Restoring Railroads Under Pressure: Managing Concurrent Permitting and Construction in Rail Emergencies

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Typical rail infrastructure emergencies

- Washouts / erosion / scour
- Damage / collapse from age or physical impacts
- Extreme weather impacts

*** this presentation is not addressing derailments ***

Why are emergency rail repairs unique

- Failures can occur with little/no warning — immediate life-safety and operational risk
- Rail is critical infrastructure and requires immediate repair
- Work must start fast while permits are after-the-fact
- Documentation is created under “stress” — yet becomes the basis for compliance and closeout

What permits are required

It varies but the most typical include:

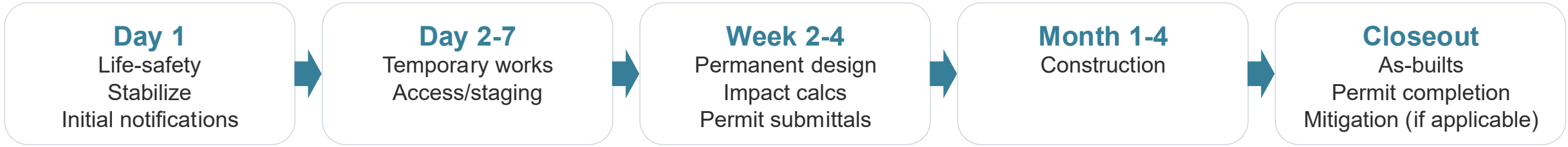
- Clean Water Act Section 401, 404
- Rivers and Harbors Act Section 9, 10, 14 (408)
- Endangered Species Act
- National Historic Preservation Act
- Other federal regulations as applicable

Railroads, with rare exception, have federal pre-emption from state and local regulations

Typical process and timeline

- Initiate agency contacts during the first 24-48 hours
  - **Always verify federal / state / local regulatory emergency procedures**
- Provide evolving information (photos, sketches, impacts) as design matures
- Determine if field surveys (cultural/biological) are safe or viable to conduct
- Consider if temporary impacts (access, pads, coffer dams) are permanent impacts
- Document the approach/design and what was avoided/minimized
- Submit after the fact permit application(s) and complete mitigation (if applicable)

Maintain a single source of truth: change log and as-built impact tally



Example 1

Example 2

Example 3


After


Inlet
2022
Inlet
2022
Outlet
2021
Inlet
2021
Broke off into invert in 2022


Before

Strategies for early agency engagement

- Make the first call early: who, when, and what decision you need
- Email a brief overview of the emergency within 24-48 hrs (location, photos, initial impacts, proposed design solution)
- Establish cadence for communications with team and agencies
- Be open to agency field review but communicate safety concerns
- Confirm verbal guidance in writing (email follow-up) and track conditions

What consistently works as a team

- Communicate, communicate, communicate
- Start permitting immediately — don't wait
- Provide a clear and concise narrative: emergency need, chosen design solution, and what was avoided
- Be safe – field visits for biological/cultural may not be safe to conduct
- Control and document impacts and changes as they occur
- Keep one evolving impact tally tied to plan revisions and daily construction reports
- Be in the know of what is happening in the field
- Build relationships with agencies and clients before emergencies

Proactive measures for future emergencies

- Create a permit playbook: contacts, notification scripts, and submittal templates
- Standing contracts for survey/delineation and environmental controls
- Design standards for repairs / replacements with clear impact rationale
- Identify communication pathways