



University Transportation Research Center
RFP Cover Sheet

Title: Drainage Identification Analysis and Mapping, Phase 2
Proposal Number: 2014-15-06
Sponsor: NJDOT
Date Issued: January 30, 2015
Pre-Proposal Meeting: TBD
RFP Due at NJDOT: by March 10, 2015
RFP Closing Date: **March 10, 2015**

If you plan to apply:

1. Please contact Camille Crichton-Sumners (camille.crichton-sumners@dot.state.nj.us) or Stephanie Nock (609-530-5637 or STEPHANIE.NOCK@dot.state.nj.us) to request a pre-proposal meeting, and so that you will receive information about this meeting if it is held. *This meeting will be your only opportunity to ask questions about this proposal.*
2. If you plan to submit a proposal through UTRC, please notify us by email at peickemeyer@utrc2.org and ckamga@utrc2.org. Please indicate whether you are open to teaming up with faculty at other universities on this project.

Proposal submission guidelines:

Please contact Penny Eickemeyer (peickemeyer@utrc2.org, 212-650-8074) to discuss submission logistics. After UTRC confirms that the proposals' budgets meet UTRC and NJDOT guidelines, please use the UTRC cover sheet available at <http://www.utrc2.org/resources> for submission of printed proposals to NJDOT.

Proposals must be prepared in accordance with NJDOT's Information and Instructions for Preparing Proposals. Please visit: <http://www.state.nj.us/transportation/refdata/research/pdf/techpropresproj.pdf>

For questions about budget preparation, contact: Penny Eickemeyer, peickemeyer@utrc2.org
NJDOT has not specified a budget or timeline for this project. Please note that matching funds up to \$50,000 is available from UTRC for this RFP.

Please visit the NJDOT Research Website for important information about this RFP
<http://www.state.nj.us/transportation/refdata/research/news.shtm>

New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposals
2014-2015 Program

Date of RFP
01/30/2015

Closing Date
03/10/2015

Drainage Identification Analysis and Mapping, Phase 2

Project No. 2014-15-06

(Proposals must be prepared in accordance with NJDOT's *Information and Instructions for Preparing Proposals*. Please visit:

<http://www.state.nj.us/transportation/refdata/research/pdf/techpropresproj.pdf>

Revised Proposal Evaluation Forms are available for your information on the website.)

Proposals will be based on the merit of the information contained in the proposal. Budgets will be evaluated separately. Please place three (3) copies of the budget for this project in a separate sealed envelope.

1. RESEARCH PROBLEM STATEMENT, BACKGROUND AND OBJECTIVES

Drainage Identification, Analysis and Mapping System (DIAMS) is a computerized database that captures and stores relevant information associated with all on-ground and under-ground hydraulic structures belonging to NJDOT. DIAMS retrieves relevant financial information for management so that NJDOT can remain compliant with Phase II of the Government Accounting Standards Board Statement 34, which is NJDOT's sole means of reporting all financial transactions, namely the value of our infrastructure drainage assets on an accrual accounting basis. DIAMS also retrieves all relevant environmental information to comply with Clean Water Act and reports to NJDEP.

DIAMS is a critical computational tool that requires enhancements. Phase II consists of three objectives, specifically to: rectify the compatibility issue related to the recent upgrades of NJDOT vendor software updates, update all collected data to make DIAMS current and link DIAMS to the NJDOT Video inspection van.

2. TASKS

[Provide a listing of appropriate general tasks divided into phases based on types of work (e.g., laboratory, field) or by month (e.g., month 3, month 6) or other appropriate milestones]

The NJDOT is seeking the insight of proposal responders on how best to achieve the research objectives. Proposers are expected to describe a research effort that can realistically be accomplished as expeditiously as possible. Proposals must present the proposers' current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach for conducting the required research.

The Scope of Work should include, but not be limited to, the following tasks:

- **Task 1- DIAMS Compatibility with WinCAN8 Software:** The current version of DIAMS was developed based upon the NJDOT contractors using WinCAN7 pipe inspection software package. Some of the inspection contractors have already begun to utilize the newly released version, i.e., WinCAN8, which reportedly may not be entirely compatible with the DIAMS front-end MS™

Access database. Hence, the ability of NJDOT personnel to upload data into the DIAMS is currently restricted to data produced by the earlier version. It is recommended that DIAMS be upgraded to be compatible with WinCAN7, WinCAN8 and any other pipeline inspection software packages such as Granite XP, PipeLogix etc., which would allow for a seamless transition as the remaining contractors update their inspection software packages, and also allow access to archival data.

- Task 2 – Uploading of Current Inspection Data Inventory at NJDOT: The current backlog of manually uploading inspection data and videos into DIAMS is very time consuming. Additionally, inconsistencies in the milepost data are a continually reoccurring problem. NJDOT requires assistance in checking and uploading the backlog of inspection data. It should also be noted that the milepost inconsistency issue will eventually be eliminated by an active Q/C capability proposed.
- Task 3 – Installation of data link between NJDOT Cobra Video Inspection Van and DIAMS: NJDOT has a pipeline video inspection van, which it acquired from Cobra Technologies several years ago. The van is fully equipped with the hardware to perform pipeline video inspections and collect the data. The system uses an industrial touch screen interface to collect data. Reportedly, Cobra Technologies recommended that the data be transferred to a NJDOT computer for processing and warehousing rather than attempting to process and store the data in the van.

The Cobra Technologies software provides a multi-user client server relational database for office applications, which can store the data collected from the field units on a network. However, the output data of the Cobra software is not currently aligned with DIAMS, which was developed for WinCAN. It would be necessary to work with Cobra Technologies and develop a direct link for the Cobra inspection data to be uploaded into DIAMS. Then all NJDOT inspection data will be part of the DIAMS. It is recommended that DIAMS be upgraded to accept input data from the Cobra Video Inspection Van.

PHASE I – Literature Search

Conduct a literature search of the current state of the practice.

After the award of the project, a more comprehensive literature search should be conducted. At the completion of this literature search, the PI will make a presentation to the Research Project Selection and Implementation Panel to discuss their findings and to discuss the appropriate research approach.

PHASE II – Research Approach and Anticipated Results

Clear description of how you will solve the problem and implement anticipated findings. Work may be divided into phases (e.g., Laboratory, Field or Month 3, Month 6) as necessary to clarify tasks. *Exit Criteria* must be developed during this phase.

3. IMPLEMENTATION AND TRAINING PLAN

The PI must meet with the Research Project Selection and Implementation Panel (RPSIP) and other NJDOT units to present the findings and as appropriate train these personnel in the use the project results.

The PI will develop an implementation plan as per the guidelines provided by NJDOT Research Bureau.

4. DELIVERABLES:

[List of minimum deliverables necessary to complete the project]

- Presentation of Summary of Literature Search Results
- Discussion to Support and Refine the Project Tasks
- Project work plan.
- Technical Memorandum on the survey results
- Technical memorandum on the measures that are working or not working
- Technical memorandum on actions taken
- Interim Status reports suitable for Senior Leadership if required
- Updated DIAMS User's Guide to include an Appendix for the Cobra Pipeline Video Inspection Van.
- Deliver and install required software at NJDOT and train NJDOT personnel on the upgraded DIAMS.
- Provide a software patch for all types of pipeline inspection software packages.
- Quarterly Reports and technical demonstration to NJDOT
- Final report with appropriate tables, graphs and charts in hard copy version, PDF file format, Word, and on CD ROM. Two copies plus one per RPSIP member of each presentation, technical memorandum, draft final report and Final Report (plus 10 copies).
- The Final Report and Tech Brief are due three (3) months before the end date of the project to allow time for review by the Research Project Selection and Implementation Panel. The Final Acceptance will be granted upon receipt of ten copies of the approved final report.

5. CONTRACT TIME:

The PI must provide the anticipated research study duration based on the proposed tasks. Consideration should be given to potential impediments so that adjustments are incorporated into the schedule minimizing the need for time extensions.

A fifteen-month time frame would be preferred for Phase II, with Tasks 1 & 2 completed in the first six-months, Task 3 completed in the next six-months and the final report package submitted at the start of the final three-months.

6. CONTACTS:

Questions on this topic **shall not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions are to be directed to Camille Crichton-Sumners by sending an e-mail to Camille.CrichtonSumners@dot.state.nj.us, or by phone (609-530-5966).

A meeting may be scheduled with interested parties after the RFP's are distributed to refine the objectives and deliverables and to promote a better understanding of the research needs. **This must be requested on or before 02/13/2015.**

7. DEADLINE

**Proposals (10 single-bound copies) are due at the NJDOT Bureau of Research
no later than 5:00 p.m. on March 10, 2015**

Authorization to Begin Work: 06/15/2015

8. PROPOSAL DELIVERY INSTRUCTIONS:

For private, paid messenger services such as Federal Express, DHL, UPS, etc., or for hand-carried deliveries:

2014-2015 PROPOSAL-NJDOT
New Jersey Department of Transportation
Bureau of Research
1035 Parkway Avenue
Trenton, New Jersey 08625-0600

For U.S. Postal Service mail:

New Jersey Department of Transportation
ATTN: Camille Crichton-Summers
Manager, Bureau of Research
P.O. Box 600
Trenton, New Jersey 08625-0600