Technical Feasibility

Don’t Promise
What You Can’t Deliver

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Technical Side Answers

• Can the solution be constructed?
• Are specialized skill or equipment required?
• What is the cost?
Technical Expertise Requires

Clear understanding of the problem
Real-world experience
Multiple projects
Credibility
Dredging Projects

• Navigation
  – Maintenance
  – New Work

• Contaminated Sediments
Multiple Priorities

- Protect environmental resources
- Use standard equipment
- Comply with permit conditions
- Achieve reasonable cost
Typical Dredging Project Issues

- Slope impacts
- Turbidity
- Re-suspended sediments
- Dredge volume
- Final depth
One Size Does Not Fit All

same solution
will not work every time
Factors Impacting Dredge Capability

- **Working in the Blind**
- **Dredge Characteristics**
  - Mechanical Dredges
    - Bucket imprints
  - Hydraulic Dredges
    - Spillage
Factors Impacting Dredge Capability (cont.)

• Project Conditions:
  – Bank Height
  – Tides, waves, channel configuration
  – Material (New Work vs Maintenance)
  – Debris

• Operator Skill

• Project Management
Interpreting Hydrographic Survey Data

(EM 110-2-1003)

Acoustical

- < 15 ft => ±0.5
- > 15 and < 40 ft => ±1.0 ft
- > 40 ft => ±1.0 ft to ±2.0 ft
Slope Impacts

• Short-term versus long-term
• Many forces outside project control
• Be realistic
• Avoid perpetual liability
Turbidity

• Often a substitute for suspended solids
• Large natural variations in NTU
• Short-term impacts
Re-Suspended Sediment

- Difficult to measure in field
- Important at contaminated sites
- Adaptive Management
Dredge Volume

- Slopes (short-term)
- Required dredging
- Allowable overdepth
- Allowable overdepth not dredged
- Excess dredging
Final Depth

- Allowable overdepth versus excess dredging
- Excess dredging => limited extent
Allowable Overdepth vs Excess Dredging

- **Allowable Overdepth - Contract Term**
  - Limits pay quantity
  - Excess Dredging => non-pay quantity
- **Allowable Overdepth - Permit Condition**
  - Defines environmental compliance
  - Excess Dredging => permit violation
Conclusion

• Address issues
• Ignore technical issues
  – Don’t go away
  – May grow
  – Impacts credibility
• If solution is failing
  – Recognize before end of project
  – Have alternative Plan “B”