Sediment Grade Control Structures at Los Alamos National Laboratories

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Agenda
- Project Background
- Security, Disaster & Infrastructure Construction (SDIC) Contract
- Solution
- Lessons Learned
- Questions & Answers
Project Background

- Los Alamos National Laboratory (LANL)
  - Founded in 1943
  - Trinity, Little Boy and Fat Man
  - Recent research: stockpile stewardship, vaccinations, human genome project, IED and mine detection
- Environmental Concerns
  - Polychlorinated Biphenyls (PCBs): Aroclor1254 and Aroclor1260
  - Radionuclides: Plutonium$^{239}$, Plutonium$^{240}$, Uranium, Strontium, Americium and Cesium
- Contaminant Transport
  - Wind
  - Flash floods
- Forest Fires: Cerro Grande Fire, May 2000 and other recent fires
Project Background

- Compliance Order on Consent
  - Between NMED and DOE
  - Signed January 2008 by LANL
  - December 31, 2009 deadline
  - 50-year flood events in Pueblo and DP Canyons
  - Subject to monetary penalties
- LANL contacted USACE Sacramento District in February 2009
- Sacramento District contacted Omaha District in March 2009
- Omaha District received program resources in May 2009
- SDIC contract

SDIC Contract

Best Value Contract

- Multiple Award Task Order Contract (MATOC)
  - Full and open competitive process
  - RFQ: Technical and pricing components
  - In-person interviews including sample problem
  - Three contracts awarded: URS, KBR & Weston Solutions
- All task orders are competed
  - RFP: Technical and pricing components
  - TO selections made by USACE and the customer

SDIC Contract Overview

- Rapid response contract for time-sensitive projects
- Open to all US Government customers
- Managed by the USACE Omaha District
- Scope primarily construction but can include design
- Either firm-fixed-price or cost-reimbursable
- $490 MM capacity
- USACE small business, quality and safety requirements

Projects

- World-wide
- Horizontal and vertical construction or renovation
- Non-classified and classified
- AT/FP improvements
- UXO and environmental requirements
- Disaster assistance
- Bid-Build or Design-Build
SDIC Task Order Examples

- Marina construction in Garrison, ND
- Primary Entry Point (PEP) Expansion facilities in 32 US locations
- Water main construction for Holloman AFB, NM
- Renovations at a classified location
- Steam tunnel renovations at West Point, NY
- Fuel tank repairs at Mountain Home AFB, ID
- Sediment control structures construction at Los Alamos, NM

Solution Concept

- Slow flash flood and runoff waters
- Encourage wetland growth

Task Order Proposal

- Design-Build Team
  - A/E
  - Construction Subcontractors
- Qualifications
- Schedule
- Innovation
  - Conceptual Solution in BIM
  - Cost Efficiencies
Site & Environmental Considerations

- Biological Concerns: wetlands and animals
- Cultural Concerns: archeological, Native American Pueblos, and historical trail
- Permitting Concerns: State 401 and Federal 404
- Construction Concerns: contaminant levels, SWPPP, and laydown area limitations

Engineering

- Hydrology Modeling
  - Watershed boundary and sub-basin delineations
  - Rainfall-runoff calculations
  - Channel and detention routing
- Geotechnical
  - Soil and rock strata
  - Geohydrology
- Structural Solution
  - Final dimensions
  - Short term retention
  - Future flexibility
- Value Engineering
**Two Step (RFQ and RFP) Process Works**
- Three highly qualified teams
- Timely and efficient evaluation process
- Customer involvement
- Decreased cost for all stakeholders

**Involve Designers and Construction Contractors Early**
- Develop conceptual solutions
- Identify constructability issues, local techniques, materials and regulatory requirements
- Decreases cost

**Urgency Does Not Trump Proper Procedures**
- Project management plan
- Site master plan
- Partnering session!

**Understand Performance vs. Prescriptive Specifications**
- Owner’s Role
  - Prescriptive: approval
  - Performance: compliance
- Cost-reimbursable vs. firm-fixed-price
- Ownership, quality & warranty implications

**Design-Build Projects Require the Right People**
- Design-Build PM
  - Design Manager
  - On-site personnel
  - USACE PM
  - Client PM

**Design-Build, Fast-Track Projects Require Trust**
- Contractor suggested alternatives and betterments
- "Over-the-shoulder" or "on-board" design reviews
- Frequent price negotiations
- Partnering and teaming accelerated schedule

**Great contract, project delivery and people**
**Meaningful project**
**Beautiful region**
**Questions?**