

A Practical Approach to Environmental Risk Prioritization

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What is Environmental Risk?

▶ **Black's Law Dictionary:**

- Actual or potential failure in the environment. Identifies threat of adverse effects on involved living organisms arising out of an organization's activities. Sources of threat are effluents, emissions, wastes, resource depletion, and the like.

▶ **ASTM Environmental Site Assessment Guidance:**

- A risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated...

The big difference is that ASTM calls the term “Business Environmental Risk which is a more practical definition

Environmental risk is based on perspective!



Examples of some “Hot” Environmental Issues

▶ **Soil vapor intrusion and mitigation**

- Impacts timelines for regulatory approvals
- Impacts design and cost of structures / development programs
- Often leads to significant human resources issues due to perceptions

▶ **Impacts to surface waters / wetlands / stormwater**

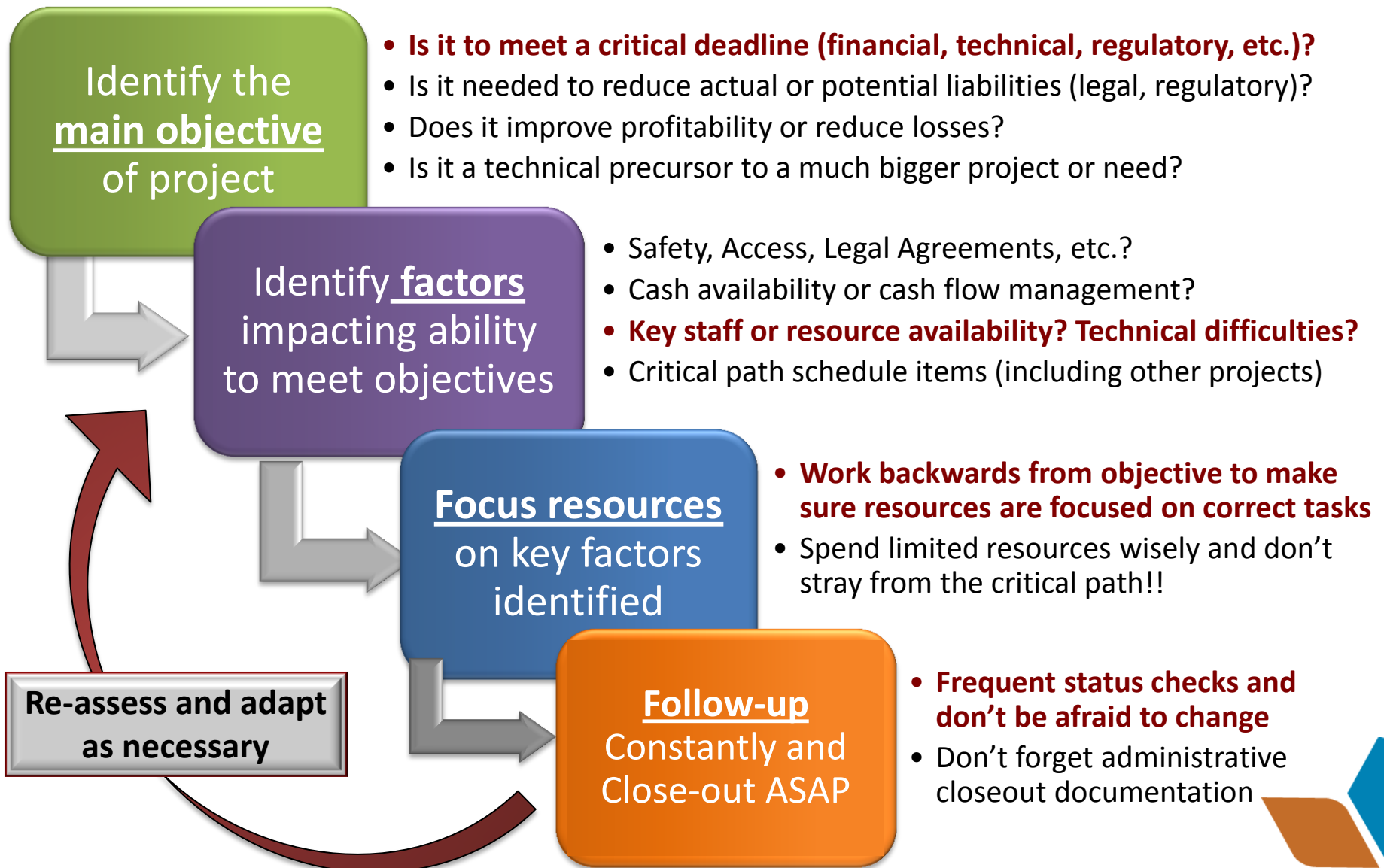
- Some of the biggest financial penalties
- Negative public relations
- High cost to remedy problems due to consequential damages

▶ **Cost cap insurance policies**

- Many insurers are getting out of the business
- Terms of policies are complicated and leave significant risk with the policy holder



General Approach to Prioritization of Projects



Objectives Related to Environmental Risk

- ▶ **Most environmental projects are designed to support business goals... not cleanup the environment**
 - Do not lose sight of the “big picture”
 - Biggest environmental risk is typically failure to meet a business goal due to an environmental issue or delay
 - Properly designed projects can meet business goals *and* cleanup the environment but often with adverse cost or schedule impacts
- ▶ **When site cleanup is the main objective, projects are generally regulatory-driven**
 - The priority in this instance should be getting to regulatory closure – not a “science project”
 - Prioritization should be on giving the regulators what they need to say yes to what you want to do (see it from their perspective)



Example of Objective Importance in Risk Mgmt.

- ▶ **A new transit hub is to be constructed over an existing plume and the new hub is part of a region-wide master development plan**
 - Primary objective is schedule in this instance.
 - Secondary objectives are technical coordination between projects and possibly even public relations depending on the project
 - Although important, the following objectives are primarily related to supporting the prime schedule objectives:
 - ▶ *Regulatory - addressing the plume is being done primarily to advance construction not remediate the site, **BUT** obtaining proper regulatory approvals is critical to meet the schedule deadlines.*
 - ▶ *Financial – jobs of this scale are usually funded initially; however, staying on budget tends to become a higher priority as the project progresses (this is why re-assessing objectives and adapting is so critical).*



What are the key factors related to Environmental Risk?

All elements are important to understand and evaluate but...

... not all elements are of equal importance on all projects



Prioritization Factors Vary By Organization

- ▶ **Most organizations have a specific culture that influences prioritization:**
 - Some companies may be willing to spend more to eliminate any safety risk whatsoever, even if only a one in a million chance of occurring...
 - Some companies will have an absolutely firm schedule that must be met even if it means higher costs or lower, but acceptable, quality...
 - Some companies are 100% driven by the cost and low bid will prevail even if concerns with the bidder or quality exist...
 - Some companies will focus on their reputation / public relations even if it means a project with technical elements that aren't required ...

Depending upon the project, each of these factors could correctly be the priority depending upon the main objective of the project.

**Only a rare project can address all issues completely.
Difficult risk management decisions must be made.**



Example of Risk Factor Evaluation

- ▶ **Factors to consider to minimize environmental risks in transit hub example:**
- **Schedule Consequences:**
 - ▶ *Development of a realistic critical path schedule with significant float and contingency*
 - ▶ *Look at other connected projects to determine if critical path can be altered to ensure priorities are met*
- **Public Relations and Perceptions:**
 - ▶ *Need to establish realistic expectations / communicate frequently with management*
- **Financial Management:**
 - ▶ *Funding needs to be in place to allow procurement of necessary resources to initiate work.*
 - ▶ *Contingency funding needs to be available for unforeseen events*
- **Liability Management / Legal:**
 - ▶ *Start legal agreements needed for access, key resources, etc. as early as possible. These are often an unforeseen delay.*



Prioritization of Resources

- ▶ **Always focus on the critical path to meet the main objective**
- ▶ **Identify the critical resources early and obtain commitments using incentives / disincentives**
- ▶ **Have a backup plan if a key vendor / resource becomes unavailable**
- ▶ **Do not wait too long to change direction if something isn't working**



Follow-up / Re-Adjustment of Priorities

- ▶ **Most projects start-off with a good plan...but abandon the plan almost immediately...**
- ▶ **Lessons learned:**
 - Constant follow-up and comparison to plan is critical
 - It's OK if a plan needs to change, but it should be a change by design to meet objectives – not a failure to follow the original plan
 - If you have a feeling you are going in a bad direction you usually are!! – don't be afraid to change course
 - People always forget the administrative closeout follow-up ... and it usually comes back to haunt you.



Summary

- ▶ **Define the real, big picture objective:**
 - It is usually a business objective not an environmental objective
- ▶ **Define the factors influencing ability to meet that objective**
 - Plan upfront to identify all factors influencing the outcome and develop a strategy to address each of them
- ▶ **Focus resources on the ability to meet the main objective**
 - Always stay on the critical path and do not lose focus on main objectives. Do not get caught up in “science projects”.
- ▶ **Follow-up on tasks and don't be afraid to redefine objectives and factors as necessary**
 - Recognize when change is needed and act. Trust your instincts
 - Always follow-up on administrative closeout immediately upon completion of activities.

