How DIGGS Can Help You

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What is DIGGS?

Data Interchange for Geotechnical and Geoenvironmental Specialists
Data Transfer Standard

- Database interfacing
- Software interfacing
- Data validation through software

The bottom line:
SEAMLESS DATA FLOW
DIGGS is **NOT**

- A database
- A database standard
- A software program
Mapping Databases

Data Acquisition

Database

Software Applications

Data Review And Processing

DIGGS

DIGGS

DIGGS
Uses for DIGGS

- Send data to others (lab, client, consultant, others)
- Receive data from others
- Internal for data flow (to different software programs, to different data bases)
- A key component of a geotechnical management system
Data has value

- Cost to obtain – ODOT $55 million/year
- Value to the project
- Value to future projects
It costs to move data and information manually.
Combine existing geotechnical data interchange standards
Expand to include other data (i.e. geohazards, geotechnical assets)
Survey state DOTs and others
Finalize standards
GMS Group Members

- CALTRANS
- Connecticut DOT
- Florida DOT
- Georgia DOT
- Indiana DOT
- Kansas DOT
- Kentucky DOT
- Minnesota DOT
- Missouri DOT
- North Carolina DOT
- Ohio DOT
- Tennessee DOT
- FHWA Ohio Division
- FHWA Federal Lands
- United Kingdom Highway Agency
- US Army Corps of Engineers
- USEPA
- USGS
Participants

- Association of Geotechnical and Geoenvironmental Specialists (AGS)
- Bridge Software Institute at the University of Florida
- Consortium of Organizations for Strong-Motion Observation Systems (COSMOS)
- Construction Industry Research and Information Association (CIRIA)
- Delta Environmental Consultants, Inc.
- EarthSoft
- FHWA
- gINT Software Inc.
- Keynetix Ltd
- Mott MacDonald
- Petrochemical Open Standards Consortium
- United Kingdom Highways Agency (UKHA)
- United States Army Corps of Engineers (USACE)
- United States Environmental Protection Agency (U.S. EPA)
- United States Geological Survey (USGS)
- United States Navy
- University of New Hampshire
- 11 State DOTs
Standards Subsumed in DIGGS

- AGS (United Kingdom)
- COSMOS (international)
- University of Florida (Florida DOT)
- SEDD (EPA & USACE)
International Standard

- International cooperation in development
  - US federal agencies
  - AGS
  - CIRIA
  - COSMOS

Joint Technical Committee 2
- International Society of Rock Mechanics
- International Society for Soil Mechanics and Geotechnical Engineering
- International Association for Engineering Geology and the Environment
DIGGS Format

- DIGGS format has two parts
  - A Data Dictionary
    - Defined tables and fields
    - User defined tables and fields
  - Transfer Format Rules (Schema)
    - Hierarchy of data (Sample from a hole)
    - Tags (<hole>), data type (string, number) etc
    - Rules to structure and verify the data
DIGGS Design

- GML Compatible
  - Geography Markup Language
  - International GIS standard compatible with mapping software

- Extensible
  - Has built in methods for local additions
  - Allows profiles (local definitions of acceptable portions of standards – but sharable)
Version 1.2

- Boreholes
- In-situ tests
- Laboratory tests
- Deep foundations
- Borehole geophysics
- Geoenvironmental
Advantages to using DIGGS

- Interchange of data between databases
- Interchange of data between software
- Data validation
- Interchange of data with others
- Seamless flow of data from generation, through use, to storage, and reuse
- It is FREE
The good old days?
The good old days?

20-30 person hours per week to retrieve information
Ohio DOT 10-20% less drilling, savings $12M per year

Florida DOT fewer borings saving $250,000 - $500,000 on one project

Missouri DOT a 10-15% fewer borings per bridge

Missouri DOT $81,000 savings per year in boring log preparation by using electronic data entry in the field
DIGGS
Moving us from the past to the future

Past:
- Paper management of data - fragmented, time consuming and expensive
- Manual information manipulation and analysis

Future:
- Seamless electronic data transfer and management system - efficient, fast and economical
- Unlimited electronic data manipulation and analysis
Let DIGGS work for you
www.diggsml.org