edited.

R REVISION HISTORY

Every revision of this document, and every review that found nothing to change. The revision on the front of this sheet is the one you are holding — check kubitdocs.com for the current one before use.

Rev	Date	Class	What changed	Authorised by
D0	2026-09-11	first-issue	First issue.	— not yet approved —
A0	2026-09-11	review	Approved for issue by the author. Content unchanged from the reviewed draft; the draft status strip is removed. No independent third-party review has been carried out.	Author — director, UK principal contractor, SMSTS. Not an independent review.

Class: first-issue · material (the law, a control, a field or the scope changed — past buyers are notified) · editorial (wording or layout only) · review (checked, nothing changed) · withdrawal. Revision prefix D = draft, not approved and not for sale; A = approved for issue by the person named, on the date shown.