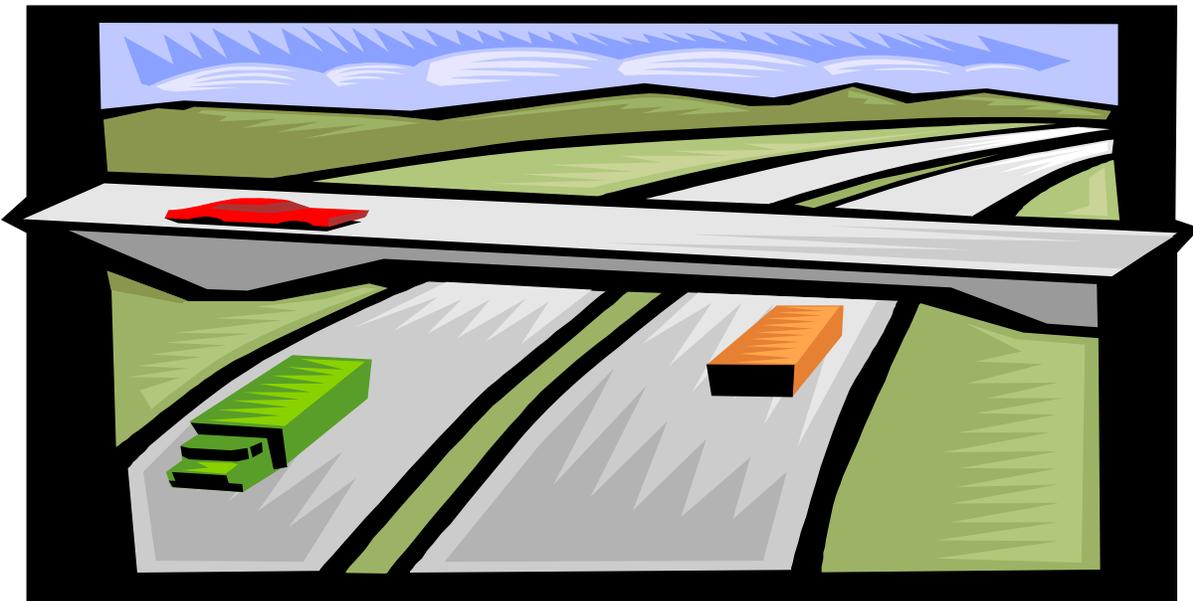


**OFFICE OF TECHNICAL SERVICES
INDIANA DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION APPLICATION SYSTEM**



1.0 SUBJECT

Request for Proposal (RFP) for a Bridge Inspection Application System (BIAS) designed to provide Bridge information data for creating the National Bridge Inventory (NBI) report that is submitted annually to the Federal Highway Administration (FHWA).

2.0 DESCRIPTION

The Office of Technical Services is seeking to update the current Bridge Inspection Application (BIA) and bridge inventory management processes. INDOT wishes to replace the current stand-alone client residing on individual's computers with web-based technology and incorporate the ability to manage all of our bridge assets dynamically with the new Bridge Inspection Application. In addition to the web application, a similar client-server field application is required to be available to run the application off line. Currently, there are no functions for electronic data collection, quality assurance inspections and ratings, or interactive customer services, which are functions that INDOT seeks to incorporate.

3.0 CURRENT SYSTEM

Bridge Inspection/Inventory Unit of the Office of Technical Services has in place two Bridge Inspection Data Applications using Microsoft Access. These applications have been a valuable asset in the management and reporting of bridge information. However, limitations and maintenance issues of these systems have caused the department to initiate an evaluation of the current INDOT Bridge Inspection Database Applications. INDOT's current Inspection Applications used for State maintained bridges was developed in-house in 1998-1999 as a short-term (+-6month) solution for removing the data from the Main Frame computer. The County bridge application is also in a Microsoft Access database.

Once a Notice-to-Proceed has been issued to a County Consultant for a County, the Consultants are provided the current Bridge Data from INDOT, in an Access format, at the beginning of each 2-year inspection phase of the contract. The Consultants then usually use their own application to store and update Bridge Data and print the required Bound Inspection Report. The Consultants are then required to return to INDOT the entire County Bridge Data along with all changes and updates, in the same Access format as it was sent to them. This process has many shortcomings.

4.0 PROJECT DESCRIPTION

This section enumerates the minimum requirements of the development and implementation of the web based BIAS for INDOT.

- Federal Bridge Data requirements
- Sufficiency Rating Calculation Program
- Federal Tape generation
- Online and offline availability
 1. Standard forms, drawing
 2. Code guidelines, manual, picture gallery, and glossary
- Access and views specific to districts
- Ability to attach, update, and comment on all types of documents, pictures, forms, sketches, plan sheets
- System and report view continuity
- Business rules review
- Straight forward retrieval and updating
- Drop down menu with comment section
- A function to turn on or off summary pages for the inspectors to review basic information on bridges; inspection type, dates, deficiencies, etc.
- Separate Tabs for different groups of bridge data within the individual report: Inventory, Condition, Rating, Appraisal, Programming, etcetera
- Historical data for analysis and reporting
- Management Summaries
- Assigning multiple levels of group access and edit-ability
- Accountability
- Creating data checks to reduce data errors
- Ability to develop specific tables, reports, and queries
- E-mail connection to send out reminders
- Same system for state bridges, culverts, and county bridge information
- Software product continual support
- Training Documents for all levels of users: compact disks available for review and Computer based training and
- Security policies, INDOT management requirements, security of network management and control technologies, network capacities, service level agreements

The aforementioned requirements may be expanded upon during application deployment stages. As well as, requirements not directly related to the physical application and services.

Included with the requirements should be a projection of the roll out of the BIA system for INDOT, to include Project Development Process, (PDP), Gantt Charts and written Business Rule.

The implementation of the system would be a three phased process. Stage one expectations involve implementing at a *minimum* the capabilities of the current system. Stage two will be identified enhancements that have been identified by central office and district users. Stage three will be the “new application” for all Indiana’s bridges.

FOCUS

- The database must provide analysis and reporting to generate a decision making feature.
- Provide reference tools; visual sketches or diagrams of all types of bridge.
- Include and assist in development of best business practices for the BIA system.
- How will the five Optimum Performance Index (OPI's) metric conditions be presented?
 1. Paint Condition
 2. Wearing Surface Condition
 3. Deck Condition
 4. Superstructure Condition
 5. Substructure C Condition
- Include a glossary of terms for all factions of the system; terms, pictures, reports.
- Include glossary photo gallery to reference
- Interactive help menu.
- Edit ability to increase quality assurance and control.
- Current Code Manual information specification on the application easily accessible
- No redundant data entry – information updates all applicable screens

SCHEDULING MILESTONES

The following are milestones being recommended to use for tracking projects. The first grouping is the major milestones and the second grouping is the function and/or tasks that fall under the major milestones. INDOT would like to use the major milestones to track all IT projects, however, when it comes to the functions/tasks, these are only guidelines and may vary and you will utilize items such as these to build your schedule in Microsoft Project. It is not the intention to dictate exactly how to build the application INDOT is just concerned with having agreement on the Major milestones of this project. The functions/tasks listed below are suggestions of what is to be completed under each Major milestone. When you give a completion date for each Major Milestone, the functions/tasks listed below should be completed. What you call each task is not what we are looking for, but the fact the functions are completed is what is important.

MAJOR MILESTONES: (Mandatory)

- **PLANNING**
- **ANALYSIS**
- **DESIGN**
- **DEVELOPMENT**
- **UNIT/SYSTEM TESTING**
- **TRAINING**
- **IMPLEMENTATION**
- **OPERATION, SUPPORT AND MAINTENANCE**

Some examples of Functions/Tasks:**Planning:**

- Identify Project Team members
- Begin Project Plan documentation
- Schedule Project Team meetings

Analysis:

- Complete Project Plan documentation
- Work breakdown structure
- Milestone dates
- Resource requirements
- Cost estimates, if necessary
- Gantt charts, critical path, network diagram

Design:

Development:

Unit/System Tests:

Training:

Implementation:

Operation, Support and Maintenance:

5.0 TECHNICAL ARCHITECTURE REQUIREMENTS

INDOT established the following goals for the Technical Architecture for the BIAS project:

1. Support All Application Requirements
 - The selected technologies must be able to support all defined requirements of the BIAS and interfacing systems.
2. The selected technologies should minimize the required support efforts by addressing a number of areas:
 - Reduce the need to distribute software to workstations
 - Provide centralized support capabilities
 - Use standard hardware components wherever possible, use open technologies
3. Deliver a highly reliable solution by:
 - Minimizing downtime and outage interruptions,
 - Reducing the time required to recover from each outage.
4. Use Open Technologies
 - Provide technical environment that is easily interfaced with the technologies of other agencies. Skills to support the selected technologies will be readily available from multiple sources.
5. Support Overall State of Indiana IT Strategies
6. Can Be Supported by INDOT Resources
7. Provide a Cost-Effective Solution

6.0 APPLICATION ARCHITECTURE

DESCRIPTION

The BIAS application will be delivered to the end users of the system using a web browser. It will use a relational database, and will be developed using a multi-tier application architecture based on Microsoft's .NET Framework. .NET is an open tools platform that extensively leverages open technologies and standards such as XML and SOAP. The three tiers are the user interface, the application services, and the database services.

USER INTERFACE (PRESENTATION)

The user interface is the first tier of the application architecture. It is sometimes referred to as the *presentation tier*. The design goal for this tier is to keep it as "thin" as possible. This means minimizing the amount of processing done on the client side, with the main emphasis on delivering the screens to the user. The BIAS application will use an Internet browser as the primary user interface. Development will target the most currently released version of Microsoft's Internet Explorer at the time development begins (most current release at this writing is 6.0). HTML documents will be served to the browsers using Microsoft's Internet Information Server v6.0 running on Windows 2003 Servers. The presentation web pages will be generated by the .NET-enabled web servers (ASP.NET) based on the user interface as designed using Visual Basic and Visual Studio.NET. These pages will be linked to applications hosted on other servers (application tier) using ASP.NET. The user interface will be enhanced using client-side scripting written using JavaScript. The application help will be delivered using links that access HTML help documents stored on the web servers (See "User Help & Documentation").

APPLICATION SERVICES (BUSINESS LOGIC)

The second tier of the application architecture is the application services. This tier processes the business logic of the application. In most cases, components in this tier will be written using Visual Basic. Application components will be Web Services generated by the Visual Studio.NET development environment and will be COM+ compliant. Components will communicate to the presentation and database layers using COM+, XML or OLE DB/SQL commands. Application components will be deployed and managed on Windows 2003 Application Servers, using the Services Manager. Application components will interface to the database services utilizing SQL commands implemented using Active Data Objects (ADO.NET). Connections to database services will be made using ODBC connections.

DATABASE SERVICES

The third tier of the application architecture is the database services. Isolating database services to their own tier allows development of an application that is largely database independent, limiting the amount of work effort required to move to a different database. (See Database Environment for more details.)

7.0 REPORTING**DEFINED APPLICATION REPORTS**

BIAS will have several pre-defined application reports required. INDOT will require reports for both internal use and external FHWA reports. These reports will have interactive content obtained from the database.

AD HOC REPORTING

Ad hoc reporting is also a requirement of the BIAS application. Ad hoc reporting refers to production of informal reports on an “as needed” basis. Typically, these requests are done by an end user, rather than going through the formalities of requesting a report from a central data services department. Typically INDOT uses Microsoft’s Access for ad hoc reporting. However, this application will need the ability to do ad hoc reporting and in a secured environment.

8.0 ORGANIZATIONAL ROLES

BACKGROUND

The purpose of this section is to describe the roles required by INDOT to support the BIAS application. Roles do not necessarily represent an individual or group of individuals. A single person or a single group could carry out multiple roles, just as a single role may require a group of individuals. When appropriate, the role description includes the technology and tools required for that role. The roles described below are based on the business decision that INDOT will support the infrastructure for the BIAS application. This includes hosting and supporting all server hardware and all back office software. INDOT will provide and support the servers required for development and deployment.

Role	Description	Tools/Technology
Developer/Analyst	Apply Maintenance and enhancements	
Database Administrator	Analyze changes and make the changes to the database	Oracle 10G Database administration skills
BIAS Administrator	Administer and manage the update and enhancement endeavors Provide for ongoing training needs Administer the security requirements Update the BIAS policies Update the BIAS procedures	Microsoft Word XP Adobe Acrobat 6.0 PDF HTML Videoconferencing NetMeeting Outlook
Help Desk	BIAS support	BIAS knowledge
LAN Administrator	Provide BIAS server support Backup and recovery capability BIAS availability and reliability	Windows 2003 Advanced Server IIS6.0+ Front Page Extensions

9.0 DEVELOPMENT ENVIRONMENT TOOLS & TECHNOLOGIES

A well-planned and executed development environment is critical to achieving success in all measures of a software project. This section covers the main tools and mechanisms that will be employed during the BIAS application development cycles and used to support the application after development.

PROGRAMMING LANGUAGES

Visual Basic.NET: Used to develop the Web Services and Presentation tier as part of the Visual Studio.NET development platform.

ADO.NET ActiveX Data Objects provide a pre-built COM object model for accessing and manipulating databases.

ASP.NET: IIS provides ASP.NET (Active Server Pages .NET) services to allow the generation of the User Interface HTML documents and the linking of those documents to the Web Services business logic tier.

JavaScript: JavaScript will be used for client scripts.

HTML 3.2: The full functionality of the W3C standard HTML level 3.2 will be leveraged as appropriate.

DHTML: Used for client side validation and any dynamic client side processing needed on the user interface.

XML & XSLT: These standard meta-languages will be used to provide user interface functionality and data exchange between applications and components.

PROGRAMMING TOOLS

The following tools will be used in development and maintenance of the BIAS project:

Microsoft Visual Studio.Net: Will be used for development and maintenance of the data access and business components, and for the generation of the presentation tier of the application.

Microsoft Visual SourceSafe: The server components will be used for version control of all code bases, VB COM components, and ASP.NET components. This makes development use much more efficient. It may also be used for additional code base and *documentation as needed*.

Reporting features: Static and dynamic reporting features that provide a report development IDE, as well as Web Reporting Server components.

DATA DICTIONARY

The data dictionary for the BIAS project will be documented using the Sybase Power Designer version 9 or greater. Dictionary and glossaries will need to be developed for all aspects of the system.

9.0 DEVELOPMENT FRAMEWORK**PERIODIC BUILDS**

During significant development projects, software components developed by individual team members will be submitted periodically for a rebuild of the test environment. This process ensures that each developer's code stays synchronized with the project and is system tested. Without a periodic build process, progress will inevitably slow or stop, and system testing time needs will increase dramatically. A developer will only check in code that has been thoroughly unit-tested. The task of managing and performing periodic builds will be assigned to a specific development team member for the project.

CODE REVIEWS

Regularly scheduled code walkthroughs will be performed during the development phases to ensure that developers are all using the same coding standards and techniques. Coding standards will be finalized as part of the initial development project and will be published for access by all team members. Peers on the development team will do the code reviews. The code reviews will assist in detecting code defects well before final system testing occurs. The main purpose of a code walkthrough is to increase and control software quality. In addition, it has the benefit of speeding up overall development time by addressing requirements issues early in the design and development process.

UNIT TESTING & DEBUGGING

Developers shall be responsible for unit-testing all developed functions and components before checking them into version control. To do this, it is often necessary for the developer to construct his/her own "test harness" to test the new code base. This means that each developer's PC must contain all of the necessary services to perform local testing. Debugging will be greatly facilitated by the use of the Visual Basic and the Visual Studio IDE, which provide full debugging capabilities down to the stored procedure level.

SYSTEM TESTING

Team members shall be responsible for periodic system-testing. To do this, team members will use the QACenter regression testing tool and Visual Studio debugging tools.

SOFTWARE DESIGN PRACTICES

The key to reaching the goal of error free software in a team development environment is identifying software flaws early in the development cycle. Flaws introduced in the design stages of a development project can contaminate the entire project. To mitigate design-stage flaws, it is recommended that the detailed design document include anticipated test results and identify test cases to completely test the developed software. During the initial development project, design and coding practices will be developed and well documented. Additionally, there are a number of tradeoffs to consider when writing software for an application. Some of these tradeoffs include:

- How fast should it be?
- How much memory does it use?
- How understandable is the code?
- How likely is the code to contain bugs?
- How much does the code look for errors?
- How hard is it to test the code?
- How robust is the code?
- How soon will the code be finished?

In a team development environment, it is critical to discuss these questions as a team. This will be accomplished through periodic code reviews. It is important that each developer has a notion of how to weigh the many tradeoffs for a particular project.

SOFTWARE DEVELOPMENT PRACTICES

During development of a system, priorities will change. However, it is always important to develop software for the future. As the development cycles progress in a project, priorities will shift. It is important that developers pay close attention to maintainability, robustness, and readability in the early stages of a project. As the project progresses to the system-testing stages, developers will shift more focus to optimization of already working code. It is important to remember “if it works, don’t fix it”. Software will be written for humans. The ability to support and debug software is more important than writing software that minimizes resources or lines of code. Software will be written proactively to prevent errors. For example, if an input should not be a negative value, raise an error (or stop execution). This will prevent flaws from mutating into other dependent procedures, components, or services. Software will be as self-documenting as possible. Use of consistent naming conventions is important. The BIAS project will use the development conventions for Visual Basics used by the Microsoft Consulting Services Group (<http://support.microsoft.com/support/kb/articles/Q110/2/64.asp>).

Additionally, self-documentation is achieved with a liberal use of comments. In-line comments will be used in the code wherever specific clarification is needed. Indentations will be used to make logical blocks of an algorithm stand out. For example, all code within a “do-while” control loop will be indented. During the initial development project, well-defined coding practices will be developed and documented.

SOFTWARE DOCUMENTATION

The use of development standards will provide a level of “self-documentation” within each code module. User-oriented documentation will include screen/report documentation, field documentation, and system messages. Microsoft Word and Adobe Acrobat PDF files will be used to prepare the content in the standard delivery format. HTML will be used to display online

help documentation. Online Help documentation shall be kept updated as project develops. One of the tasks is to develop the standard formats for the user documentation pieces. INDOT Subject Matter Experts (SME's) will provide knowledge content when appropriate.

10.0 TESTING AND DEPLOYMENT PROCESS

This project will employ a simple, three-stage approach to all development and testing (initial development and on-going maintenance/support).

STAGE ONE

Development and unit testing of VB/COM components and ASP.NET pages will occur on each individual developer's personal computer. Visual SourceSafe will provide full source and version control capabilities. VB/COM components will also be developed and unit-tested on the local machines, and checked into the SourceSafe database for a test build. For simplicity, the developers' unit-testing environment will point to the test website's test DB instance for database services. This will require some careful coordination with developers whenever database changes are made.

STAGE TWO

All developed and unit-tested code will be copied to the stage two test server housed at INDOT. This stage will allow system-regression testing activities *before* moving the components to the production environment. Stage two also provides an additional layer of system testing before sending code to the production site. The test database instance is in stage two, and all database changes will be made and tested there before moving on to the production environment. The development team will be responsible for conducting these testing tasks.

STAGE THREE

When the system has been completely system tested, all code can be compiled and moved to the production server. INDOT will coordinate all build activity between the stages.

11.0 REMOTE SITE EQUIPMENT AND TECHNICAL ENVIRONMENT REQUIREMENTS

Workstation technologies must support:

- A processing system delivered using a standard personal computer browser interface
- Retrieval of online forms for completion or printing and subsequent re-entry into the application database.
- A removable nature such as a laptop so as to be transported into the field and subsequently reattached to the network for data transmittal.

OPERATING SYSTEM

Remote workstations will utilize Windows XP Professional or higher Windows operating system. Windows provides many accessibility features for persons with disabilities as INDOT is Section 508 compliant and strives to remain so.

BROWSER SOFTWARE

Each workstation will be configured with the version of Internet Explorer that is the most current version when development of the BIAS application begins. At the time of this writing, the most current version is 6.0.

IMPLEMENTATION SUPPORT SOFTWARE

Each workstation will have software installed to support remote software and driver updates, inventory control, and system-usage monitoring as specified by INDOT. Currently INDOT uses Altiris to fulfill this function.

ANTI-VIRUS SOFTWARE

Each workstation will have virus scan software as specified by INDOT. Currently INDOT uses McAfee Virus Scan software.

PRINTERS

The new BIA system will be capable of printing in the remote locations. The printing requirements of BIAS include, but are not limited to, by hand, letters, and BIAS reports. The BIAS application will be able to interface with any standard technology selected as replacements for these printers.

12.0 BACK OFFICE TECHNOLOGIES

Several Microsoft BackOffice servers and technologies will be utilized in the delivery of the BIAS application.

OPERATING SYSTEMS

Workstations accessing the BIAS application will run the Windows XP Professional operating system. All tiers of the BIAS application will be hosted on servers that will use Windows 2003 Server as the operating system.

WEB SERVICES (INTERNET INFORMATION SERVER)

The built-in Windows 2003 web server, Internet Information Service (IIS), will provide web services for the BIAS. IIS supports the latest Internet standards and features improved reliability, scalability, and performance. IIS provides the ASP.NET (Active Server Pages) server-scripting environment, supporting both Visual Basic and JavaScript.

13.0 MANAGEMENT SERVICES

INDOT will provide systems and operational management of servers and workstations deployed to support the BIAS project. It is expected that BIAS operations will be folded into existing INDOT systems management processes and procedures.

Altiris

INDOT currently provides Altiris services for equipment management and support of workstations throughout the organization. INDOT will utilize Altiris features in support of BIAS application

FILE AND PRINT SERVICES

Standard Windows 2003 file and print services will be utilized extensively for the storage of documents and procedures, programs, and other elements of the BIAS application. All printers utilized by the BIAS system will be network-attached devices. Windows 2003 print queue management facilities will be utilized to manage print jobs to these printers from the central application servers. Documents may also be printed from the BIAS workstations directly to these printers.

14.0 RELATIONAL DATABASE ENVIRONMENT**DATABASE REQUIREMENTS**

The BIAS database will support on-line record update, creation, and query functions. Oracle 10G is the database platform that INDOT utilizes. It resides on the Windows 2003 Server operating system.

DATA MIGRATION/DATA CONVERSION

Data migration will be done by INDOT along with proven programs developed by the vendor for the sole purpose of data migration and conversion. Vendor will provide timeline for version upgrades.

DATABASE ADMINISTRATION

The database administrator role will be primarily the responsibility of INDOT.

DATA SECURITY

Security in an n-tier application is managed by roles in the second tier. The second tier connections are made by a user code that is coded into the application. This approach greatly enhances scalability of the application and simplifies the management of database security.

15.0 USER HELP AND DOCUMENTATION REQUIREMENTS**ALL DOCUMENTATION AVAILABLE ON-LINE**

All documentation needs to be available for easy access on-line. All documentation and help information will be displayed in a separate window, allowing the application windows to remain intact when help is requested. The on-line version of documentation will be rendered in .PDF from a master version (usually Word). The content must be searchable.

Search features should include:

- Search by keyword or text
- Restrict search to certain types of documents
- Include HTML documents in search
- Present a result list
- Control of the modification of the Word documents will be done by INDOT's document management system.
- Controls should include:
 - Document view ability rights
 - Modification controls
 - Allow only one person to update a document at any one time
 - Multiple people have the ability to review an "in progress" document
 - Documents must be approved before they are made available to non-reviewers.
 - Historical versions of documents.

The application help should be seamlessly integrated into the On-line processes. Interactive on-line help is needed at various processing levels. The user interface for each level of help will be in a standard location and have a standard look and feel. Interactive Help will be available to the users at four levels:

- Individual field on a processing screen that describes the data entered in the field,
- Screen/report help, which tells the user what function the screen performs or what the report content represents,
- Business process documentation that describes a full business process, including such items as required documents and processing screens to be used,
- Policy documentation integrated into the business process documentation by way of links to the appropriate policy or policies behind the process. The help information may be made available to the users based on user knowledge level, either novice or expert. This level can be selected by the user and will control how much automatic “prompting” the user gets while processing a transaction.

On-line, on-demand access to a description of each error message in the BIAS application is required. This description would include information such as what kinds of actions or events trigger the error message and, when appropriate, possible solutions for resolving the problem.

16.0 RECOMMENDED SOLUTION

DOCUMENT MANAGEMENT (FILENET)

Document management will be provided by INDOT’s Document Management System. Documents are to be provided that contains the procedures, policies, standards, user guides, operation guides, database models, etc. These documents will be stored in the ERMS system for document management. In general, INDOT knowledge workers will create PDF documents from these master documents for online help. They will post the updated documents on an Intranet storage location that is to be accessible by HTML. One licensed copy of Adobe Acrobat, Sybase Power Designer and Microsoft Word is required for each technical writer on the project.

ONLINE HELP DURING APPLICATION USE

Development of the online processing help needs to be consistent and provide a user friendly interface to the application user. Help should be made available in separate reduced windows on top of the affected page so that the user can remain on the page where the help is needed but be able to read a message concerning their questions regarding a particular field. In general, INDOT knowledge workers will provide input for the online help and ensure that the message provides a meaningful resolution to a user’s question. These individuals will assist in creating help glossary terms and bridge specification views.

APPLICATION ERROR MESSAGE DOCUMENTATION

Like the online help information, the error message documentation must be consistent and be provided via a user-friendly interface. This should require no additional technology.

17.0 NETWORK INFRASTRUCTURE AND TOPOLOGY

NETWORK ARCHITECTURE

INDOT uses a TCP/IP network to support its distributed computing operations. AT&T administers the TCP/IP infrastructure.

CURRENT NETWORK

The network infrastructure connecting INDOT's 175 remote locations to the data center consists of T1 dedicated circuits. Dial backup is available through an AT&T Global Net account. INDOT will consider developing department standards for wireless connectivity for remote and mobile locations as determined by the application needs.

18.0 SECURITY

Security is one of the primary concerns within any environment. Practices must be observed at various levels to ensure a secure working environment for the BIAS application

ROLE-BASED SECURITY

The BIAS application will control an individual user's ability to access a particular function based on the user's role within the organization (e.g. BIAS Admin, Inspectors, Consultants, etc). Role attributes will be associated with an individual user through a database table. An individual user may hold many roles.

SECURITY MANAGEMENT

Management of BIAS application security will be web based. A web interface will be constructed, which will allow assignment of roles to users. Organizational rules will define who may assign roles, and what roles they have the right to assign.

INTERFACES AND INTEGRATIONS

BIAS will be required to interface and/or integrate with other data systems and applications as defined by INDOT. Some of these are listed below but not limited to:

- Geographic Information System (EXOR)
- Pavement Management System
- Road Restriction Systems
 - Permit for over load/weight vehicles
 - CARS 511
- Scheduling Program Management System (SPMS)
- Data Warehouse
- Internet and/or Intranet
- Work Management System (WMS)
- Indiana Bridge management System (IBMS)
- VIRTIS
- ERMS
- BIA
- Log Book

GLOSSARY OF TERMS

.NET Framework	A programming infrastructure created by Microsoft for building, deploying, and running applications and services that use .NET technologies, such as desktop applications and Web services. Ad Hoc report- A report generated dynamically at the Information Consumer's request.
ADO.NET	Stands for ActiveX Data Objects for .NET. It refers to the suite of data access technologies used to manipulate databases. ADO.NET is part of the .NET Framework.
ASP.NET	A Microsoft server-side Web technology. ASP.NET takes an object-oriented programming approach to Web page execution. Every element in an ASP.NET page is treated as an object and run on the server. An ASP.NET page gets compiled into an intermediate language by a .NET Common Language Runtime-compliant compiler. Then a JIT compiler turns the intermediate code to native machine code, and that machine code is eventually run on the processor.
BIA	Bridge Inspection Application- Current stand alone application used by INDOT bridge inspectors.
BIAS	Bridge Inspection Application System- New system that will be web based.
Bridge	Federally defined term, currently over 20 feet (minimum 6.1m)
Central Office, Bridge Inventory Section	Central Office, Bridge Inventory Section- refers to the office staff in INDOT's Central Office location, in Indianapolis and those staff members belong to a section dedicated to supporting the Bridge Inspection System
COM+	An object-oriented programming architecture and a set of operating system services. These services notify running application components of significant events and ensure that they are authorized to run. District- refers to 7 regional locations the state is separated out into and is an administrative and operations support location.
Fiscal Year	INDOT revolves on a calendar that begins July 1st, every year concludes on June 30th
EXOR	Application containing location and other attributes
GPS	Global Positioning System
GIS	Geographic Information Systems
HTML	Hyper Text Markup Language- A markup language based on but simpler than SGML used to annotate hypertext documents for publication on the World Wide Web, to take advantage of the WWW's capacity to connect documents and sections of documents across the Net.
IBMS	Indiana Bridge Management System
IIS	(Internet Information Server)- Microsoft's Web server that runs on Windows NT platforms. In fact, IIS comes bundled with Windows NT 4.0. Because IIS is tightly integrated with the operating system, it is relatively easy to administer. However, currently IIS is available only for Windows NT platform.
INDOT	Indiana Department of Transportation
Inventory Features	a table that houses roadway assets with quantities of each
JavaScript	a scripting language developed by Netscape to enable Web authors to design interactive sites. Although it shares many of the features and structures of the full Java language, it was developed independently.

	JavaScript can interact with HTML source code, enabling Web authors to spice up their sites with dynamic content.
Log Book	Report of complied information by INDOT Bridge Section
Natural Disaster	is an event that is declared by the county and approved by Federal Emergency Management (FEMA) that INDOT gets reimbursed for emergency aid and event clean-up
NBIS	National Bridge Inventory System.
OLE DB	Object Linking and Embedding for Databases. OLE DB is a COM service that enables a user to access databases. A developer accesses OLE DB services through ADO.
OPI	Operational Performance Index
Operating Procedures	are the policies, procedures, and work practices that INDOT field personnel must adhere to for the work activities that have them
Overhead Activities	generally speaking these are non-roadway related activities and are part of daily operations in the field such as, leave time or supervision
QA Center	Delivers a unique offering of automated testing products and solutions designed to validate applications running in the full spectrum of environments, isolate and correct problems, and ensure that systems can handle anticipated load—before applications go live.
Quality Assurance Inspections/Condition Ratings	INDOT or Consultants conduct inspections on bridge structures. Quality and “grade” ratings to the findings are assigned to the structure.
Section 508	Section 508 of the Rehabilitation Act of 1973, as amended, is a US law requiring electronic technology used by the government to be accessible. Specific requirements are maintained by the Access Board in the Electronic and Information Technology Accessibility Standards (36 CFR Part 1194).
SOAP	(Simple Object Access Protocol)- a lightweight XML-based messaging protocol used to encode the information in Web service request and response messages before sending them over a network. SOAP messages are independent of any operating system or protocol and may be transported using a variety of Internet protocols, including SMTP, MIME, and HTTP.
SPMS	Scheduling Project Management System
TCP/IP	Transmission Control Protocol/Internet Protocol (TCP/IP) is the basic communication protocol of the Internet. It can also be used as a communications protocol in a private network.
VB/COM	A component software architecture from Microsoft which defines a structure for building program routines (objects) that can be called up and executed in a Windows environment. COM provides the interfaces between objects, and Distributed COM (DCOM) allows them to run remotely.
Virtus	AASHTOWARE used by INDOT permit section for load ratings.
Visual Basic	Is a programming environment from Microsoft in which a programmer uses a graphical user interface to choose and modify sections of code based on the BASIC programming language.
VisualSourceSafe	Is the name of revision control software produced by Microsoft. It lets users store multiple versions of files and is particularly geared towards managing versions of source code by software developers. Visual Studio.NET- A Microsoft software package that provides a complete development environment for building on the Microsoft .NET platform.

WMS	Work Management System
Visual Studio.NET	A Microsoft software package that provides a complete development environment for building on the Microsoft .NET platform
XML	Short for Extensible Markup Language, a specification developed by W3C. XML is a pared-down version of SGML, designed especially for Web documents. It allows designers to create their own customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.