

## IMPLEMENTING EFFECTIVE SHORT TERM MEASURES IN SITE REHABILITATION

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### ABOUT THE STUDY

Environmental contamination poses significant risks to ecosystems and public health, necessitating swift and effective remediation measures. Among these, short term measures play a key role in mitigating immediate hazards before a comprehensive site clean-up is finalized.

Site rehabilitation is a critical process for restoring environmental and operational integrity after industrial or environmental disturbances. Short-term measures are essential for addressing immediate issues and stabilizing the site while long-term solutions are developed.

Environmental contamination, often stemming from industrial activities or hazardous waste disposal, requires systematic remediation to restore affected sites. While comprehensive cleanup plans are developed, interim measures serve as proactive interventions to prevent further environmental degradation and reduce risks to human health.

Interim measures encompass a range of strategies aimed at containing, stabilizing, or removing contaminants pending full rehabilitation. These measures are typically implemented based on risk assessment findings and may include. Erecting physical barriers or using engineering controls to prevent the spread of contaminants into surrounding areas or groundwater sources.

Applying technologies that treat contaminants within the soil or groundwater without excavation, such as bioremediation or chemical oxidation. Removing contaminated soil or water to off-site facilities for treatment, reducing immediate risks

while long-term solutions are developed. Immediate containment reduces exposure risks to nearby communities and ecosystems. Interim measures can reduce escalating cleanup costs associated with delayed remediation. Demonstrating proactive measures aids in regulatory compliance and public trust. Selecting appropriate interim measures requires detailed site characterization and understanding of contaminant behavior. Effective communication with stakeholders is vital to garner support and address concerns regarding interim measures' efficacy and impact.

The rehabilitation of a former industrial site in utilized short term measures to prevent the spread of heavy metals into nearby waterways, demonstrating significant reductions in contaminant levels pending final cleanup.

A brownfield redevelopment project in employed a combination of *in-situ* and *ex-situ* treatments to address petroleum hydrocarbon contamination, facilitating safe redevelopment while minimizing environmental impacts.

Short-term measures are often less costly than long-term solutions. By addressing immediate issues, these measures can prevent further damage and reduce the overall cost of rehabilitation. Investing in short-term measures can result in cost savings by minimizing the extent of contamination and the need for extensive remediation.

Temporary containment systems, such as berms, dikes, or tarps, can be used to prevent the migration of contaminants. These systems can be employed to contain runoff, manage waste, and control the spread of pollutants.

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Advancements in remediation technologies and regulatory frameworks are shaping the future of interim measures. Innovations in sensor technology and data analytics enhance real-time monitoring and adaptive management of interim measures. Enhanced collaboration between regulatory agencies, industry stakeholders, and environmental experts is key for developing robust interim measure guidelines.

In conclusion, short term measures are indispensable components of effective site remediation strategies, offering immediate relief from environmental hazards while paving the way for comprehensive cleanup efforts. Embracing innovation and collaboration

ensures that interim measures continue to evolve, safeguarding ecosystems and communities against the perils of environmental contamination. This structured approach outlines the key components of a commentary article on short term measures in site rehabilitation, emphasizing their importance, challenges, and future prospects. Implementing effective short-term measures in site rehabilitation is essential for managing immediate risks and setting the stage for successful long-term remediation. By focusing on risk management, resource allocation, monitoring, and integration, these measures contribute to the overall success of site rehabilitation efforts.