



Job Hazard Analysis (sample)

Dig a trench and lay a new water service line to the house

Company	_____
Site or project	_____
Task	Dig a trench and lay a new water service line to the house
Trade	Plumbing
State	Ohio
Work type	Construction (29 CFR Part 1926)
Prepared by	_____
Date of the work	_____
Date prepared	2026-10-07

HOW TO USE THIS JHA

1. Fill in every highlighted line before work starts. In the Word file you can type them in.
2. Go through each step with the crew at the start of the shift, on site, before anyone starts work.
3. Have everyone who does the work sign the crew sign-on sheet. Keep a copy on site.
4. If the general contractor or owner asks for a JHA, send this one once the highlighted lines are filled in.
5. If the work, crew or conditions change, update the JHA and review it with the crew again.

Before work starts

Highlighted lines must be filled in or confirmed before anyone starts work. Lines already filled in came from your order; check they are still right.

☐ Confirm how deep the excavation will be, measured at its deepest point.

☐ Confirm whether a hospital or clinic can be reached quickly from this site.

☐ Person in charge on site: _____

☐ Address or location to give 911 callers: _____

☐ Nearest hospital or clinic: _____

☐ Person on site with valid first-aid training: _____

☐ Competent person for the excavation: _____

☐ How and when underground utilities were located: _____

☐ Cave-in protection to be used, and who selected it: _____

☐ Chemicals used and where their safety data sheets are kept: _____

Step by step

Step 1. Mark out the line and check for underground utilities

WHAT CAN GO WRONG

- Unknown buried gas, electric, water or communication lines along the route (Gas leak, fire, explosion or electric shock when digging starts)
- Uneven ground, holes and stakes along the line (Trips, falls and sprained ankles)
- Utility marks that are missing, faded or unclear (Digging into a live line by mistake)

HOW WE CONTROL IT

Work practices and checks

- Have all underground utilities located and marked before any digging is planned.
- Check that every utility on site has been marked and walk the route to compare marks with meters, valves and service entries.
- Confirm the trench depth and route with the competent person before digging starts.
- Remark any utility marks that fade or get disturbed before work continues.
- Keep stakes, tools and materials out of walkways while marking the line.

Protective equipment

- Wear sturdy work boots and high visibility clothing.

Rules: 1926.651(b)(1), 1926.652(a)(1), 1926.651(j)(2), 1926.651(k)(1), 1926.25(a) (see Rules that apply)

Step 2. Dig the trench with a mini excavator

WHAT CAN GO WRONG

- Trench walls caving in (Burial, crushing and suffocation)
- Swinging excavator boom, bucket or counterweight (Being struck or pinned, causing serious injury or death)
- Bucket striking a buried utility (Gas leak, fire, explosion or electric shock)
- Spoil, rocks or equipment falling into the trench (Head and body injuries to anyone below)
- Loud excavator noise (Hearing loss)

HOW WE CONTROL IT

Use a safer method or material

- Hand dig or use careful exposure methods near marked utilities instead of using the bucket.

Guards, barriers and equipment

- Check the trench depth as digging goes and confirm with the competent person what protective system, such as sloping, shoring or a trench box, is needed before anyone enters.
- Barricade the swing area of the excavator so no one can walk into it.
- Place a ladder or other safe way out in the trench before anyone enters.

Work practices and checks

- Keep spoil piles, materials and equipment back from the trench edge at a safe distance as set by the competent person.
- Have the competent person inspect the trench before anyone enters and after rain or any change in conditions.
- Keep everyone out of the trench while the excavator is digging and use a spotter when people are nearby.

Protective equipment

- Wear hard hats, high visibility clothing, work boots and hearing protection.

Rules: 1926.602(a)(9)(ii), 1926.651(b)(1), 1926.652(a)(1), 1926.651(j)(2), 1926.651(k)(1), 1926.651(c)(2), 1926.100(a), 1926.102(a)(1), 1926.52(b), 1926.25(a) (see Rules that apply)

Step 3. Lay bedding, set and join the pipe in the trench

WHAT CAN GO WRONG

- Trench walls caving in while workers are inside (Burial, crushing and suffocation)
- Tools, pipe or soil falling into the trench (Head, hand and foot injuries)
- Damaged cords or tools used in a wet trench (Electric shock)
- Chemicals or solvents used for joining the pipe (Skin burns, eye injury, dizziness or breathing problems)
- No quick way out of the trench (Being trapped during a cave-in or emergency)

HOW WE CONTROL IT

Guards, barriers and equipment

- Work only inside the protective system set up for the trench and never step outside it.
- Use ground fault protection on every cord and tool.
- Keep a ladder or other safe way out close to where workers are standing.

Work practices and checks

- Hand pipe and tools down instead of throwing or dropping them into the trench.
- Check cords and tools for damage before use and keep them out of standing water.
- Check the safety data sheet for each chemical or solvent before use and follow its handling steps.
- Keep chemical containers closed when not in use and away from heat or flames.

Protective equipment

- Wear hard hats, safety glasses, chemical resistant gloves and work boots.

Rules: 1926.651(b)(1), 1926.652(a)(1), 1926.651(j)(2), 1926.651(k)(1), 1926.651(c)(2), 1926.404(b)(1)(ii), 1926.416(e)(1), 1926.302(a)(1), 1926.300(a), 1926.300(b)(1), 1926.59, 1926.100(a), 1926.102(a)(1) (see Rules that apply)

Step 4. Pressure test the line

WHAT CAN GO WRONG

- Pipe, fittings or test caps failing under pressure (Being struck by flying parts, causing cuts, bruises or eye injuries)
- Water or air released suddenly from the line (Eye injuries and being knocked off balance)
- Workers in the trench during the test (Injury from failing parts or a cave-in)

HOW WE CONTROL IT

Work practices and checks

- Confirm the test method and test pressure before starting.
- Check that all joints, caps and test fittings are secure and rated for the test before pressurizing.
- Keep everyone out of the trench and away from caps and fittings while the line is under pressure.
- Release pressure slowly and fully before adjusting or removing any fitting.

Protective equipment

- Wear safety glasses, gloves and work boots.

Rules: 1926.100(a), 1926.102(a)(1), 1926.651(b)(1), 1926.652(a)(1), 1926.651(j)(2), 1926.651(k)(1), 1926.651(c)(2) (see Rules that apply)

Step 5. Backfill and compact the trench

WHAT CAN GO WRONG

- Moving excavator or compactor near workers (Being struck, run over or pinned)
- Trench walls or edges collapsing during backfill (Burial or falls into the trench)
- Fuel spills or vapors while refueling equipment (Fire, burns and skin irritation)
- Loud compactor and excavator noise (Hearing loss)
- Loose soil, tools and debris around the work area (Trips and falls)

HOW WE CONTROL IT

Work practices and checks

- Keep everyone out of the trench while backfilling and compacting.
- Use a spotter and keep workers out of the path of moving equipment.
- Keep compacting equipment back from unsupported trench edges.
- Refuel equipment with the engine off and cool, away from any source of ignition.
- Store fuel in approved containers and clean up spills right away.
- Clear tools, debris and leftover materials from the area when backfill is finished.

Protective equipment

- Wear hearing protection, high visibility clothing, hard hats and work boots.

Rules: 1926.602(a)(9)(ii), 1926.651(b)(1), 1926.652(a)(1), 1926.651(j)(2), 1926.651(k)(1), 1926.100(a), 1926.102(a)(1), 1926.52(b), 1926.152(a)(1), 1926.25(a) (see Rules that apply)

Rules that apply to this job

Each rule in plain words. The regulation text itself is at [osha.gov](https://www.osha.gov) under the section number.

29 CFR 1926.651(b)(1) Steps 1, 2, 3, 4, 5

Find the estimated location of underground utilities before digging.

29 CFR 1926.652(a)(1) Steps 1, 2, 3, 4, 5

Workers in an excavation need a protective system against cave-ins (exceptions: stable rock, or under 5 feet deep with no sign of cave-in found by a competent person).

29 CFR 1926.651(j)(2) Steps 1, 2, 3, 4, 5

Keep spoil, materials and equipment at least 2 feet back from the edge, or use retaining devices.

29 CFR 1926.651(k)(1) Steps 1, 2, 3, 4, 5

A competent person inspects the excavation before work, as needed during the shift, and after rain or other hazard-increasing events.

29 CFR 1926.25(a) Steps 1, 2, 5

Keep scrap lumber with protruding nails and all debris cleared from work areas, passageways and stairs.

29 CFR 1926.602(a)(9)(ii) Steps 2, 5

Earthmoving or compacting equipment with an obstructed rear view may reverse only with a working backup alarm or a signal person.

29 CFR 1926.651(c)(2) Steps 2, 3, 4

Trenches 4 feet or deeper need a ladder, ramp or other way out within 25 feet of lateral travel.

29 CFR 1926.100(a) Steps 2, 3, 4, 5

Wear a hard hat where there is a possible danger of head injury from impact, falling or flying objects, or electrical shock and burns.

29 CFR 1926.102(a)(1) Steps 2, 3, 4, 5

Use eye or face protection against flying particles, molten metal, chemicals, gases or vapors, or harmful light.

29 CFR 1926.52(b) Steps 2, 5

Above the Table D-2 noise levels, use feasible engineering or administrative controls first, then hearing protection.

29 CFR 1926.404(b)(1)(ii) Step 3

Temporary 120-volt, 15- and 20-amp outlets in use on site need GFCI protection (small generators have a stated exception).

29 CFR 1926.416(e)(1) Step 3

Do not use worn or frayed cords or cables.

29 CFR 1926.302(a)(1) Step 3

Electric power tools must be double-insulated or grounded.

29 CFR 1926.300(a) Step 3

Keep all hand and power tools in safe condition, whoever owns them.

29 CFR 1926.300(b)(1) Step 3

Power tools designed for guards must have them on when in use.

29 CFR 1926.59 Step 3

Hazard communication for chemicals (labels, safety data sheets, training) follows 29 CFR 1910.1200.

29 CFR 1926.152(a)(1) Step 5

Store and handle flammable liquids only in approved containers and portable tanks.

29 CFR 1926.21(b)(2) Whole job

Every worker must be instructed in recognizing and avoiding the unsafe conditions and rules that apply to their work.

29 CFR 1926.28(a) Whole job

The employer must require appropriate PPE wherever workers are exposed to hazardous conditions.

29 CFR 1926.50(c) Whole job

If no clinic or hospital is reasonably accessible, a person with valid first-aid training must be available on site.

Crew sign-on

By signing, I confirm this JHA was reviewed with me before I started this task, and I know who to tell if the work or conditions change.