

# FOUNDATION FAILURE

## The Soft Soil Scaffolding Trap

TIMESTAMP: 2023-18-26 08:45:09 UTC



**LFI #001**

LEARNING FROM INCIDENT

Safety Moment: Analysis of a Structural Collapse



SAFETY STUDY NOTES



# MONDAY MORNING. 8 METERS HIGH. TAGGED 'SAFE'.





# 10:30 AM: THE COLLAPSE



**ACTION:** [09:45 AM]  
Three workers climb the platform and load wet cement buckets.

**REACTION:** [10:00 AM]  
The structure shifts suddenly under the added load.

**FAILURE:** [10:30 AM]  
Outer legs sink into softened soil. The scaffold tilts and collapses.





# THE HUMAN CONSEQUENCE

8 Meters



**IMPACT:** 2 Workers  
**Distance:** 8 Meter Fall  
**Injuries:** Multiple fractures and spinal injury.

**SUSPENSION:** 1 Worker  
**Duration:** 20 Minutes  
**Outcome:** Left hanging on a window grill until rescue.





# **NOT AN ACCIDENT. A CALCULATION FAILURE.**

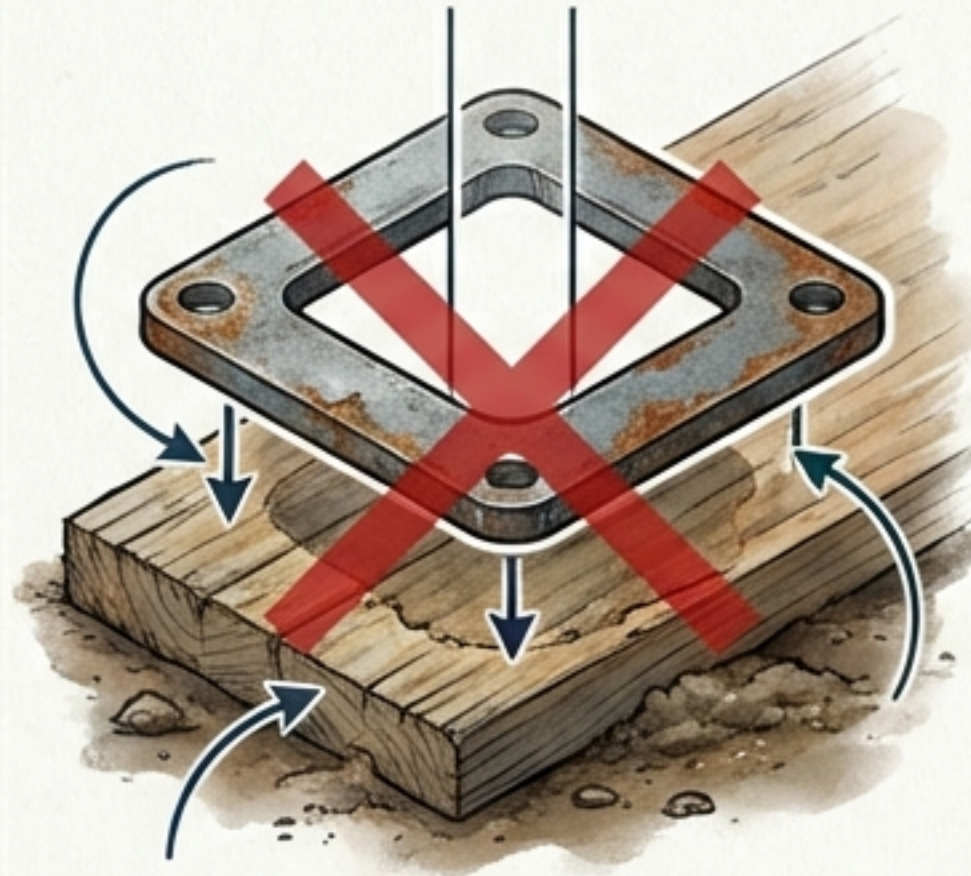
The investigation revealed three distinct failures that converged to create the trap.

## **1. THE ENVIRONMENT**



The Rain Factor

## **2. THE HARDWARE**



Missing Sole Plates

## **3. THE PROCESS**

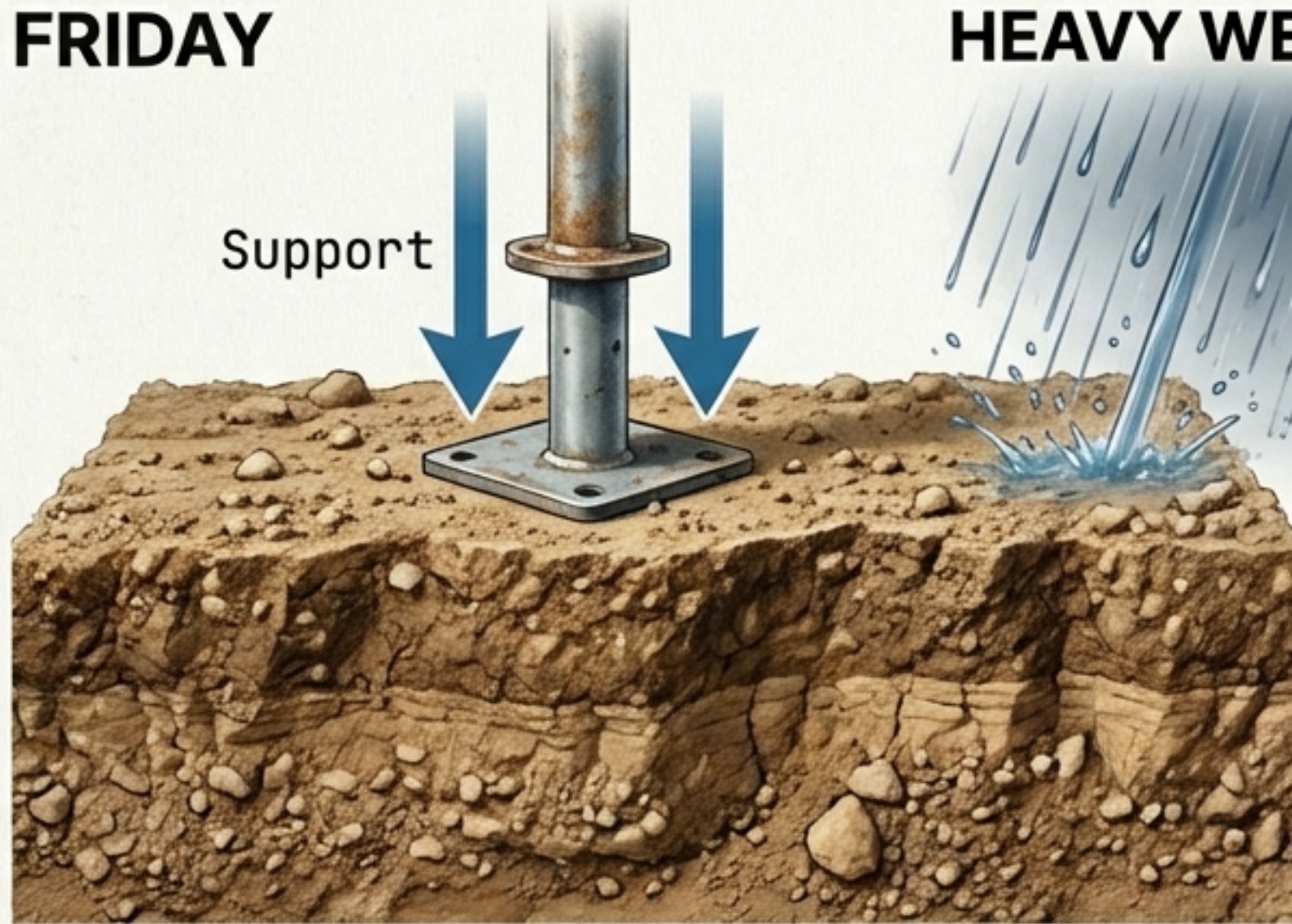


The False Green Tag



# FACTOR 1: THE WEEKEND RAIN

FRIDAY



HEAVY WEEKEND RAIN



MONDAY



**EVENT:** Heavy rain occurred over the weekend while the site was inactive.

**IMPACT:** The soil around the building perimeter transformed from solid ground into soft mud.

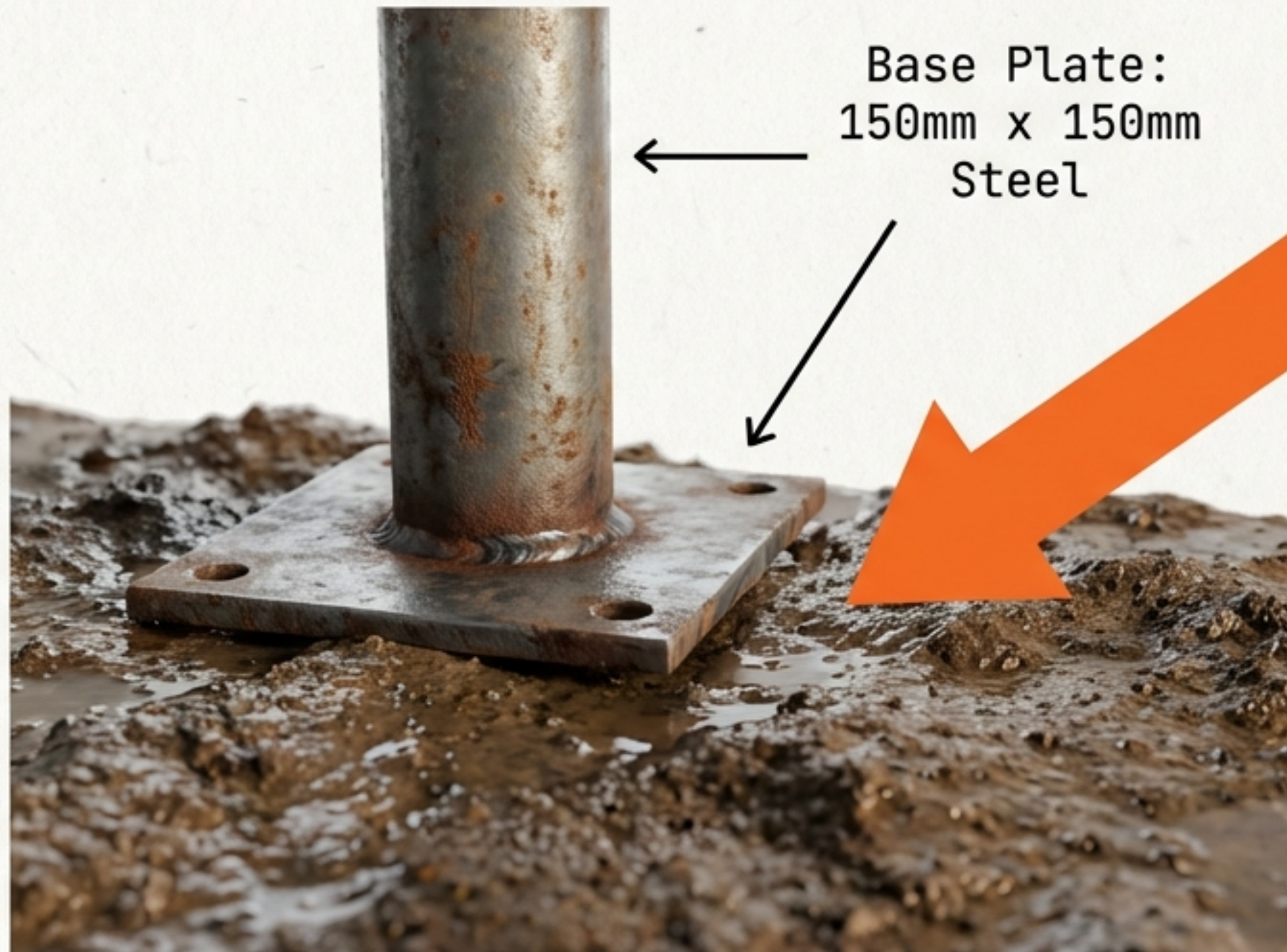
**RESULT:** The ground lost its load-bearing capacity. The 'floor' that existed on Friday was gone by Mon





# FACTOR 2: THE MISSING COMPONENT

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## MISSING: WOODEN SOLE PLATE

**THE SETUP:** Scaffold standards rested on standard steel Base Plates.

**THE ERROR:** There were NO "Sole Plates" (wooden planks) used to distribute the load.

**CONDITION:** Steel was placed directly in contact with the soil.





# PHYSICS: THE KNIFE VS. THE SNOWSHOE

**Pressure = Force / Area**



**BASE PLATE ALONE** (150mm)  
(150mm x 1mm blade edge)  
Concentrates force. Slices through soft material.



**WITH SOLE PLATE** (300mm+)  
(300mm x 800mm snowshoe footprint)  
Distributes force. Floats on soft material.

Without the wood to distribute the load, the steel plate had zero resistance against the softened n





# FACTOR 3: THE GREEN TAG TRAP



## THE ASSUMPTION:

Supervisor trusted Friday's tag on Monday's mud.

## THE REALITY:

A tag is a snapshot in time, not a guarantee.

## THE VIOLATION:

IS 3696 mandates re-inspection after bad weather.

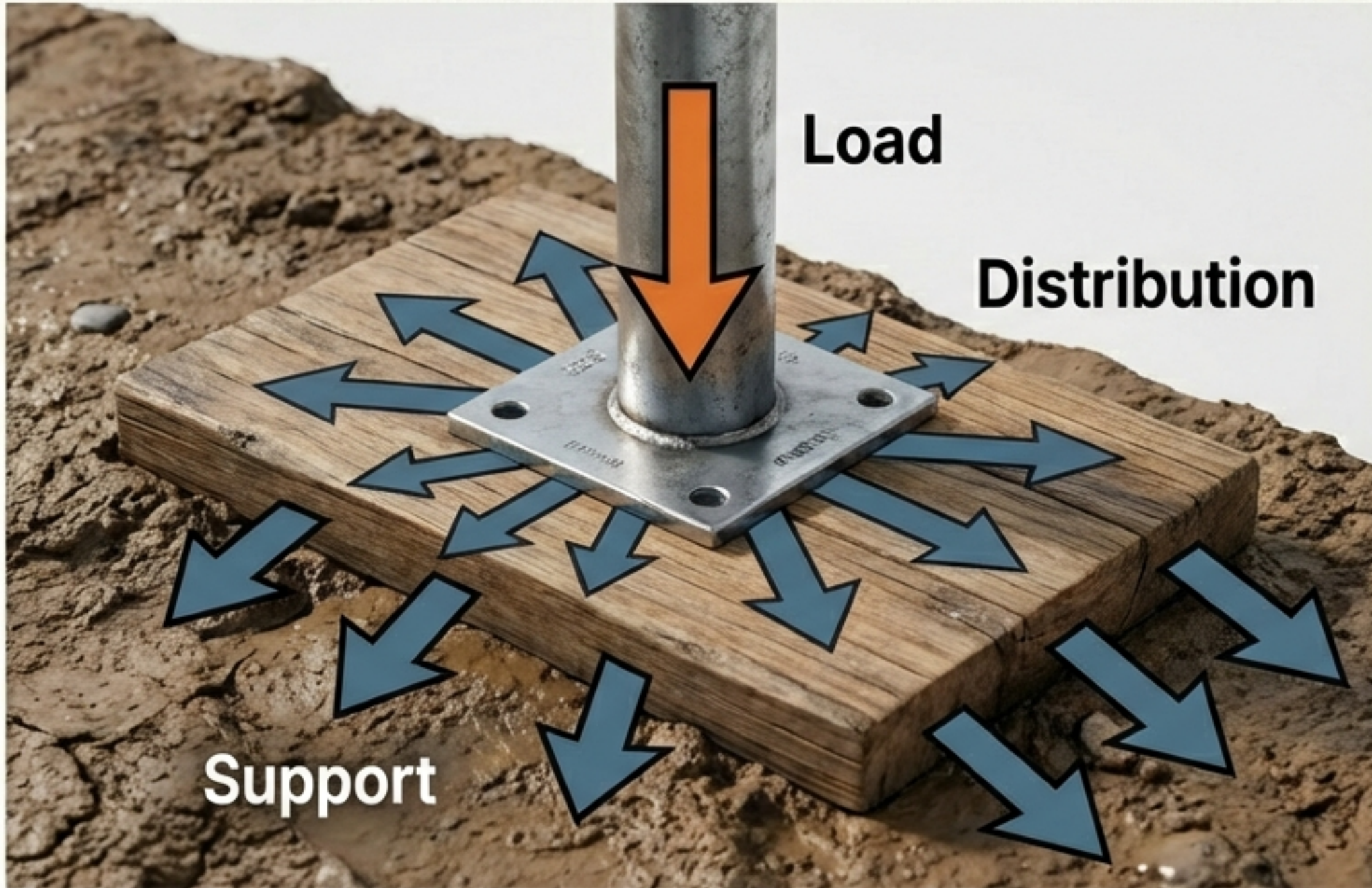
No one checked the base conditions before work began.





# THE NEW STANDARD: SOLE PLATES ARE MANDATORY

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## THE RULE:

On any surface other than concrete, a wooden Sole Plate is required.

## SPECIFICATION:

Minimum width of 300mm.





# PROCESS: THE 'AFTER-RAIN' RULE

**TRIGGER:** RAIN OR HIGH WIND  
**STATUS:** ALL GREEN TAGS INVALID

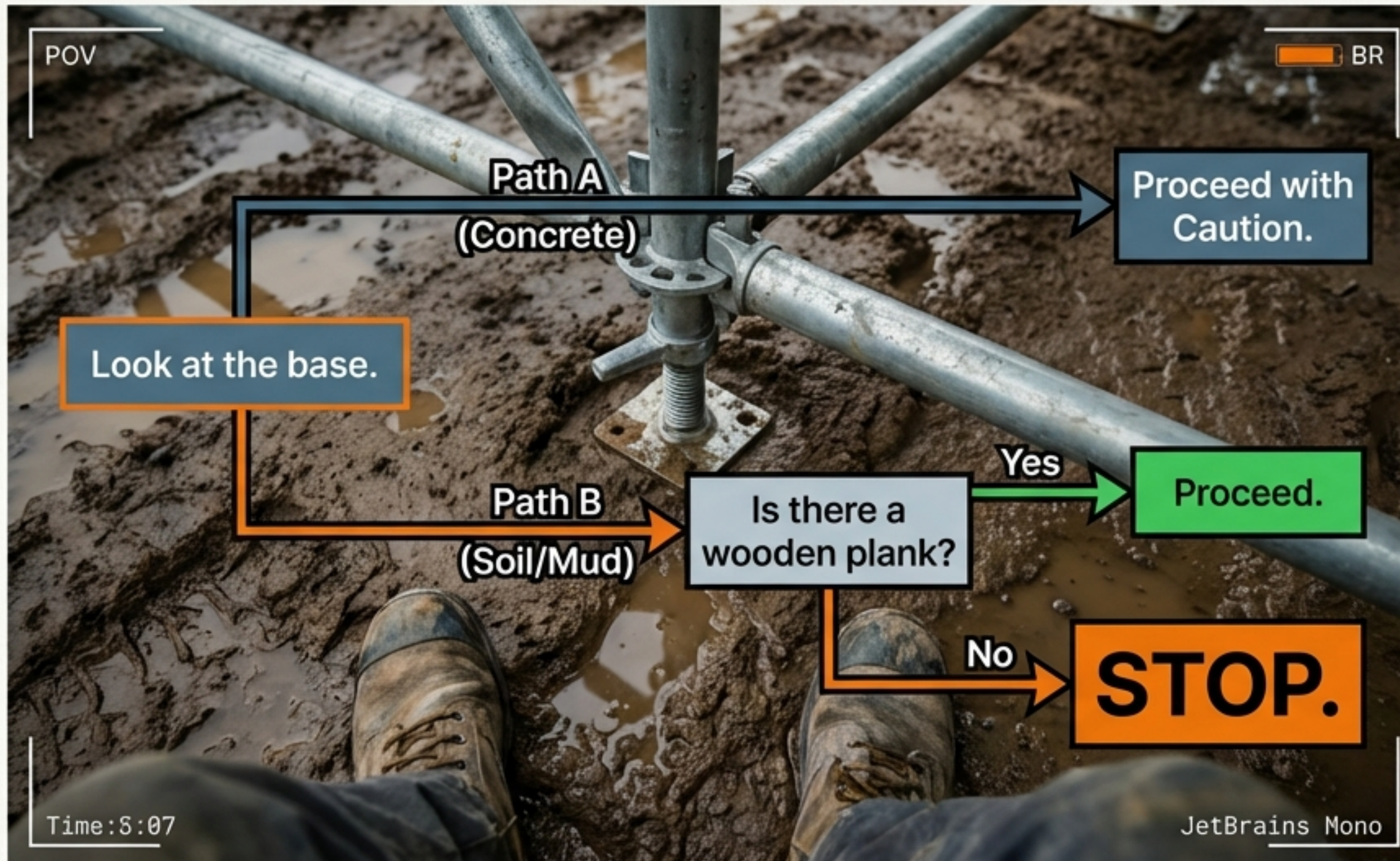
1. **SUSPEND WORK** immediately.
2. **RE-INSPECT** stability, specifically ground conditions.
3. **RE-TAG** only after verification.

Never overload a wet scaffold; ground resistance is lower than usual.





# WORKER PROTOCOL: LOOK DOWN FIRST



## MUD CHECK

If the ground is wet or muddy, do not climb. Report to supervisor immediately.

Don't trust old tags.





# SUMMARY





# CHALLENGE: LOOK BEHIND YOU

**Look at the scaffold on our site right now. Is it resting on a wooden plank or bare soil?**

**LET'S GO CHECK.**





# **SAFETY IS A CONSTANT CALCULATION.**

**Get more Safety Moments and LFI summaries at:  
<https://safety-study-notes.netlify.app>**

