



How To Prepare Excavation HIRA: Hazard Identification and Risk Assessment

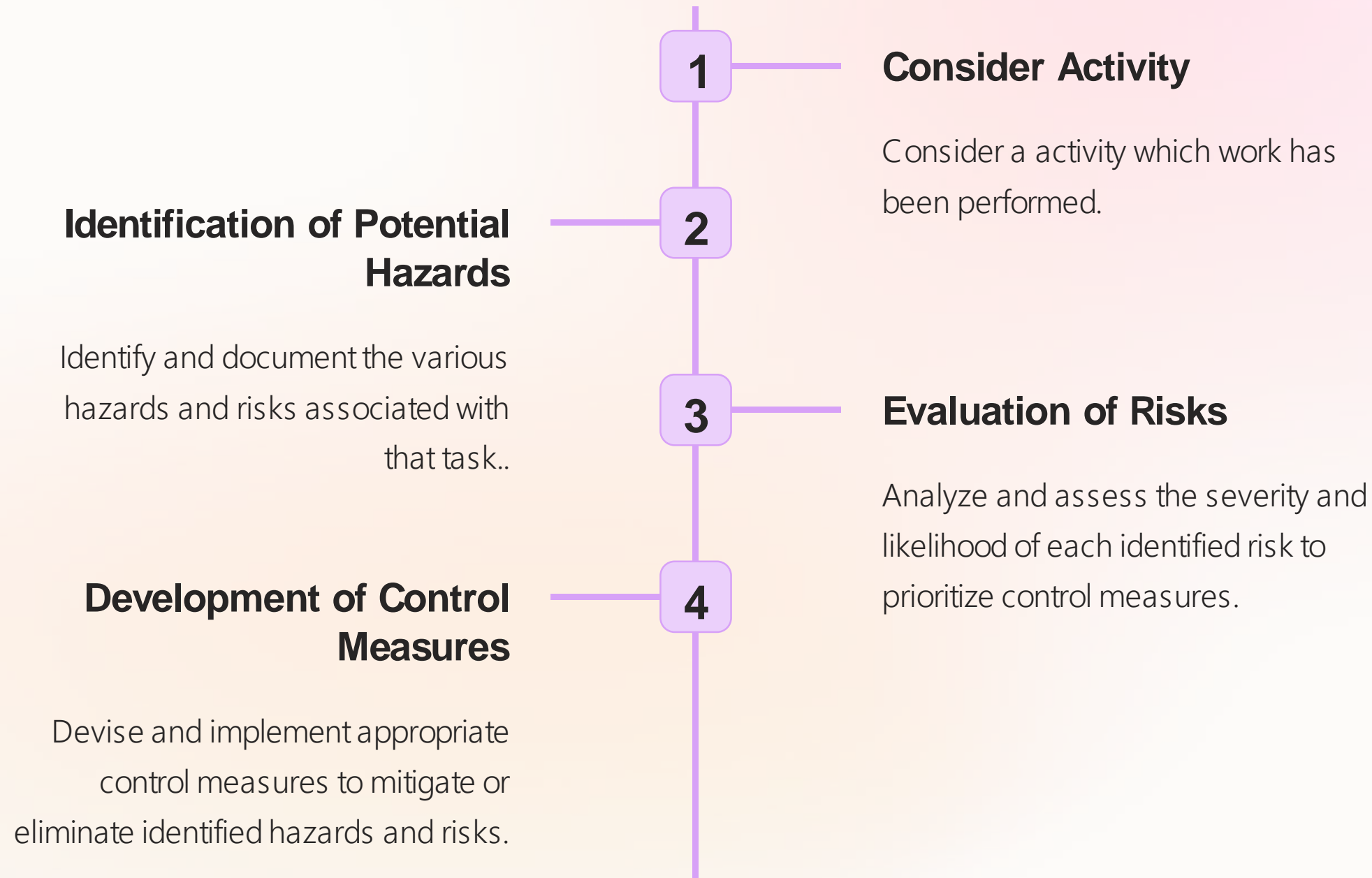
Discover the importance of excavation HIRA and learn about the steps involved in preparing an effective HIRA for excavation projects.

Excavation

Excavation is the act or process of digging, especially when something specific is being removed from the ground.

Excavation work involves inherent risks that demand a thorough Hazard Identification and Risk Assessment (HIRA) to ensure the safety of workers.

Steps to Prepare Excavation HIRA



HIRA for Excavation Work

1. Excavation Activity:

Digging, trenching, or any earth-moving activities in excavation sites.

2. Identified Hazards:

1. Cave-ins:

- Risk of the excavation walls collapsing.

2. Falling Materials:

- Potential for tools, equipment, or soil to fall into the excavation.

3. Underground Utilities:

- Presence of gas, water, or electrical lines.

4. Mobile Equipment:

- Risk of collisions or rollovers involving excavation equipment.

3. Risk Assessment:

Cave-ins:

- Likelihood: Moderate (depending on soil type and stability).
- Severity: High (potential for burial and fatalities).
- Risk Level: High.

Falling Materials:

- Likelihood: Moderate (due to work activities).
- Severity: Moderate (potential for injuries).
- Risk Level: Medium.

Underground Utilities:

- Likelihood: High (unknown locations).
- Severity: Moderate (potential for utility damage).
- Risk Level: High.

Mobile Equipment:

- Likelihood: Moderate (depending on site layout).
- Severity: High (potential for serious injuries or fatalities).
- Risk Level: High.

4. Risk Ranking:

- Cave-ins (High)
- Underground Utilities (High)
- Mobile Equipment (High)
- Falling Materials (Medium)

		Impact →				
		Negligible	Minor	Moderate	Significant	Severe
Likelihood ↑	Very Likely	Low	Moderate	High	High	High
	Likely	Low	Moderate	Moderate	High	High
	Possible	Low	Low	Moderate	Moderate	High
	Unlikely	Low	Low	Moderate	Moderate	Moderate
	Very Unlikely	Low	Low	Low	Moderate	Moderate

RISK MATRIX						
PROBABILITY →	Very Likely - 5	4	10	15	20	25
	Likely - 4	4	8	12	16	20
	Possible - 3	3	6	9	12	15
	Unlikely - 2	2	4	6	8	10
	Very Likely - 1	1	2	3	4	5
		1	2	3	4	5
		Negligible	Slightly	Moderate	High	Very High
SEVERITY →						
Risk		Risk level	Condition			
1 to 6		Low Risk	May be acceptable but review task to see if risk can be reduced further.			
8 to 12		Medium Risk	Task should only be executing with appropriate management authorization after consulting with specialist personal.			
15 to 25		High Risk	Task must not proceed, until adequate action taken to minimize the risk.			

5. Control Measures:

- **Cave-ins:**
 - Implement shoring or trench boxes.
 - Conduct soil testing before excavation.
- **Falling Materials:**
 - Use barricades and warning signs around excavation edges.
 - Store materials away from trench edges.
- **Underground Utilities:**
 - Contact relevant utility companies for location information.
 - Use ground-penetrating radar or other locating devices.
- **Mobile Equipment:**
 - Establish clear traffic control plans.
 - Implement spotters for equipment movement.

Hierarchy of Controls:

- Prioritize engineering controls like shoring and trench boxes.
- Use administrative controls, including traffic control plans and excavation permits.
- Ensure workers use appropriate personal protective equipment (PPE).

Conclusion

By following this structured approach, businesses can proactively identify and address potential hazards associated with excavation work, promoting a safer working environment for all personnel involved in excavation activities.