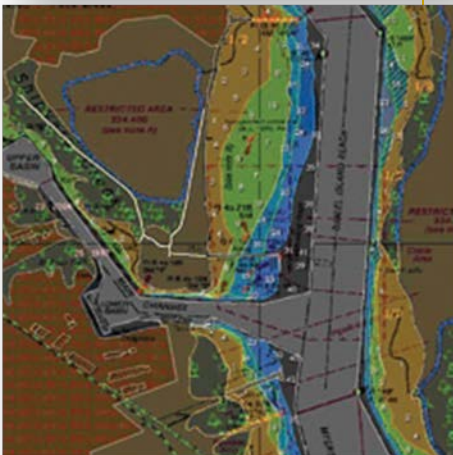




SPATIAL DATA INTEGRATIONS, INC.
Geospatial Solutions



Statement of Qualifications

Geospatial Solutions

SDI delivers!

Spatial Data Integrations, Inc.

710 West Main Street, Suite 108

Louisville, KY 40202

Phone: (502) 568-2591 | Fax: (502) 568-6929

www.SDImaps.com

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710 West Main Street
Louisville, Kentucky

“SDI will work intelligently, ethically, vigorously and deliberately to ensure client success, the professional and personal growth of our employees, and the advancement of spatial information solutions.”

SDI Mission Statement

Introduction to SDI

Company Headquarters

710 West Main Street – Suite 108, Louisville, KY 40202

Phone: (502) 568-2591 | Fax: (502) 568-6929 | www.SDImaps.com

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Company History

Spatial Data Integrations, Inc. (SDI) was founded in 1994 by Audwin A. Helton, former director for the Louisville, KY office of the Defense Mapping Agency (DMA). Mr. Helton founded SDI with the vision to ensure client success and render extraordinary geospatial services to government agencies, utility companies and private sector businesses.



3209 W. Smith Valley Rd.
Greenwood, Indiana

Size / Office Locations

SDI, a full service geospatial firm offering a wide variety of geospatial solutions, is a certified Minority Business Enterprise with 40 employees and an ISO 9001:2008 compliant Quality Management System. We have a satellite office in Greenwood, Indiana.

SDI Qualifications

Government contracting is a key part of SDI's business. The Federal Services Division boasts a technical team experienced in photo interpretation, image processing, monoscopic and stereoscopic feature extraction, data conversion, geospatial analysis and GIS applications. SDI's staff extracts, stores, manipulates, analyzes, maintains and displays geospatial data using the latest equipment and software, including a full suite of ESRI software and ERDAS[®] IMAGINE[®]/Stereo Analyst for feature extraction.

In addition, SDI's Geospatial Services Division has provided a full suite of GIS services and applications to utilities, municipalities and commercial businesses for over eleven years, with clients in 9 states. SDI has close ties to the rural water and wastewater community and strives to be an industry innovator. SDI provides its software product (SDImaps[™]) and relevant services to utilities located throughout the United States.

Geospatial Solutions

SDI offers a wide range of geospatial solutions to meet clients' needs:

➤ Military Intelligence & Homeland Security (GeoINT)

Create and analyze specific geospatial datasets and tools to support tactical and strategic military operations, homeland defense and civil support activities.



- **System & Data Integration**

Create expansive access to both spatial and non-spatial data sets, allowing enterprise users to locate and use data residing in diverse data sets and in different formats.
- **Application Development**

Design and develop custom software solutions to meet the requirements and budgets of any organization.
- **Emergency Management & Response**

Perform emergency planning and risk assessment. Create specific toolsets to support emergency agencies in preparedness and awareness regarding disasters and potential hazards.
- **Database Design & Maintenance**

Create and maintain spatial databases using ESRI's Spatial Database Engine (SDE) and various relational databases, including SDSFIE.
- **Navigation Safety**

Update and maintain global maritime geospatial data that supports navigation safety within coastal areas and major rivers.
- **Asset Management**

Acquire, evaluate and implement the information necessary to support the inventory and management of tangible property and infrastructure.

Services for SDI Solutions

Our commitment to excellence is reflected by high-quality, value-added service performed by trained professionals using advanced technology.

- Application Design & Development
- Customized Training
- Data Conversion
- Data Integration
- Database Design & Development
- Digital Cartography & Map Finishing
- Digital Terrain Modeling
- ESRI Value-Added Reseller
- Geospatial Analysis & Implementation
- GIS Consulting & Technical Support
- GPS Data Collection
- Image Analysis
- Independent Quality Control
- Project Planning & Management
- Spatial Data Modeling
- Stereo Feature Extraction
- System Architecture & Infrastructure Planning
- Web Mapping Applications



SDI – Representative Client List

- Boeing
- Bureau of Land Management (BLM)
- Environmental Systems Research Institute (ESRI)
- Ft. Huachuca Department of Public Works
- National Geospatial-Intelligence Agency (NGA)
- Science Applications International Corporation (SAIC)
- U.S. Army Corps of Engineers

- Alliance of Indiana Rural Water (AIRW)
- Bullitt County Sanitation District, KY
- Caveland Environmental Authority, KY
- Central Yazoo Water Association, MS
- Chatsworth Waterworks Commission, GA
- Elizabethton Electric, TN
- Hardin County Water District No.1 (Hardin County, KY)
- Kentucky Rural Water Association (KRWA)
- Kosciusko Water & Light, MS
- Louisville / Jefferson County Metropolitan Sewer District (MSD)
- Mississippi Rural Water Association (MRWA)
- South Harrison Water Corporation (Harrison Co., IN)
- Warren County Water District, KY

- CH2M Hill
- Michael Baker Corporation
- Gresham Smith & Partners
- O'Brien & Gere
- Stantec
- Strand Engineering
- Tetra Tech Engineering
- Woolpert, Inc.

- Cingular Wireless
- Fort Knox Federal Credit Union
- Humana

- Carter County Planning & Zoning, TN
- Harrison County, IN
- Jeffersonville, IN
- Western Kentucky University

SDI has an outstanding history of past performance. We continue to receive above average ratings in all customer satisfaction categories.

Specialized Experience and Technical Competence

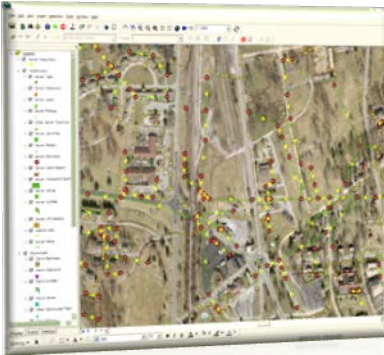
Since 1994, Spatial Data Integrations has offered a full range of geospatial services from data conversion to full GIS application development and implementation. Our government and private business projects have required the creation of GIS data from a variety of sources with differing techniques. Our customers' needs and budget are of primary consideration when developing GIS project plans. SDI also has extensive computer programming and application development experience. We are experts at working with clients to help determine their expectations and providing high-quality, cost efficient solutions to meet their GIS needs. Our GIS software expertise includes: ArcGIS[®], ArcSDE[®], ArcIMS[®], ArcGIS[®] Server, ArcInfo[®], ArcView[®], and ERDAS[®] IMAGINE[®]/Stereo Analyst.

SDI is Uniquely Qualified

- Competitive and realistic costs
- Experienced and professional staff
- Excellent customer service
- Superior past performance record
- Committed to first-time right products and services
- Delivers quality products and services on time and within budget

Project Experience

Hardin County Water District No.1 - Ft. Knox, KY GIS Development and Asset Inventory



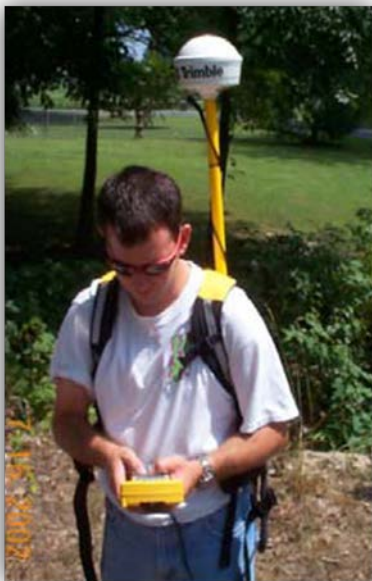
In 2000, Hardin County Water District No.1 (HCWD) chose SDI to assist in the development of their GIS. SDI provided HCWD with custom utility mapping software; Waterworks/FM®, CMT sub-meter GPS equipment and training. SDI also assisted HCWD in the collection of approximately 13,000 water features including valves, hydrants, tanks, meters, and pump stations. SDI was responsible for post-processing and incorporating the GPS data into their GIS.

In 2005, HCWD purchased the wastewater and storm water infrastructure from the Fort Knox Military Installation located in Kentucky. SDI was again awarded the contract to provide mapping services and GIS applications.

Mapping services included the GPS collection of approximately 6000 wastewater and storm water features, digitizing all wastewater mains and man-made storm water collection lines and coding attributes for all features collected. The attributes were obtained during field collection and from manhole inspections performed by Metroplex Core Engineers.

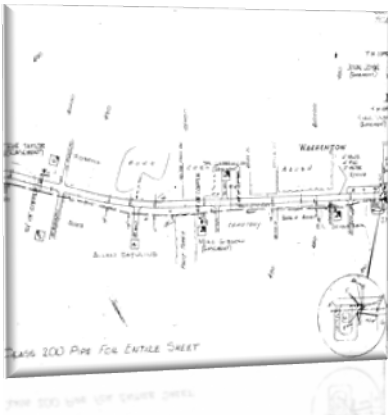
Several meetings were held with HCWD to determine the exact parameters of their project. Based on these conversations, SDI structured the data dictionaries that were used during data collection and customized a geodatabase to meet HCWD's requirements.

After all information was collected, SDI provided HCWD with SDImaps™ software and a completed geodatabase. This software, along with basemap imagery provided by the Department of Defense, is used to maintain the GIS data on-site.



Louisville / Jefferson Co. Metropolitan Sewer District

Since 1997, SDI has been providing geospatial services for MSD either as a prime contractor or as a subcontractor to an engineering company. SDI began providing services in an on-site role to assist in the data conversion activity for sewer and drainage.

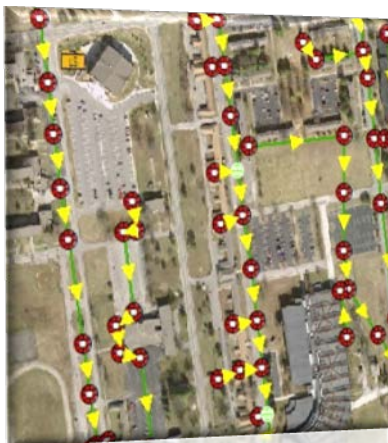


Sewer Data Conversion

This project involved extracting data from engineering drawings and converting the data into a graphical database. Pipe lengths and angles were entered using coordinate geometry. Additional attributes were collected for each line and entered into an Oracle database. By combining these processes, a relational database was created with real time maintenance capability. This functionality provided the end users with the most up-to-date data possible. The data collected not only created a coverage that is available to LOJIC users, but also a hard copy atlas of MSD sewer facilities. SDI currently assists in the ongoing maintenance of this database.

Drainage Conversion

SDI assisted MSD on their Drainage Conversion Project to map the above ground and below ground facilities that MSD maintains. The end products included a coverage layer on the LOJIC network and a hardcopy atlas of these facilities. The first phase of this project involved researching and collecting source data from various sources such as state highway plans, subdivision plans and engineering drawings. The data collected was manually drawn on large-scale LOJIC maps, checked against aerial photography, and in some cases, field verified. The second phase involved the creation of a graphical database utilizing the hardcopy maps as the primary source for data capture and conversion.



Maintenance / Update / Collection

SDI continues to provide on-site technical assistance to MSD for such tasks as:

- Sewer asset updates
- GIS shapefile revisions
- General Hansen database tasks, to include the coding of sewer defects into Hansen



- Pipe defect coding
- Storm basin re-work
- General GIS support services

Manhole Inundation Mapping

SDI used geospatial concepts to better assist MSD in determining the manholes that will need attention during a specified storm event. Three storm events (six months, one year and two years) were chosen to run in-house modeling for achieving the objective. SDI supplied a map, report, ArcMap document and data for each spatial modeling incident.

As a next phase, MSD will choose one of the previous storm events to run on all other study areas

Maple Street Flood Study

SDI will provide Louisville and Jefferson County Metropolitan Sewer District (MSD) with GIS support to assist with analysis, mapping and floodplain delineation in support of the Maple Street Flood Study Project. Tasks will include the delineation of floodplains in the combined sewer services areas that have demonstrated repetitive flood loss; the creation of study area maps; the building of a geodatabase with floodplain and cross section coverages; and general GIS services.



Capacity Management, Operations, and Maintenance (CMOM) Support

SDI teamed with Tetra Tech, Inc. to provide on-site GIS support for Louisville/Jefferson County Metropolitan Sewer District (MSD). SDI assisted with programmatic implementation of the Sewer Overflow Response Protocols (SORP); initiated and documented activities that require annual, quarterly and event-based attention; and identified and documented quality assurance processes and procedures for the Hansen database. SDI also documented and enhanced field procedures for overflow response and coordinated these with Metro Operations, Infrastructure and Flood Protection (I&FP) and Regulatory Management Services (RMS). Other regulatory related services will be provided as requested by MSD.

Sanitary Sewer Discharge Plan (SSDP)

SDI teamed with Tetra Tech, Inc. (TT) to provide the necessary mapping to document existing system conditions, proposed abatement alternatives and development of GIS tools. SDI was responsible for the mapping related to the uncombined sanitary sewer system associated with the Morris Forman Wastewater Treatment Plant (WTP) service area, including Middle Fork, Hikes Point, Buechel Branch, Northern Ditch and Ohio River Force Main.

This project entailed three specific tasks. Task One involved SDI working as part of a team to develop a consistent format and mapping symbols such that maps produced by all parties adhered to a standard format. Task Two entailed preparation of characterization maps of the uncombined MSD sewer system to identify such items as: pipe diameters, pipe materials, overflow locations, locations of backflow prevention valves, pipe slopes not conforming to MSD design standards, structures and facilities, sewers in floodplains, surcharge areas as determined by the Infoworks Hydraulic Models, and Hydraulic bottlenecks as determined by the Infoworks Hydraulic Models. Task Three was devoted to delivery of the final maps of the potential overflow abatement solutions including all evaluated options and the final recommended solutions.

In addition, SDI developed software applications to automate and support the necessary map production for MSD.

Beargrass Creek Watershed Modeling

SDI teamed with Tetra Tech, Inc. (TT) in support of this project. The outputs of this project provide valuable information to assist MSD in complying with EPA and Kentucky Environmental and Public Protection Cabinet (EPPC) Consent Decree requirements.

The Beargrass Creek Water Quality Tool (WQT) is a modeling system that simulates the hydrology and water quality of the sewers and streams of the Beargrass Creek Watershed. This system will be used to evaluate the sources and effects of pollutants and to evaluate potential controls to improve water quality. SDI is developing maps and mapping tools that interpret and illustrate those results.



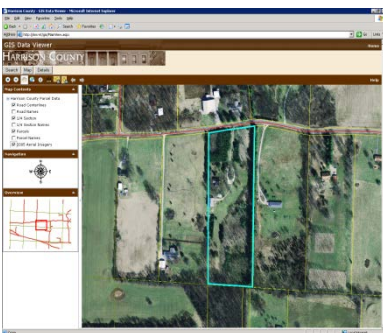
SDI gathered existing information for the system, built specific components of the system and revised it as additional information was developed during the course of the project. The primary deliverable product was a series of maps that illustrated the results of the WQT simulations of water quality data and standards attainment. These maps will facilitate development of scenarios for the Long Term Control Plan (LTCP) activities and other efforts

Combined Sewer Overflow (CSO) and Long Term Control Plan (LTCP) Alternative Development

SDI teamed with O'Brien & Gere to provide mapping support in the form of map setup, preparation, production and delivery of specific maps required to meet the requirements of the CSO LTCP.

Harrison County, Indiana GIS Data Tool, Intraserver, County Road Layer

SDI has successfully designed and developed GIS applications and continues to provide GIS services to Harrison County, Indiana. Past projects include the implementation of a custom application that assists the county by providing GIS data throughout the courthouse and to the public. This GIS Data Tool improves the amount of time it takes to deliver the data by automating the acquisition, conversion, organization and packaging of data.



SDI also implemented a GIS intraserver that resides within the county courthouse displaying tax, appraisal, parcel and other data to all county offices and the general public. In addition, SDI established a county road database which contains all private, town, county, state highways, and interstates within the county to be utilized by all county offices, especially the Auditor, Engineering and E911 offices.

U.S. Army Corps of Engineers

Since 2000, SDI has been providing geospatial services for the USACE-Louisville District Emergency Operations Center. SDI began providing consulting and custom script development to assist daily emergency and security activities such as:

- Raster Conversion, manipulation, clipping and organizing GIS data
- Automatic update of USGS gage and lake information for use in reservoir control and water quality datasets
- Archaeology buffer toolset
- Installation and configuration of ArcIMS and ArcGIS Server

Navigation Chart Exporter (NCE)

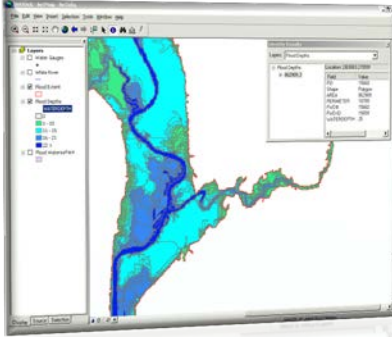
In support of navigation efforts of the Operations Division of the USACE, SDI developed a custom application that is used to create and export print ready Navigation Charts within ESRI's ArcMap for multiple USACE Districts.

The series of dlls use data from current Electronic Navigation Charts (ENCs) provided by Caris and DGN files provided by the USACE for each river requiring Navigation Charts. This tool allows quick updating and maintenance of the Navigation Charts, saving both time and money. It is a method of creating and exporting paper charts without the complexity of other software or extensions.

Tool Options:

- Clip and Rotate data and symbology
- Export out charts to a specified scale and layout
- Save, Load, and Modify data and symbology





Flood Visualization Model (FVis)

The Flood Visualization Model is a set of custom scripts that establishes a floodplain polygon for a given stretch of river. This toolset is used to visualize flood areas for the states of Indiana and Kentucky along with local counties. The generated polygon from FVIS represents the approximate water boundary, water surface elevation and water depth of a given stretch of the chosen river. The outputs are based upon the DEM representing a terrain surface and a water surface profile defined in the time series table associated with USGS river-gauging station points.

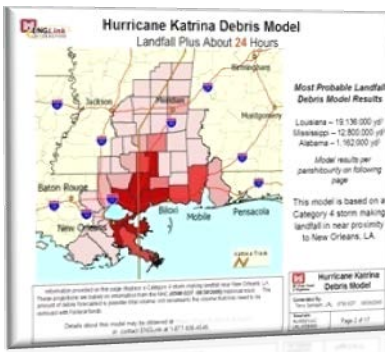
It uses specific algorithms and logic that speeds up the process compared to other hydraulic software and extensions. This tool was developed to generate a quick visual representation of a flood. To support the model's outputs, multiple fly-overs were done for QA/QC purposes. Areas in question from looking at the outputs were laid to rest when seen from a helicopter.

Digital Data Warehouse (DDW)

SDI developed a web-based digital atlas program, using Mysql, PHP, HTML, and Cygwin that allows downloading of multiple data types. The user can obtain the data by either a text-based or map-based solution. Geotools, an open source Java-based toolkit that allows interactive map viewing on web browsers without dedicated server-side support, was utilized in implementing the map-based solution.

Hurricane Model

SDI created the Hurricane Model for use within the USACE to assess possible deployment and commodities needs. The model's outputs are now main talking points at FEMA Regional Operations Centers (ROCs) and at FEMA DC Headquarters, as this is the only 'pre-vent' data for decision-making purposes. The data now filters to affected states through their Emergency Operations Centers (EOCs).



Data generated by the model includes:

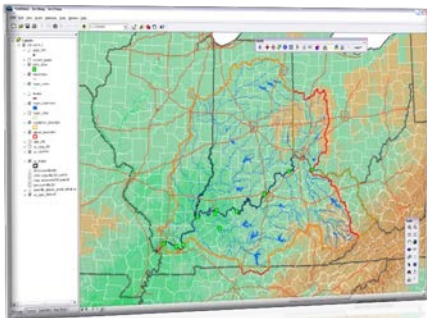
- Amount of Debris
- Population affected
- Households affected
- Commodities needed
- Number of truckloads required
- Temporary housing and roofing figures

Additional model Functions:

- Creation of templates and slides used for presentations
- Automated creation of PowerPoint presentations for display
- Latest technology for exporting data to additional agencies for decision making purposes

Louisville District Information Exchange (LOUIE)

SDI developed and implemented a set of GIS user-friendly tools that are accessed by regulators, planners, park rangers and more via ESRI's ArcGIS software. These tools were created to assist the non-GIS experts throughout the district in their various daily GIS responsibilities by providing access to the tools through an accessible interface within ArcMap.



Implementing LOUIE was accomplished in three phases. Phase One encompassed the review of district data and a report recommending how the district should structure, organize and maintain its GIS data. Phase Two was initiated after the district agreed with the recommendations report and entailed code development of LOUIE and the required custom tools. Phase Three ensured a successful product and customer satisfaction with SDI's provision of detailed help documentation, training and product implementation.

FMSM / FEMA

Jefferson Co. Map Modernization Project

SDI provided two independent QA/QC reviews of the DFIRM products derived for Jefferson County Kentucky to ensure they met current FEMA graphic and database specifications.

Review of the DFIRM Geodatabase included:

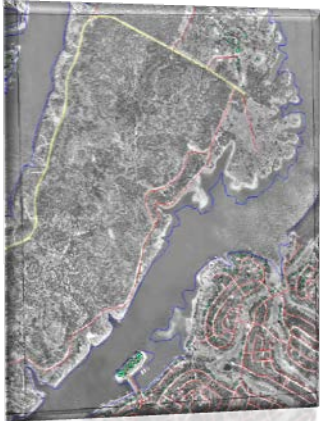
- Inspect geodatabase for inclusive feature classes
- Verify feature classes for complete field population
- Verify table relationships present where necessary
- Review topological relationships
- Review metadata

Review of the DFIRM hardcopy maps included:

- Graphic specifications
- Accuracy of basemap features
- Accuracy of flood hazard data

Science Applications International Corporation (SAIC) Urban Feature Data

SDI performs stereoscopic and cartographic compilation of point, line and area feature data from imagery and cartographic sources. This provides a detailed GIS data set uniquely suited to the customer's specifications. The database is populated by onscreen digitization and feature attribution, which creates detailed layers of transportation, hydrographic, vegetation and cultural features. This complex GIS analysis is accomplished in a digital production environment that allows for in-process and end-product quality assurance reviews, which has exceeded customer expectations. Work is performed using a full suite of ESRI software and ERDAS IMAGINE/Stereo Analyst for feature extraction.



Warren County Water District Water and Wastewater Asset Inventory



SDI, in conjunction with the Center for Water Resource Studies (CWRS) at Western Kentucky University and Kentucky Rural Water Association, provided sub-foot accuracy GPS data, feature attribute information and quality control services for incorporation into the utilities Geographic Information System (GIS). This project encompassed portions of the City of Bowling Green, other surrounding cities and suburban and rural Warren County.

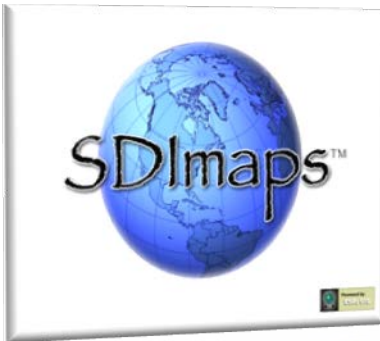
SDI used field personnel and as-built maps to attribute each of the following:

Water – Valves, Blow Offs, Hydrants, Customer meters, Master meters and Pump Stations

Wastewater – Manholes, Valves, Lift Stations, Master meters and Air Release Valves

Utility Software Development

Our Geospatial Services division has over twelve years' experience designing and customizing a line of geospatial services management software specifically for rural utilities. SDI recently released its latest utility solution, SDImaps™ v2.2, an extension to Environmental System Research Institutes (ESRI) ArcGIS software. SDImaps enables users to more efficiently manage infrastructure assets and create an accurate up-to-date system map without having to know GIS theory or database design/administration



Training and Support

SDI offers training, support and consulting for a variety of products and services. Quality training and support provided in a timely manner is essential for successfully implementing a GIS solution. SDI's support staff is competent in all aspects of GIS and the latest technology used within the GIS field.

Training offered by SDI:

- Intro to SDImaps
- Intro to ArcPad
- Intro to ArcPad Application Builder
- Intro to GPS collection
- Custom training sessions to meet client's needs

Quality Statement



SDI provides exceptional mapping products and GIS services. We are committed to the highest standards of quality. From Trainees to our most experienced Production and Quality Control Analysts, our common goal is to create the highest quality data the first time through our production processes. SDI has developed and implemented a Quality Management System compliant with ISO 9001:2008 Standards. This system ensures we produce, continually improve and deliver in a timely manner the most cost effective, highest quality products and services.

SDI has developed and implemented a Quality Management System compliant with ISO 9001:2008 standards.



Past Performance

Spatial Data Integrations has an outstanding history of past performance. Serving as both Prime Contractor and Subcontractor to government and private industry, we have established an excellent customer satisfaction track record. Since becoming ISO 9001:2008 compliant in January 2004, we have compiled an impressive database of high customer satisfaction ratings from customers such as ESRI, SAIC and the U.S. Army Corp of Engineers. **SDI is proud to have received “Above Average” to “Excellent” ratings in all categories regarding customer expectations with quality of work, delivery of service, communication, knowledge of service and understanding of customer needs.**

Awards

- 2005** KentuckianaWorks Excellence in Workforce Achievement Award
- 2003** Minority Business Achievement Award – Louisville Defender Newspaper
- 2003** Business First Magazine Fast 50
- 2002** Inc. Magazine Inner City 100
- 2002** Technology Community Service Award
- 2000** Visionaries of Technology – TechnoVision
- 2000** SBA Minority Service Firm of the Year – Atlanta Region
- 1998** SBA Minority Small Business of the Year – Kentucky Region
- 1997** Phoenix Award – Kentucky/Indiana Minority Supplier Development Council

Certifications

- Tri-State Minority Supplier Development Council – Minority Business Enterprise (MBE)
- St. Louis (Missouri) Minority Business Council – Minority Business Enterprise (MBE)
- Louisville and Jefferson County (Kentucky) Metropolitan Sewer District – Minority Business Enterprise (MBE)
- Tennessee Minority Supplier Development Council – Minority Business Enterprise (MBE)
- Indiana Minority Supplier Development Council – Minority Business Enterprise (MBE)
- ESRI Authorized Business Partner
- ESRI Authorized Reseller
- Dell Service Provider

Community Involvement

SDI increases awareness of GIS through the following initiatives:

Education

As a result of SDI's advocacy and support, GIS software classes are a part of the curriculum at four local public high schools. SDI also awards a scholarship to a deserving geography major each year at the University of Louisville.

GIS Career Development

SDI provides summer internships to deserving high school and college students. Hands-on experience with software and the opportunity to gain valuable work experience makes this a rewarding experience for the students and SDI.