NO WHEELBARROWS

Requiring Innovation in Resilience Education

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Overview

- Background
- Cadet Involvement
- Processes
- Difficulties
- Benefits
- Results
- Conclusions
- Questions
Background

- Project Genesis
- US Wilderness Area
  - Classification
  - Primitive
- USFS Construction Constraints
  - Mechanized Equipment
  - Primitive Tools
- USFS Design Constraints
  - SEAC Snow Loads
  - USFS Width Requirements
  - Austere Budget Environment
  - Sustainability
The Job Site
The Bridge Site
Cadet Involvement

- Topographical
- Structural
- Geotechnical
- Hydrological
- Logistics/Finance/Contracting
- Safety/Project Management
Process

- Project Management
  - Schedule
  - Job Delegation
- Topographical
  - Survey
  - Cartography
- Logistics/Financing/Contracting
  - Corona
  - DARPA
  - AOG/DF Funding
- Safety
  - OSHA
Hard Work...But Somebody Has to Do It
Process

- Hydrological
  - Pre-existing Conditions
  - Watershed Boundary
  - 100 Year Flood Plane
- Geotechnical
  - Soil Sample Acquisition
  - CBR vs. Depth
  - Hydraulic Conductivity Tests
  - Soil Reports
    - Allowable Bearing Capacity
- Structural
  - Standard Trail Bridge Design
    - Glulam 3 Stringer
    - Design Calculations
Difficulties

- Designing without taking a design class
- Extreme Loading
- Limited Topographical Data
- Legal Constraints
- Communication
Benefits

- Hands on Experience
- Introduction into Design
- Interagency Collaboration
Results
Conclusions

• Constraints
• Impact on design
• The way forward
Questions?
Sources


