

# SUCCESS STORY

## ▶▶▶ STREAMLINING FEDERAL OPERATIONS WITH A CUSTOM GIS

### PROBLEM

The United States Army Corps of Engineers (USACE) requested solution to help manage activities at the 19,800-acre Former Sioux Army Depot (FSAD) facility located in Sydney, Neb. In addition to standard geographic information systems (GIS) tools and functionality, there were two key areas that were emphasized in the development of the Facility Management (FM) system. The first was the ability to enter, query and view collected environmental data from soil, groundwater and surface samplings. The second was to locate, enter and display locations of unexploded ordnance (UXO).

### SOLUTION

The project began with the development of a detailed GIS System Design document that outlined the structure, data and functionality of the final system. After the implementation plan was complete, ADC began the conversion of data provided by the USACE and USACE contractors to a format that would be compatible with the GIS. Data conversion included reprojecting vector and raster data, georeferencing CADD files, generating contours from point data, heads up digitizing, registering and rectifying aerial photography and renaming and organizing non-spatial data such as oblique photos, text documents, pdfs and scanned images. The spatial data was organized using the data structure and naming conventions specified in the SDSFIE. FGDC compliant metadata was developed for each layer.

ADC worked with the USACE to determine the best database format for the environmental sampling data. The EDMS light database structure in MS Access was selected and modified to include additional tables required for tracking UXO and photography. ADC worked with USACE personnel to determine what functionality would be most important for their facility management interface. The interface functionality included general navigation tools, a data loader to find and load data by geographic reference areas, advanced measuring tools, mapping tools and automated map generation, buffering tool, and tools to return information about a specified location.

### RESULTS

Users can view environmental sampling locations in the view and select a location to see sampling information. The environmental database can be queried and users can enter new sampling information into the database. Users can also display, enter and query UXO locations. To accommodate the number of photos collected on site, a photo loader tool was developed to work users through assigning photos to locations on the base and automatically filing the photos and associated information in the database. Users can search the photo database for specific photos and view the photos in the photo viewer.

