Challenges Associated with Construction Management at a Complex Mine Remediation Project in Northern Canada

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Presentation Outline

• Site History
• Context - Construction Management
• Stakeholder Engagement
  • Challenges, Impacts
  • Solutions
• Safety
  • Challenges, Impacts
  • Solutions
• Project Locality
  • Challenges, Impacts
  • Solutions
• Climate
  • Challenges, Impacts
  • Solution
• Conclusion
Site History
Context: Construction Management

- Construction Management
  - Safety
  - Schedule
  - Budget
  - Scope

- What Makes Projects Successful?
- What Challenges Exist?
Stakeholder Engagement

• Challenge:
  • Large Network of Stakeholders
  • Potential for Conflicting Interests

• Impacts:
  • Schedule
  • Budget
  • Scope
Stakeholder Engagement

• Solutions
  • Long Term Planning
  • Commitment to Consult
  • Early Involvement of Stakeholders
  • Effective Communication Throughout Project
Safety

• Challenges:
  • Active Industrial Site – Mine Health and Safety Act
  • Chemical Hazards – Arsenic, Hazardous Materials
  • Physical Hazards – Open Pits, Water Bodies

• Impacts
  • Employee Safety
  • Budget
Safety

• Solutions
  • Site or Project Specific Health and Safety
  • Initial and Continuous Risk Analysis
  • Detailed Risk Mitigation Plans
  • Employee Orientation and Training
  • Employee Awareness and Engagement
    • Health and Safety Committees
Project Locality

• Challenges:
  • Northern Locality
  • Logistics
    • Equipment Access
    • Material Supply
    • Employee Mobilization

• Impacts
  • Budget
  • Schedule
Project Locality

- Solutions:
  - Pre-Project Planning for Long Lead Items
  - Highly Qualified Cost Estimates
  - Shared Mobilization of Equipment and Employees
  - Formation of Strong Local Networks and Teams
Climate

• Challenges:
  • Weather Extremes
  • Short Summer Season for Typical Construction
  • Long and Cold Winter Seasons
  • Rapid Onset of Freshet

• Impacts
  • Safety
  • Schedule
  • Budget
Climate

• Solutions:
  • Safe Work Procedures for Hot and Cold Weather Extremes
  • Increased Equipment, Material and Person Loading During Summer Construction Season
  • Planned Winter Shut Downs or Weather Appropriate Tasks
  • Effective Project Site Water Management and Emergency Response Plans
Conclusion

- Strong Multi-Disciplinary Project Teams

- Stakeholder Engagement and Cooperation Between Members

- High-Quality Long Term and Seasonal Planning

- High-Quality Estimating

- Site Specific Safety

- Employee Engagement
Questions

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