

Job Hazard Analysis (JHA)

Task: Installing and Placement of Ditch/Warning Tape in the Telecom Industry

Risk Assessment Code (RAC) Legend

- **☒ Red (High Risk):** Unacceptable—stop work and implement controls before proceeding.
- **☑ Yellow (Moderate Risk):** Proceed with caution—implement and verify controls.
- **☐ Green (Low Risk):** Acceptable—maintain controls and continuous monitoring.

Overall Initial RAC for Installing and Placement of Ditch/Warning Tape Task: ☑ Moderate Risk

Job Steps, Hazards, and Controls

Step No.	Task Description	Potential Hazards	Controls / Safe Work Practices	Initial RAC
1	Pre-job planning & scope review	Incomplete scope; missing permits; unverified trench path	Conduct tailboard/JSA meeting; review prints and tape placement depth requirements; confirm 811/One-Call ticket; coordinate with utility owners.	☑
2	Material staging (warning tape rolls, tools, PPE)	Struck-by shifting rolls; trip hazards; improper storage	Store tape rolls on stable, level ground; stage tools neatly; barricade staging area; maintain housekeeping.	☑
3	Traffic control setup (if trench adjacent to roadway/sidewalk)	Vehicle strikes; pedestrian hazards; poor visibility	Implement MUTCD-compliant traffic control; cones, barricades, signage; certified flaggers; ANSI/ISEA 107 Class 2/3 garments; lighting for night work.	☑
4	Excavating trench prior to tape placement	Contact with buried utilities; cave-ins; struck-by excavation equipment	Pothole or vacuum-expose utilities in tolerance zone; comply with OSHA Subpart P excavation standards; keep spoil piles ≥2 ft from trench edge; use trench shields for >5 ft trenches.	☑
5	Entering trench or working near edge	Slips/trips/falls; trench wall collapse; fall into excavation	Competent person inspects trench daily; provide safe egress every 25 ft; maintain guardrails or barricades; prohibit unauthorized entry.	☑
6	Installing warning tape above conduit/duct	Slips/trips; ergonomic strain; improper placement depth	Place tape 12–18 in. above conduit (per owner/standard); avoid overreaching; wear gloves; use proper posture to minimize strain.	☑

Step No.	Task Description	Potential Hazards	Controls / Safe Work Practices	Initial RAC
7	Handling long lengths of warning tape	Entanglement; repetitive motion injuries	Use reels or tape dispensers when possible; avoid wrapping tape around body; rotate tasks to prevent fatigue.	?
8	Backfilling trench after tape installation	Struck-by compaction equipment; crushing hazards	Compact soil in lifts; maintain exclusion zone around machinery; use spotters near equipment; restore grade per permit requirements.	?
9	Working in adverse weather conditions	Slippery or unstable soil; heat/cold stress; poor visibility	Provide hydration and shade in hot weather; insulated PPE in cold; de-ice/secure footing in winter; suspend work during lightning/heavy rain.	?
10	Housekeeping and site restoration	Slips/trips from debris or scrap tape; improper disposal	Remove unused tape and scrap material; restore site flush to grade; sweep/clean work zone before demobilization.	?
11	Traffic control removal & demobilization	Vehicle strikes during breakdown	Remove devices in reverse order; keep flaggers until last cone collected; final walkdown inspection.	?
12	Documentation & turnover	Missing records; improper compliance with utility owner standards	Record tape placement locations, depth, and footage; photograph trench and tape placement; update as-builts; submit QC documentation.	?

PPE Requirements

- **Head/Face/Eye:** Hard hat (ANSI Z89.1) when near excavation or equipment; safety glasses (ANSI Z87.1).
- **Hearing:** Hearing protection when exposed to heavy equipment or compactors >85 dBA.
- **Hands:** Cut-resistant gloves for trench and tape handling.
- **Feet:** Safety-toe boots with slip-resistant soles.
- **High-Visibility Apparel:** ANSI/ISEA 107 Type R, Class 2 (day) or Class 3 (night/high-speed).
- **Fall Protection:** Harness/retrieval system required if working in vaults or trenches classified as confined spaces.
- **Respiratory:** Dust mask or respirator when working in dry, dusty soil conditions.
- **Weather-Specific:** Rain gear, thermal clothing, sun protection as applicable.

Regulatory & Industry Practice Alignment (summary)

- **OSHA:** 29 CFR 1926 Subpart P (Excavations), Subpart E (PPE), Subpart M (Fall Protection), Subpart O (Motor Vehicles/Mechanized Equipment), Subpart Z (Hazardous Substances—dust, silica).
- **NIOSH:** Trenching and excavation hazard alerts, best practices for ergonomic handling, silica dust exposure prevention.
- **ANSI/ISEA:** ANSI/ISEA 107 (high-visibility apparel), ANSI Z87.1 (eye protection), ANSI Z89.1 (head protection), ANSI Z359 (fall protection).
- **NESC:** Clearance/separation standards for telecom ducts and marking requirements.
- **MUTCD:** Work zone traffic control requirements for utility excavation and tape installation near roads.