IT Project Proposal Report - Detail
Agency: 027 - DEPARTMENT OF ROADS
Budget Cycle: 2009-2011 Biennium Version: AF - AGENCY FINAL REQUEST

IT Project : Bridge Management System

General Section

Contact Name :	BillWehling	**E-mail :**	bill.wehling@nebraska.gov	**Agency Priority :**	
Address :	1500 Highway 2	**Telephone :**	402-479-3986	**NITC Priority :**	
City :	Lincoln			**NITC Score :**	
State :	Nebraska	**Zip :**	68502		

Expenditures

IT Project Costs	Total	Prior Exp	FY08 Appr/Reappr	FY10 Request	FY11 Request	Future Add
Contractual Services						
Design	0	0	0	0	0	0
Programming	10,000	0	10,000	0	0	0
Project Management	0	0	0	0	0	0
Data Conversion	0	0	0	0	0	0
Other	25,000	0	25,000	0	0	0
Subtotal Contractual Services	35,000	0	35,000	0	0	0
Telecommunications						
Data	0	0	0	0	0	0
Video	0	0	0	0	0	0
Voice	0	0	0	0	0	0
Wireless	0	0	0	0	0	0
Subtotal Telecommunications	0	0	0	0	0	0
Training						
Technical Staff	0	0	0	0	0	0
End-user Staff	0	0	0	0	0	0
Subtotal Training	0	0	0	0	0	0

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Expenditures

IT Project Costs	Total	Prior Exp	FY08 Appr/Reappr	FY10 Request	FY11 Request	Future Add
Other Operating Costs						
Personnnel Cost	0	0	0	0	0	0
Supplies & Materials	0	0	0	0	0	0
Travel	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Other Operating Costs	0	0	0	0	0	0
Capital Expenditures						
Hardware	0	0	0	0	0	0
Software	0	0	0	0	0	0
Network	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Capital Expenditures	0	0	0	0	0	0
TOTAL PROJECT COST	35,000	0	35,000	0	0	0

Funding

Fund Type	Total	Prior Exp	FY08 Appr/Reappr	FY10 Request	FY11 Request	Future Add
General Fund	0	0	0	0	0	0
Cash Fund	35,000	0	35,000	0	0	0
Federal Fund	0	0	0	0	0	0
Revolving Fund	0	0	0	0	0	0
Other Fund	0	0	0	0	0	0
TOTAL FUNDING	**35,000**	**0**	**35,000**	**0**	**0**	**0**
VARIANCE	**0**	**0**	**0**	**0**	**0**	**0**

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IT Project: Bridge Management System

EXECUTIVE SUMMARY:

See supporting information for a complete executive summary for the Bridge management System project.

The purpose of this project is to develop a one-stop shop for Bridge related information, similar to the Pavement Optimization Program (POP). With the completion of this project, customers will be able to access bridge related information through a point and click environment. Information such as Posting Summary sheets, bridge photos, bridge plans; Inspection Reports, etc. will have a direct link from an opening screen. The opening screen will sit on the user's desktop as an icon and when opened the user will have the option to go directly to the bridge information of their choosing. The opening screen will have an arrangement of radio buttons which the user can click-on to retrieve the information they want to view. It is anticipated that the primary users of this new application will be the District Engineers, Division Heads, and Division personnel from Bridge, Roadway Design, Construction, and Planning and Project Development. It is estimated that the initial version could be completed within six months of the start of the project. As users become aware of and begin to use this new application subsequent versions will be enhanced to meet the needs of the users. This new application will greatly enhance the bridge decision-making process and improve the flow of bridge information throughout the Department.

The budget for this project was included inthe appropriation for FY09, therefore no additional monies are needed.

GOALS, OBJECTIVES, AND OUTCOMES (15 PTS):

See the supporting information for a complete descritpion of the goals, objectives and outcomes for this project - Bridge Management System.

The project has three goals;

1) Create an application similar to the POP where all of the information on a structure including load ratings, structure type, condition ratings, etc. can be viewed along with an indication to the condition of the bridge using a red, yellow or green status.
2) Scan all pertinent documents and place them in our Document Management System (Falcon) so the documents are stored electronically instead of handling paper copies.
3) Creating links within the application to access other information about the structure such as the documents in Falcon, video log information or a map showing the location along with an aerial image.

The expected beneficiaries of this product will be District Engineers, Division Heads, and Division personnel from Bridge, Roadway Design, Construction, and Planning and Project Development. It will allow management to make decisions on what structures need to be replaced or refurbished, provide designers the information they need to do their work in creating construction plans and provide information to Construction personnel so they can review current status and determine the approach to the construction of the structure.

The expected outcome is a “One-stop shop” where people can open the application from their desktop, find the structure they need and finally access all pertinent information about that structure by connecting to other systems.

We have developed a project management methodology that will assist us in keeping the project within budget and with the necessary resources for completing the project. Our methodology includes the following phases;

1) Project Initiation

2) Project Planning

3) Project Executing

4) Project Controlling

5) Project Closing

We will be more than happy to provide a copy of our methodology if needed.

This project fits in with our goal to move towards a paperless environment as well as providing information to our customers in an easy to use application and eliminating the need to search in various locations or applications to get the information they require to do their jobs.

PROJECT JUSTIFICATION / BUSINESS CASE (25 PTS):

The primary return on investment will be decision-makers having readily available bridge data to assist them in making informed decisions in order to maintain a safe and functional network of State and County bridges. Also, bridge data will be more easily retrieved by Division and District personnel which will streamline their processes. They will have one location to access all information about a structure so they can perform their job functions and make determinations on when structures will need to be replaced or refurbished.

Having documents stored electronically will ensure that documents can be found when needed and the chance of documents being misplaced or accidentally thrown away would be eliminated. Security on the system will allow us to minimize the chance of electronic files being eliminated but if it does happen we have adequate backups to ensure that we

can get the files back.

The reduction in paper may allow us to save space where current lektrievers and file cabinets are located, thus making floor space available for others to use as needed.

There were no other solutions available to us that we could find. We looked at creating an in-house application using a GIS interface but decided that the customers were happy with the existing POP application that we would base this application off of it to be successful. Doing nothing means that we will have to find this information manually and access three or four different application separately in order to get the information necessary to perform job tasks and make project determinations.

There is not a mandate for this project but we are required to provide ratings and other information on all structures to the Federal Highway Administration as part of the National Bridge Inspection Standards and National Bridge Inventory.

TECHNICAL IMPACT (20 PTS):

While the system needs to be reliable it is not critical that it meets a 99.99% up-time or higher but we will make that as a goal.

The security is based off of windows security and only network administrators and our Falcon administrators have the ability to make changes or add folders or environments to the Falcon portion of the project. Security is set on the mainframe such that only authorized individuals can update information on structures and submit jobs to push new data into systems.

The data is stored on the mainframe and each time we do new inspections the data on the mainframe will be refreshed so there will not be a need to purchase additional hardware or server space.

We have implemented all NITC security policies and data standards throughout the NDOR as well as any industry standards that have been identified by our network and/or data administrators. Since the structure data is stored on the mainframe we know that the OCIO has implemented all standards and policies.

This application will connect to our video log, mapping application and our document management system to provide a “one-stop shop” for DOR personnel so they do not have to search through file cabinets, open numerous applications or find someone to help them get the information they need to perform their job duties.

PRELIMINARY PLAN FOR IMPLEMENTATION (10 PTS):

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Project Organization / Chart

Executive Sponsor:	Deputy Director Engineering
Project sponsor:	Material and Research Engineer
BTSD Project manager:	Responsible for ensuring the project follows the methodology
Business Team Leader:	Responsible for business requirements and deliverables
Technical Team Leader:	Responsible for implementing the approved deliverables
Data Team Leader:	Responsible for data design and standards/policy adherence

Project team members:	Two business individuals who handle the data on a daily basis and our Falcon Administrator

Project Stakeholders:

Name	Division	Interest in Project
Director - State	Executive Office	Having easily accessible bridge data in order to make sound decisions
Deputy Director - Engineering	Executive Office	Having easily accessible bridge data in order to make sound decisions
Deputy Director - Operations	Executive Office	Having easily accessible bridge data in order to make sound decisions
District Engineers	Districts	Having easily accessible bridge data in order to make sound decisions
Division Heads	Divisions	Having easily accessible bridge data in order to make sound decisions

Our approach will be to have two defined components. One being the input of all documents into Falcon and the other being the development of the application that will be accessing Falcon as well as other applications.

Bridge Division currently retains documents related to structures (as-builts, load rating summaries, photos, etc.) on a File Server. These documents will be input into Falcon so we can provide the tools to manage the documents and allow for easy retrieval. TSA Advet staff will provide guidance in developing this system and may be required to assist us in some of the development aspects as well. Our plan is to use existing NDOR staff to input the electronic files and metadata into the system but we may need to hire a third party to do the scanning an metadata for us.

The second component will be the development of the custom up-front application. This application will gather the required data fields from the mainframe and present the information back to the user. The application will be developed by existing in-house staff that developed the POP application that this application will be modeled after. This application will also interface with Falcon to allow the documents associated with the chosen structure to be presented to the user, without the user having to open another system to retrieve those documents. This may require development by TSA Advet staff in utilizing their Application Programming Interfaces that we purchased last year or assisting our developers in using them.

Until we have completed our business requirements document we cannot give an accurate timeline. We do believe that once we start the development of the application, we will have it running within six months. Depending on the number of documents that need to be scanned and input into Falcon along with the associated metadata this could take some time. We believe this activity could take six months as well. With both the application development and Falcon implementation running in tandem our best guess would be a six to nine month timeframe, taking into account possible delays with people being unavailable or waiting on the vendor if needed. Our major milestones are as follows;

1) Begin Requirements gathering and completion of Requirements Documentation
2) Confirm selection of deliverables from requirements, document Milestones
3) Project Work Plan and Build Schedule
4) Application Development
5) Creating Falcon Environment and folder structure
6) Inputting scanned documents and metadata into Falcon
7) Implementation Plan
8) Training Plan
9) Lessons Learned

Once the application is completed we will need to develop a user document. Team members will provide training to individuals that will be utilizing the software and we will also look into developing an on-line training course utilizing our Learning Bay on-line training system. All training will be done by in-house personnel on an as-needed basis.

NDOR staff will be responsible for maintaining the system once it is implemented and Bridge staff will be responsible for the input and removal of documents from the system as well as ensuring that the data shown in the application is correct.

RISK ASSESSMENT (10 PTS):

Risk Area	Level (H/M/L)	Risk Plan
1. Developer or Vendor unavailable for	M	Meet as a team and determine if the schedule needs to be

a certain amount of time due to other commitments		adjusted. Receive approval of sponsors to adjust the schedule or obtain alternate resources.
2. Data Input errors when inputting electronic files into Falcon	M	Ensure that adequate staff is available for reviewing the data and develop a process for making corrections
3. Data requirements are changed by FHWA	L	Review the application design and determine the time for necessary changes. Receive approval of sponsors to adjust the schedule.

FINANCIAL ANALYSIS AND BUDGET (20 PTS):

Contractual services – Account 4419
Programming - $10,000
Other - $25,000
PROJECT TOTAL - $35,000