Soil and Materials Engineers, Inc.

WASTE SITE TO RENEWABLE ENERGY INDUSTRY

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consultants in the environment, geosciences, and materials

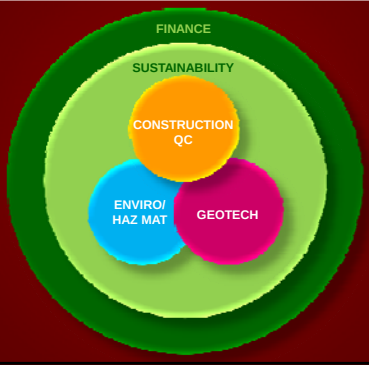
OVERVIEW

- Project Overview
- Geotechnical Challenges
- Environmental Challenges
- Financial Challenges
- Sustainability

PROJECT OVERVIEW

DEVELOPMENT

MORE THAN HAZ MAT MANAGEMENT



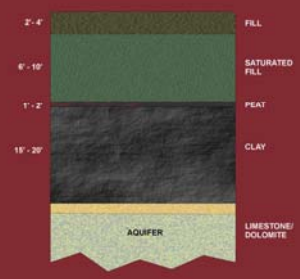
SITE CONDITIONS

CHALLENGES

- Geotechnical
- Environmental
- Financial

GEOTECHNICAL CHALLENGES

FOUNDATION SUPPORT DESIGN

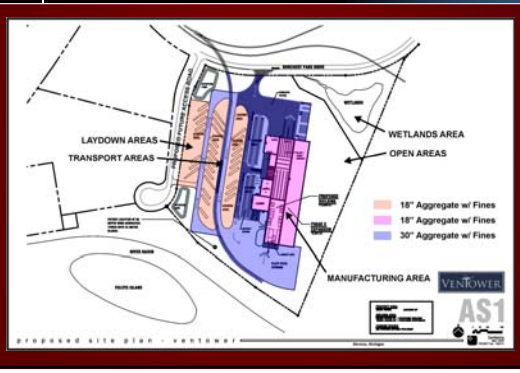


FOUNDATION STRATEGY

- Driven conventional piles
- Soil stabilization
  - Controlled Modulus Columns (CMC)
  - Rammed Aggregate Piers

CMC INSTALLATION

PAVEMENT AND LAYDOWN AREAS

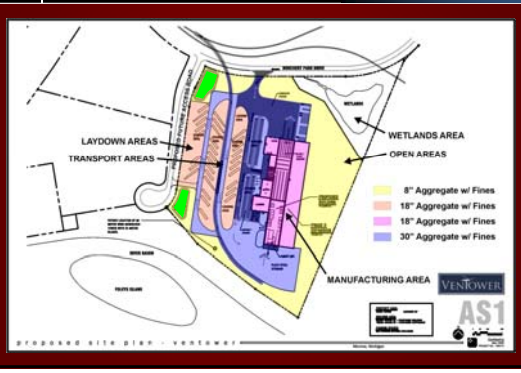


ENVIRONMENTAL CHALLENGES

ENVIRONMENTAL CHALLENGES

- Site characterization
  - Due diligence
  - Exposure assessments
- Liability management
  - State
  - CERCLA
- Safe use strategies and designs
  - Exposure mitigation
  - Exacerbation prevention
- Excess fill management

SAFE USE



FINANCIAL CHALLENGES

ENVIRONMENTAL COSTS

- Assessment and due diligence..... $70,000
- Site preparation and excess fill management..... $225,000
- Contact exposure barrier.....$2,600,000
- Vapor intrusion barrier.....$625,000
- Storm water detention pond liners..... $170,000
- Environmental management and monitoring.....$160,000

TOTAL..... $3,850,000

NON-ENVIRONMENTAL COSTS

- Geotechnical engineering…… $55,000
- Soil stabilization…… $1,200,000
- Water main loop…… $350,000
- Railroad spur…… $525,000
- Railroad trunk improvements…… $1,000,000
- Dock infrastructure improvements... $1,500,000

TOTAL……$4,630,000

BROWNFIELD FUNDING

- Assessment and due diligence
- Site preparation and excess fill management
- Contact and vapor exposure barriers
- Storm water pond liners
- Geotechnical engineering
- Soil stabilization

BROWNFIELD FUNDING SOURCES

- State assessment grant…….$70,000
- State brownfield grant……..$1,000,000
- State brownfield loan…… $1,000,000
- EPA RLF Grant loan ……$2,000,000
- State/local brownfield TIF... $4,130,000

TOTAL……..$5,200,000

INFRASTRUCTURE FUNDING SOURCES

- State DOT grant…….. $800,000
- State/local brownfield TIF….. $900,000
- Other infrastructure grants.$1,000,000
- Unfunded ……..$675,000

TOTAL…… $3,375,000

SUSTAINABLE/GREEN APPROACHES

- Wind power for the plant
- Excess fill retained on site
- Soil stabilization with no spoils
- Minimal commuting
- Minimal on-site engine idling
- Use of biodiesel

SUCCESS

VENTOWER

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