

# SOLICITATION INFORMATION

11/30/04

**RFP # B04530**

**TITLE: A&E Services –Preliminary Engineering for  
Statewide High Hazard Intersections/Ramps (8 Contracts  
Anticipated)**

**OPENING DATE AND TIME: Thu, Dec. 30, 2004, 2:30 p.m.**

**PRE-PROPOSAL CONFERENCE: YES DATE: Mon., December 13, 2004 TIME: 10:00 a.m.**

**MANDATORY: NO**

**LOCATION: Conference Room “B”, 2<sup>nd</sup> Floor, Department of Administration, One Capitol Hill,  
Providence, RI**

**SURETY REQUIRED: NO**

**BOND REQUIRED: NO**

**Vendors must register on-line at the State Purchasing Website at  
[www.purchasing.state.ri.us](http://www.purchasing.state.ri.us) to be able to download a Bidder Certification Cover  
Form which must accompany each offer.**

## **NOTE TO VENDORS:**

**No offer will be considered that is not accompanied by a completed and  
signed RIVIP generated Bidder Certification Cover Form.**

**THIS PAGE IS NOT A BIDDER CERTIFICATION FORM**

**PETER S. CORR  
CHAIRMAN  
ARCHITECTURAL/ENGINEERING/CONSULTANT SERVICES SELECTION COMMITTEE**

# NOTICE

**THERE MAY BE ADDITIONAL ADDENDA TO THIS BID/RFP AT ANY TIME BEFORE THE OPENING DATE AND TIME.**

THE DIVISION OF PURCHASES WILL NOT BE NOTIFYING BY MAIL OF ANY SUCH ADDENDA.

IT IS THE **VENDOR'S RESPONSIBILITY** TO CHECK AND DOWNLOAD ANY AND ALL ADDENDA.

AN ADDENDUM TO A BID/RFP IS LISTED AS THE BID NUMBER WITH AN "A" AND THE NUMBER OF THE ADDENDUM FOLLOWING; FOR EXAMPLE, **3025A1** INDICATES ADDENDUM #1 HAS BEEN ISSUED FOR BID 3025. **3025A2** INDICATES ADDENDUM #2 HAS BEEN ISSUED. YOU MUST CLICK ON ALL OF THESE LISTINGS TO GET THE COMPLETE PACKAGE.

**IF NOT BIDDING ON ANY ITEM, DO NOT RESPOND, IN ANY WAY, TO THE DIVISION OF PURCHASES.**

## DISCLAIMER

While the State of Rhode Island intends to maintain continuous access to this Website, from time to time access to information and/or documents may be interrupted or prevented either because of site problems, user problems or Internet problems. Not all access difficulties can be resolved by the State of Rhode Island since some access failures may be due to the type of computer or communication equipment and services employed by the Website User. However, it is the State's policy to provide a Help Desk (401) 222-2142 ext. 134 during regular business hours to assist Users in identifying and overcoming access problems.

To assure maximum access opportunities for Users, solicitations shall be posted on the RIVIP for a minimum of seven days and no amendments shall be made within the last five days before the date an offer is due. Vendors are cautioned that the competitive nature of their offers could be affected if their submissions do not include all amendments. For this reason, vendors are advised to revisit all solicitations to which they intend to respond five days prior to the due dates. If access to solicitations on the Website has been severely curtailed, it shall be the policy of the State to extend the due date of affected solicitations.

**In some cases (e.g., road construction) copies of plans and specifications which cannot be offered on-line are issued with a requirement for a refundable deposit. In such instances, in addition to announcements provided on the RIVIP, vendors on the known lists of plans and specifications depositors will receive direct notification of amendments.**

Except when access to the Website has been severely curtailed and it is determined by the Rhode Island State Purchasing Agent that special circumstances preclude extending a solicitation due date, requests to mail or fax hard copies of solicitations will not be honored.

When the result of an Internet solicitation of registered vendors is unsuccessful (no offers, one offer which exceeds the estimated cost) the State of Rhode Island will cancel the original solicitation and resolicit the original offer directly from vendors. The Purchasing Agent reserves the right to solicit offers from unregistered vendors as well as registered vendors.

**RHODE ISLAND DEPARTMENT OF TRANSPORTATION**

**REQUEST FOR LETTERS OF INTEREST / TECHNICAL PROPOSALS**

Letters of Interest / Technical Proposals (LOI/TECH) are hereby solicited by the State of Rhode Island's Department of Administration's Division of Purchases on behalf of the Rhode Island Department of Transportation (RIDOT) to acquire professional engineering services for:

**LOI/TECH B04530**

**PRELIMINARY ENGINEERING FOR STATEWIDE HIGH HAZARD  
INTERSECTIONS/ RAMPS (8 CONTRACTS ANTICIPATED)**

**DBE PROGRAM GOAL: 25%**

*The RIDOT is seeking to acquire traffic design services to analyze data collected at selected locations throughout the State and to recommend the appropriate traffic safety improvements needed to reduce the frequency and severity of accidents at those locations. Project location listings are cited on Attachments 3 through 10; individual contract assignments will be disclosed upon final selection notification.*

*The RIDOT anticipates the award of eight (8) contracts to be performed concurrently; for each contract, the initial conceptual design phase will have a contract completion date of eighteen (18) months after the date of authorization to commence work.*

**(NOTE: Submit one (1) response for consideration of any or all anticipated awards.)**

*An overall Disadvantaged Business Enterprise (DBE) Goal of twenty-five percent (25%) will apply to the total contracted costs awarded this High Hazard Safety Improvement Program initiative.*

LOI/TECH submittals received must be in accordance with guidelines as outlined in this request and the State's General Conditions of Purchase which can be accessed online through the Rhode Island Vendor Information Program, or "RIVIP" as it is known, @

**<http://www.purchasing.ri.gov>**

**All respondents are advised to review all sections of this request thoroughly and to follow the instructions carefully. Failure to make a complete submission as described elsewhere herein may result in rejection of the proposal.**

**Note:** This is a Request for Letters of Interest combined with Technical Proposals, not an Invitation for Bid. Evaluation will be on the basis of the merits of the proposal submitted. There will be no public opening of responses received by the Division of Purchases pursuant to this solicitation other than to name those firms who have responded.

**GENERAL INSTRUCTIONS AND NOTIFICATIONS TO RESPONDENTS:**

- All respondents **MUST** register online at the RIVIP's Internet website @ **<http://www.purchasing.ri.gov>**.

- A fully-completed signed *RIVIP Bidder Certification Cover Sheet* – All three pages **MUST** accompany **EACH** response submitted. Failure to make a complete submission inclusive of this three-page document will **result in disqualification**.
- Should there be a need for assistance in registering and/or downloading any document, call (401) 222-2142, ext. 134 for RIVIP HELP DESK technical assistance.  
Office Hours: 8:30 AM – 4:00 PM.
- All costs associated with developing or submitting documents in response to this solicitation and/or in providing oral or written clarification of its content shall be borne by the Respondent. The State assumes no responsibility for these costs.
- Submissions in response to this solicitation are considered to be irrevocable for a period of not less than sixty (60) days following the established due date and may not be withdrawn without the express written permission of the State Purchasing Agent.
- Responses misdirected to other State locations or which otherwise are not received by the State Division of Purchases by the established due date for any cause will be determined to be late and will not be considered. The office clock, for the purpose of registering the arrival of a document, is in the reception area of the Department of Administration (DOA), Division of Purchases, One Capitol Hill, Providence, Rhode Island.
- Respondents must possess a working familiarity with the guidelines outlined in the *Rhode Island Standard Specifications for Road and Bridge Construction, latest edition*, which is currently available on-line @ [www.dot.state.ri.us](http://www.dot.state.ri.us).
- Persons or firms practicing engineering services in the State of Rhode Island must possess a proper registration and/ or Certificate of Authorization in accordance with Rhode Island General Laws. A copy of the current Rhode Island Certificate of Authorization FOR THE FIRM and current Rhode Island registrations(s) FOR THE INDIVIDUAL(S) who would perform the work **MUST BE INCLUDED BEHIND THE FRONT PAGE OF EACH COPY OF THE PROPOSAL.**

Any Respondent who does NOT have a current Certificate of Authorization for the firm and current Rhode Island registration(s) MUST acknowledge non-compliance with this requirement and confirm *in writing* that, if selected for the project, will expedite acquisition of a Rhode Island registration(s) and Certificate of Authorization ***prior to award***. The letter of acknowledgement **MUST BE INCLUDED BEHIND THE FRONT PAGE OF EACH COPY OF THE PROPOSAL.**

The State Board for Design Professionals can be contacted as follows:

**Board for Design Professionals  
One Capitol Hill  
3<sup>rd</sup> Floor  
Providence, RI 02908**

**Telephone: (401) 222-2565  
Fax: (401) 222-5744  
Website: [www.bdp.state.ri.us](http://www.bdp.state.ri.us)**

- Respondents are advised that all materials submitted to the State for consideration will be considered to be public records as defined in RI Gen Laws 38-2, without exception, and will be released for inspection immediately upon request once an award is made.
- In accordance with RI Gen. Laws 7-1.1-99, no foreign corporations (a corporation established other than in Rhode Island) has the right to transact business in this State until it has procured a Certificate of Authority to do so from the Office of the Secretary of State (401) 222-2357. **IF APPLICABLE, A COPY OF RESPONDENT'S CERTIFICATE OF AUTHORITY MUST BE INCLUDED AS PART OF THE SUBMITTED LOI/TECH LOCATED BEHIND THE FRONT PAGE OF EACH COPY OF THE PROPOSAL. FAILURE TO DO SO WILL RESULT IN AUTOMATIC DISQUALIFICATION.**
- This project has been assigned a 25% Disadvantaged Business Enterprise (DBE) Program Goal which will be applied to the total contracted costs awarded High Hazard Safety Improvement Program initiative. A list of current Rhode Island State certified DBE firms may be obtained through the RIDOT website @ [www.dot.state.ri.us](http://www.dot.state.ri.us). Any questions should be directed to:

Office of Business and Community Resources  
Room 106, Two Capitol Hill  
Providence, RI 02903  
(401) 222-3260

***All information requested below must be organized in the exact order in which the following RFP requirements are presented with page numbers in consecutive order. LETTER OF INTEREST/ TECHNICAL PROPOSAL packages should contain a Table of Contents that cross-references each RFP requirement with specific page cited.***

#### **INSTRUCTIONS FOR PROPOSALS:**

Upon review of the Scope of Work (SOW), LOI/TECH submissions must include at a minimum the following information for RIDOT review and subsequent final selection recommendation:

- **Letter of Transmittal:** A Letter of Transmittal must accompany each response signed by an owner, officer, or other authorized agent of the firm.
- **Company Introduction:** Respondents are to include a complete description of the firm and other relevant information documenting organizational structure and expertise within various architectural/engineering disciplines.
- **Project Approach:** Respondents must provide a detailed technical synopsis of their proposed design services for the SOW provided herein.
- **Staff Qualifications:** Respondents are to include:
  - 1) a listing of experienced personnel currently on staff,
  - 2) resumes of proposed key personnel to be assigned to this project, and
  - 3) the approximate percentage of each employee's time to be expended on this project.

**Standard Federal Form 330** (effective 6/8/04) must be completed and included in response to this LOI/TECH. Access to this current form may be obtained through the following website: [www.gsa.gov](http://www.gsa.gov)

The **RIDOT Traffic Design Division** must be informed of any changes in personnel *at any time* during the contract term. RIDOT reserves the right to reject personnel and/or if in the event key personnel are no longer available, RIDOT reserves the right to terminate this agreement.

- **Firm Experience:** Respondents are to include a listing of the firm's projects similar in concept to the project being proposed. Respondents must also describe the experience of the Project Team in all areas of expertise described in the SOW.
- **Existing Workload:** Respondents should include a current listing of all projects contracted to perform. Where it may apply this may include only those projects assigned to your firm's Transportation Division.
- **Sub-Consultant(s):** The Respondent must disclose the identity and work arrangements established between the Prime and proposed Sub-Consultant firm(s) to be assigned this project. Full disclosure of the proposed design team to be assigned this project requires:
  - 1) a listing of experienced personnel currently on staff,
  - 2) resumes of proposed key personnel to be assigned to this project, and
  - 3) the approximate percentage of each employee's time to be expended on this project.
- **DBE Participation:** This project has been assigned an **overall 25% Disadvantaged Business Enterprise (DBE) Goal** applied to the total contracted costs awarded this High Hazard Safety Improvement Program initiative. Disclosure of DBE firm(s) proposed **MUST** be documented in response to this LOI/TECH. Include copy(s) of current Rhode Island State certification(s).
- **Proposal Format:** Individual proposal submissions must be bound or contained in a single volume. All documentation submitted with the proposal should be contained in that single volume. Technical Proposals must be organized in the exact order in which the RFP requirements are presented with page numbers in consecutive order. The proposal should contain a Table of Contents that cross-references each RFP requirement with specific page in the Technical Proposal.
- **Supplemental Information:** Respondents are encouraged to submit any other information deemed useful to provide RIDOT with sufficient information to evaluate the firm's qualifications.

#### **PRE-PROPOSAL MEETING:**

**A Pre-Proposal Meeting** will be held on **Monday, December 13, 2004 @ 10:00 A.M.** at the RI Department of Administration, One Capitol Hill, 2<sup>nd</sup> Floor, Conference Room "B", Providence, RI 02908. At this time any technical questions relative to the SOW as well as any questions regarding RIDOT procedures and proposal format will be addressed. Persons requesting the services of an interpreter for the hearing impaired may obtain those services by calling (401) 222-4971 forty-eight (48) hours in advance of the Conference.

**PROPOSAL QUESTIONS AND SUBMSSION REQUIREMENTS:**

A summary of the Pre-Proposal Meeting will be posted on the Internet as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

Any pertinent questions subsequent to this Meeting may be e-mailed to RIDOT @ [www.dot.state.ri.us](http://www.dot.state.ri.us) by accessing the **questions menu (?)** included along side current project listing. Follow the **“Administrative Services/Bids”** link to locate questions menu to submit your query. Responses to questions submitted for the subject project will also be posted under the same questions menu.

A determination will be made by RIDOT, in coordination with the Division of Purchases, whether an addendum will be required. The Q&A Forum will disable 48 hours prior to the due date for this project. **Therefore, questions will not be accepted after midnight on December 27, 2004.**

Letters of Interest/ Technical Proposals (**“original” plus five [5] copies**) are to be submitted. Requested documentation is to be either mailed or hand-delivered in a sealed envelope marked:

**LOI/TECH B04530 - PRELIMINARY ENGINEERING FOR STATEWIDE HIGH HAZARD INTERSECTIONS/ RAMPS (8 CONTRACTS ANTICIPATED) by Thursday, December 30, 2004 no later than 2:30 P.M. to:**

<b>BY COURIER:</b>	<b>BY MAIL:</b>
RI Department of Administration Division of Purchases (2 <sup>nd</sup> fl) One Capitol Hill Providence, RI 02908-5855	RI Department of Administration Division of Purchases P.O. Box 6528 Providence, RI 02940-6528

***NOTE: Proposals received after the above-referenced due date and time will not be considered. SEE GENERAL NOTIFICATIONS.***

**EVALUATION AND SELECTION:**

Detailed LOI/TECH submittals will be evaluated by RIDOT through the standard Consultant Selection Process. A Technical Review Committee will be convened comprised of members of the RIDOT Division responsible for the project under consideration. A written evaluation and ranking of each proposal will be prepared by this Committee incorporating factors based on the following:

**SELECTION CRITERIA:**

- |  |                    |
|--|--------------------|
| 1. <b>Project Approach</b> citing detailed synopsis of proposed technical approach to the project  | <b>0-25 POINTS</b> |
| 2. <b>Staff Qualifications</b> including professional resumes and previous Traffic Design experience of proposed staff assigned to project –both Prime and any proposed Sub-Consultants  | <b>0-25 POINTS</b> |
| 3. <b>Firms’ Experience</b> relevant to Traffic Design projects  | <b>0-25 POINTS</b> |
| 4. <b>Existing Workload</b> include current listing of projects contracted to perform; evaluation will take into consideration past performance in terms of quality of work and timeliness of accomplishment of projects cited | <b>0-25 POINTS</b> |

**MAXIMUM SCORE                      100 POINTS**

Evaluation will also consider commitment to Affirmative Action and DBE Participation. Upon completion of the written evaluation of all LOI/TECH submissions, the Technical Review Committee may, at its discretion, contact the top-ranked candidate firm(s) to be called for formal interviews. Such interviews will be factored into the final evaluation and ranking of candidates.

The Technical Review Committee’s final selection recommendation will then submitted to the RIDOT Advisory Consultant Selection Panel for consideration and approval. With the support of the Director of Transportation, the final RIDOT selection recommendation will be presented to the State’s Architectural / Engineering Consultant Services Selection Committee for consideration. Upon final selection approval from the Director of Administration, all Respondents will be notified that a final selection has been made.

**NEGOTIATION / AUDIT STATUS**

The selected Consultant will be directed to submit a formal financial proposal to the RIDOT, and negotiations will be completed on a cost plus fixed fee basis. The selected Consultant and/or Sub-consultant(s) may be required to undergo a pre-negotiation audit conducted by the RIDOT Audit Division. Pre-negotiation audits may be waived when and if sufficient and current audited cognizant data is available through a previous audit performed by another State/Federal agency or an audit performed by another local governmental agency. This use of an independent audit must be submitted, reviewed and deemed acceptable by RIDOT Audit Division prior to contract award.

**CONTRACT AWARD**

Contractual arrangements will be established on a cost plus fixed fee basis. The successful Respondent must be prepared to provide necessary data to support all costs associated with project expenditures.

Notwithstanding the above, the State reserves the right to accept or reject any or all options, bids, proposals, to award on the basis of cost alone, and to act in its best interest.

At any point during the review process, any proposal found to be substantially non-responsive will be dropped from further consideration.

The State may, at its sole option, elect to require presentation(s) by respondents clearly in consideration for award. Other submissions, certifications, or affirmations may be required, as appropriate.

***The State reserves the right to make an award or multiple awards or to reject any or all proposals based on what it considers to be in its best interest.***

**SCOPE OF WORK  
FOR  
HIGH HAZARD INTERSECTIONS**

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**Project Limits**

This scope of work will include the evaluation and design of countermeasures at the high crash intersections listed on Attachments 3 thru 10.

**Project Concept**

The purpose of this project is to collect and analyze data at the intersections listed on Attachments 3 thru 10 and to recommend the appropriate improvements to reduce the frequency and severity of the accidents at those locations.

The Consultant shall propose improvements based on the deficiencies identified at each location. All of the studies and corrective actions shall be documented as part of a Conceptual Design Report (CDR). The identified deficiencies and the proposed improvements should be listed in tabular form in an appropriate section of the report for each location.

In developing improvements, the Consultant shall pay particular attention to short-term improvements that may be implemented quickly to address a problem location. Improvements such as pavement markings, signage, or changes to signal timing/phasing may be considered.

Long-term improvements must also be considered. Improvements such as changes to roadway geometry, acquisition of property, or the implementation of sophisticated signal systems would be considered acceptable. Additionally, other less traditional improvements should also be considered such as the potential for installing roundabouts or the utilization of innovative traffic control devices.

Estimates of expected project cost and accident reduction benefits are to be used in evaluating proposed improvements. The method of Benefit-to-Cost Ratio (B/C) will be used to evaluate the economic feasibility and effectiveness of the proposed safety improvement at each location. Any location with a B/C Ratio greater than 1.0 will be considered economically sound for implementation, however the B/C Ratio will not be the sole criteria on which to base implementation. The decision to proceed with proposed improvements will be made by Traffic

Design, based on consideration of the B/C Ratio and anticipated improvements to operations and safety, as documented in the report.

### **Contract Term**

The CDR phase of the project will have a contract completion date of **eighteen (18) months** after the date of authorization to commence work. Final Design services may be added by supplemental agreement, based on the Consultant's completion of the CDR.

### **Crash Studies**

The Consultant shall collect Accident Details Reports from RIDOT's Traffic Management Section for each location for the three most recent years. In the event that the narrative is not supplied with the Accident Details Report, the Consultant will utilize the Police Report Number from the Accident Details Report to obtain the narrative from the city/town police or State Police. The crashes are to be plotted by type on a collision diagram of the location for each year of crash data collected. The collision diagram shall show crash experience by type, location, direction of movement, severity, weather, time of day, date, and day of week. Locations where the number of crashes per year are not sufficient to show a pattern, may be combined with the data for several years on the same sheet, provided it is clearly labeled. The analysis should determine if a pattern of crashes exists.

Turning movement counts shall be taken at each intersection. The counts should include the number of vehicles entering the intersection in each hour from each approach during 12 hours of an average day. It is desirable that the hours selected contain the greatest percentage of 24-hour traffic volume. At some locations, counts of longer durations or additional days may be needed. The crash rate per million entering vehicles can be calculated for each intersection.

**The crash history will be reviewed with Traffic Design on site at each location. This review is to provide a preliminary screening of locations and to select those that will require further investigation.**

### **Additional Studies**

Additional studies may be deemed necessary after preliminary screening of locations:

*Traffic Operation Studies:* The need for traffic operations studies will be determined by an analysis of existing safety deficiencies identified by the crash studies. These studies may include, but are not limited to additional traffic volume counts, spot speed studies, delay studies, intersection capacity studies, traffic conflict studies, gap studies, lane occupancy studies, queuing studies and warrant analysis (if applicable). Operations studies should consider the presence of pedestrians, school crossings and cyclists, where applicable.

*Site Conditions:* The analysis of the crash data may suggest a further investigation of physical factors be conducted. A condition diagram (intersection base plan) should be developed showing details of the physical layout, including such features as intersection geometrics, traffic control devices, channelization, grades, sight-distance restrictions, transit stops and routes, parking conditions, road surface condition, pavement markings, roadway lighting, driveways, nearby railroad crossings, distance to nearest traffic control signals, utility poles and fixtures, adjacent land use, and applicable regulations. Features not shown on the plan should be listed in the report. Physical based studies that may be considered include sight distance studies, highway lighting studies, etc.

**After additional information has been obtained and prior to the development of improvements, the Consultant will meet with Traffic Design for preliminary discussion of conceptual designs for each location.**

### **General Requirements**

The proposal for this project is to be considered in two phases, consisting of a Conceptual Design Report and a Final Design Stage (30%, 90%, and PS&E). The number of construction contracts will be determined once Traffic Design has approved the CDR. **At the point of negotiation, the Consultant will submit a fee proposal for Conceptual Design services only.** Final Design services will be added by supplemental agreement based on the Consultant's completion of the CDR.

In accordance with RI Gen. Laws 5-8, any person or firm which practices or is offering to practice engineering with the State of Rhode Island must be registered and or hold certificates of authorization from the State of Rhode Island Board of Registration for Professional Engineers. A copy of registration/certification must be submitted with the LOI/TECH. A copy of the current Rhode Island Certificate of Authorization FOR THE FIRM *and* current Rhode Island registrations(s) FOR THE INDIVIDUAL(S) who would perform the work **MUST BE INCLUDED BEHIND THE FRONT PAGE OF EACH COPY OF THE PROPOSAL.**

Any Respondent who does NOT have a current Certificate of Authorization for the firm and current Rhode Island registration(s) MUST acknowledge non-compliance with this requirement and confirm *in writing* that, if selected for the project, will expedite acquisition of a Rhode Island registration(s) and Certificate of Authorization ***prior to award.*** The letter of acknowledgement **MUST BE INCLUDED BEHIND THE FRONT PAGE OF EACH COPY OF THE PROPOSAL.**

The State Board for Design Professionals can be contacted as follows:

**Board for Design Professionals  
One Capitol Hill  
3<sup>rd</sup> Floor  
Providence, RI 02908**

**Telephone: (401) 222-2565  
Fax: (401) 222-5744  
Website: [www.bdp.state.ri.us](http://www.bdp.state.ri.us)**

All design submissions and monthly progress reports shall be made to the RIDOT's Traffic Design Section. The Consultant will be authorized to proceed from a given design phase only when written approval is granted by Traffic Design.

### **Monthly Progress Reports:**

Monthly progress reports will be required in accordance with RIDOT's Design Section Policy. Briefly, progress reports must outline work accomplished, man-hours and costs expended, outstanding questions which require resolution, a statement as to whether or not there are sufficient hours remaining to complete the effort as proposed, and the anticipated project

submission schedule. Payment invoices will be processed only if the required progress reports are current and correct.

### **Phase I - Conceptual Design Report**

The purpose of the CDR is to develop improvements to reduce the frequency and severity of accidents at the identified locations. The conceptual report should be in accordance with the criteria described in the Project Concept with emphasis on accepted design practices and with a minimum impact on the adjacent right-of-way in terms of property acquisition. The short-term and long-term improvements shall accomplish a solution that is satisfactory to RIDOT and the Federal Highway Administration.

The CDR shall include the following:

1. Collection and analysis of the crash data for the intersection. The accident rate per million entering vehicles for each location is to be calculated for each year of data collected.
2. A table listing the deficiencies and the recommended short-term and long-term improvements. Any accident reduction factors used to calculate expected benefits will be included in the report's documentation.
3. Meetings with local and safety officials to gather information on existing problems.
4. The collection of all necessary traffic data.
5. Color pictures of all approaches and other pertinent features at each location.
6. Evaluating the need to upgrade any existing traffic control devices.
7. Field review all sites with Traffic Design's Project Engineer
8. The CDR shall be a typed report, on 8 1/2" x 11" paper, covered and bound. The report shall discuss essential design issues, design standards, any potential property acquisition and other issues associated with the project intersections.
9. The report shall also include an estimate of the short-term and long-term improvement costs as well as an estimated benefit to cost ratio.
10. Site conditions plans should be developed from existing plans provided by the RIDOT Plan Room. No survey work is anticipated for the preparation of the CDR.
11. CDR shall be sorted by intersection in 3 ring binders. All Appendix material shall be included in that intersection's chapter. There should be no separately bound Appendix.

### **Phase 2 - Final Design (30%, 90% and PS&E):**

1. Final Design, as all other work, will be undertaken in accordance with the requirements of the Rhode Island Department of Transportation Action Plan. *(See Attachment 1 for a list of Design Criteria for this project.)*

2. Subsurface investigations may be required to provide sufficient data to all bidders on the contract. Vacuum probes are required at all foundation locations. Compensation will be at cost. If the total cost of subsurface investigation exceeds \$100,000, the work must be advertised for competitive bidding through the normal RIDOT procedures. Costs for subsurface investigation are to be submitted under supplemental agreement to this contract as they become necessary. If deemed necessary, the Consultant will be responsible for the layout and coordination of the subsurface investigation. Traffic Design must approve all subsurface investigation locations. The Consultant will be responsible for the analysis of all subsurface investigation data.
3. The preparation of Right-of-Way Plans, Condemnation Plats and Plat Descriptions is anticipated for any loop detectors that are on private property as well as any areas necessary for new mast arm foundations that obstruct the accessible route, per ADA requirements.
4. During the Final Design of the project, the Consultant will be required to coordinate with Rhode Island Historical Preservation and Heritage Commission via RIDOT.
5. Utility adjustments may include any or all of the following utilities: electric, telephone, fire alarm, cable, TV, gas, water and sewer.
6. The Consultant will be required to coordinate with the on-going design and/or construction of any adjacent or nearby projects.
7. The Consultant will be required to coordinate with the Traffic Management Center to discuss potential for implementation of Intelligent Transportation System technologies within the project.
8. The Final Design will also include the review of shop drawings.
9. The Consultant shall provide all plans as drawing files on a CD in an AutoCAD compatible format.
10. The Consultant must use software that utilizes HCM 2000 methodology for traffic capacity analysis. If Traffic Design does not have a copy of the software utilized, a licensed copy of the software must be provided to Traffic Design.
11. The Consultant will provide the Department with the GPS coordinates for the center of each intersection in the contract.
12. The Consultant shall attend a Pre-Bid Conference, provide stenographic services and prepare all necessary contract addenda for each of the anticipated construction contracts.

### **Plan Scale and Requirements**

All intersection work will be at a plan scale of 1-inch equals 20 feet. Requirements for CAD, plan materials, plats, etc. will be in accordance with the requirements of the Department's Design Policy Memos or as directed by the Project Engineer.

For this project, the plans will be drawn at a scale of 1-inch equals 20 feet and the following plan sheets will be required:

Title Sheet  
 Legend Sheet  
 Intersection Plans (includes signing & striping)  
 Drainage/Utility Plans (if required)  
 Location/Grade Plans (if required)  
 Traffic Control Plan  
 Details (as required)

**Anticipated Project Schedule- PHASE 1 SERVICES**

<b><u>Approximate PHASE 1 Project Schedule</u></b>		<b><u>Duration</u></b>	<b><u>Cumulative Time</u></b>
1.	<b>Crash Studies Completed *Field Review with Project Engineer</b>	<b>6 months</b>	<b>6 months</b>
2.	<b>Additional Studies *Meeting with Project Engineer</b>	<b>5 Months</b>	<b>11 Months</b>
3.	<b>Development of Countermeasures and Draft CDR</b>	<b>5 Months</b>	<b>16 Months</b>
4.	<b>Project Engineer Review of Draft CDR</b>	<b>1 Month</b>	<b>17 Months</b>
5.	<b>Preparation of Final CDR</b>	<b>1 Month</b>	<b>18 months</b>

## Attachment 1

**When applicable, the following design criteria are to be utilized in the development of all alternate solutions and during final design for locations listed in Attachments 3 thru 10:**

- *A Policy on Geometric Design of Highways and Streets*, 4<sup>th</sup> Edition (The Green Book), 2<sup>nd</sup> Printing. American Association of State Highway and Transportation Officials (AASHTO), 2001.
- *Highway Capacity Manual*, 2000 Edition. Transportation Research Board (TRB), National Research Council
- *Manual on Uniform Traffic Control Devices*, 2003 Edition. Federal Highway Administration
- *Standard Specifications for Road and Bridge Construction*, 2004 Edition. Rhode Island Department of Transportation (with latest additions and revisions).
- *Standard Details*, 1998 Edition. Rhode Island Department of Transportation (with latest additions and revisions).
- *Manual of Transportation Engineering Studies*. Institute of Transportation Engineers, 2000.
- *NCHRP Report 500: Guidance for Implementation of the AASHTO Strategic Highway Safety Plan*, Volumes 3-6, 8-10, 12 and 13. TRB, National Research Council, 2003-2004.
- *Roundabouts: An Informational Guide*. FHWA-RD-00-067, Federal Highway Adm, 2000.
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- *Access Management Manual*, TRB, National Research Council, 2003.
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- *An Informational Guide for Roadway Lighting*. AASHTO, 1984.
- *NCHRP Synthesis 225: Left Turn Treatments at Intersections*. TRB, National Research Council, 1996.

## **Attachment 2**

List of individuals and/or agencies for contact during Final Design Study to obtain input on existing problems and community development plans.

- (1) Town Administrator or Mayor
- (2) Town or City Council
- (3) Planning Board
- (4) State Representative(s) for area
- (5) State Senator(s) for area
- (6) Zoning Board
- (7) Superintendent of Schools (School Bus Transportation)
- (8) Chief of Police
- (9) Chief of Fire Department
- (10) Historic Preservation
- (11) Town or City Engineer or Public Works Director
- (12) Local Industrial Development Commission
- (13) Public Housing Authority
- (14) Public Transit Authority
- (15) Rhode Island Statewide Planning
- (16) Department of Environmental Management (per applicability or formal permit process)
- (17) Utilities
- (18) Coastal Resources Management Council

### Attachment 3

## CONTRACT 1 – BRISTOL COUNTY *Barrington/Warren/Bristol (16 High Hazard Intersections)*

<u>TOWN</u>	<u>PRIMARY ROADWAY</u>	<u>INTERSECTING ROADWAY</u>	<u>RIDOT SIGNAL NO.</u>
Barrington	County Road (RI 103/114)	Maple Avenue	119
Barrington	County Road (RI 103/114)	Waseca Avenue	Unsignalized
Warren	Main Street (RI 103/114)	Market Street / Miller Street	93
Warren	Metacom Avenue (RI 136)	Libby Lane / Franklin Street	Unsignalized
Warren	Arlington Avenue (RI 136 SB)	Child Street (RI 103)	54
Warren	Metacom Avenue (RI 136 NB)	Child Street (RI 103)	83
Warren	Metacom Avenue (RI 136)	Vernon Street	175
Warren	Metacom Avenue (RI 136)	Seymour Street / Laurel Lane	702
Bristol	Hope Street (RI 114)	Gooding Avenue	45
Bristol	Hope Street (RI 114)	Chestnut Street	217
Bristol	Hope Street (RI 114)	Washington Street	Unsignalized
Bristol	Hope Street (RI 114)	State Street	Unsignalized
Bristol	Ferry Road (RI 114)	Old Ferry Road	676
Bristol	Metacom Avenue (RI 136)	Tupelo Street	551
Bristol	Metacom Avenue (RI 136)	Chestnut Street / Annawamscutt Drive	218
Bristol	Metacom Avenue (RI 136)	Bayview Avenue	296

## Attachment 4

### **CONTRACT 2 – NEWPORT COUNTY**

*Portsmouth, Middletown, Newport, Tiverton (16 High Hazard Intersections)*

<u>TOWN</u>	<u>PRIMARY ROADWAY</u>	<u>INTERSECTING ROADWAY</u>	<u>RIDOT SIGNAL NO.</u>
Portsmouth	West Main Road (RI 114)	Gate 51 / Stringham Road	122
Portsmouth	East Main Road (RI 138)	Stub Toe Lane	505
Middletown	West Main Road (RI 114)	Oliphant Lane	680
Middletown	West Main Road (RI 114)	Brown's Lane	Unsignalized
Middletown	West Main Road (RI 114)	Forest Avenue	612
Middletown	West Main Road (RI 114)	Gate 17 Access Road	150
Middletown	West Main Road (RI 114)	Chases Lane	Unsignalized
Middletown	West Main Road (RI 114)	Woolsey Road	Unsignalized
Middletown	West Main Road (RI 114)	Valley Road (RI 214)	303
Middletown	West Main Road (RI 114)	Commercial Boulevard	Unsignalized
Middletown	West Main Road (RI 114)	Beacon Street	Unsignalized
Middletown	Aquidneck Avenue (RI 138A)	Green End Avenue	84
Newport	Memorial Boulevard (RI 138A)	Bellevue Avenue	232
Tiverton	RI 24 Ramps	Fish Road	Unsignalized
Tiverton	Bulgarmarsh Road (RI 177)	Brayton Road	199
Tiverton	Crandall / Stafford Road (RI 81)	Bulgarmarsh Road (RI 177)	Unsignalized

**Attachment 5  
CONTRACT 3 – NORTH**

*Burrillville, North Smithfield, Cumberland, Smithfield, Lincoln, Scituate, Johnston  
(27 High Hazard Intersections)*

<u>TOWN</u>	<u>PRIMARY ROADWAY</u>	<u>INTERSECTING ROADWAY</u>	<u>RIDOT SIGNAL NO.</u>
Burrillville	Bronco Highway (RI 102)	Douglas Pike (RI 7)	202
N. Smithfield	Great Road (RI 146A)	St. Paul Street	362
N. Smithfield	Eddie Dowling Highway (RI 146)	Sayles Hill Road	249
Cumberland	Mendon Road (RI 122)	Scott Road	349
Cumberland	Mendon Road (RI 122)	Angell Road (RI 116)	385
Cumberland	High Street (RI 114)	Dexter Street (RI 123)	99
Smithfield	Putnam Pike (US 44)	Cedar Swamp / Sanderson Rd(RI 5)	41
Smithfield	Putnam Pike (US 44)	Levi Lane	Unsignalized
Smithfield	Putnam Pike (US 44)	Austin Avenue	Unsignalized
Smithfield	Putnam Pike (US 44)	Esmond Street	546
Smithfield	Douglas Pike (RI 7)	Twin River Road	593
Lincoln	Woonsocket Industrial Hwy (RI 99)	Sayles Hill Road	Unsignalized
Lincoln	RI 99 Ramps	Eddie Dowling Highway (RI 146)	Unsignalized
Lincoln	George Washington Hwy (RI 116)	RI 146 Ramps	Unsignalized
Lincoln	Eddie Dowling Highway (RI 146)	Sherman Avenue	Unsignalized
Lincoln	RI 146 Ramps	Breakneck Hill Road (RI 123)	Unsignalized
Lincoln	Old Louisquisset Pike (RI 246)	Twin River Road	327
Lincoln	George Washington Hwy (RI 116)	Old River Road (RI 126)	158
Lincoln	Front Street / John Street (RI 123)	Lonsdale Avenue (RI 122)	96
Scituate	N. Scituate By-Pass (US 6)	Hartford Pike (RI 101)	485
Scituate	Danielson Pike	Chopmist Hill Road (RI 102)	8
Scituate	Hartford Pike (US 6/RI 101)	Danielson Pike	200
Johnston	Putnam Pike (US 44)	George Waterman Road (RI 128)	224
Johnston	Hartford Avenue (US 6)	Bishop Hill Road	647
Johnston	Hartford Avenue (US 6)	Reservoir Avenue	547
Johnston	Hartford Avenue (US 6A)	Atwood Avenue (RI 5)	416
Johnston	Greenville Avenue	Killingly Street (RI 128)	135

## Attachment 6

### **CONTRACT 4 – CENTRAL** *Cranston, Coventry, West Warwick, East Greenwich* *(23 High Hazard Intersections)*

<b>TOWN</b>	<b>PRIMARY ROADWAY</b>	<b>INTERSECTING ROADWAY</b>	<b>RIDOT SIGNAL NO.</b>
Cranston	Plainfield Pike (RI 14)	Plainfield Circle	Unsignalized
Cranston	Scituate Avenue (RI 12)	Phenix Avenue (RI 12)	173
Cranston	Scituate Avenue (RI 12)	Comstock Parkway	548
Cranston	RI 37 Terminus	Natick Avenue	503
Cranston	Reservoir Avenue (RI 2)	Huntington Expressway Ramps (RI 10)	Unsignalized
Cranston	Reservoir Avenue (RI 2)	Legion Way	437
Cranston	Reservoir Avenue (RI 2)	Park Avenue (RI 12)	436
Cranston	Reservoir Avenue (RI 2)	Aqueduct Road	430
Cranston	Reservoir Avenue (RI 2)	Garden City Drive	428
Cranston	New London Avenue (RI 2)	RI 37 Ramps	Unsignalized
Cranston	New London Avenue (RI 2)	Howard Avenue	130
Cranston	New London Avenue (RI 2)	Oaklawn Avenue (RI 5)	27
Coventry	Tiogue Avenue (RI 3)	Sandy Bottom Road (RI 33) / Arnold Road	101
Coventry	Washington Street (RI 33/117)	Knotty Oak Road (RI 116)	208
Coventry	Washington Street (RI 33)	W. Warwick Avenue (RI 117)	177
W. Warwick	Providence Street (RI 33/115)	New London Avenue	Unsignalized
W. Warwick	Providence Street (RI 33/115)	Toll Gate Road (RI 115)	214
W. Warwick	Legris Avenue (RI 117)	Main Street / W. Warwick Avenue	602
W. Warwick	Cowesett Avenue (RI 3)	Main Street / E. Greenwich Avenue	230
E. Greenwich	Division Street	First Avenue (RI 401)	Unsignalized
E. Greenwich	Main Street (US 1)	First Avenue (RI 401)	61
E. Greenwich	South County Trail (RI 2)	Middle Road	182
E. Greenwich	South County Trail (RI 2)	Frenchtown Road (RI 402)	149

## Attachment 7

### **CONTRACT 5 – WARWICK** *Warwick (18 High Hazard Intersections)*

<b>TOWN</b>	<b>PRIMARY ROADWAY</b>	<b>INTERSECTING ROADWAY</b>	<b>RIDOT SIGNAL NO.</b>
Warwick	West Natick Road	Warwick Mall Egress	346
Warwick	Bald Hill Road (RI 2)	East Avenue (RI 113)	15
Warwick	Main Avenue (RI 113)	Morse Avenue	Unsignalized
Warwick	Post Road (US 1A)	Fairfax Drive / George Street	160
Warwick	Post Road (US 1/1A)	Elmwood Avenue (US 1)	461
Warwick	Post Road (US 1)	RI 37 Ramps	Unsignalized
Warwick	Post Road (US 1)	Airport Road	460
Warwick	Post Road (US 1)	Coronado Road / T.F. Green Airport Egress	466
Warwick	Post Road (US 1)	Veterans Memorial Drive / Post Road Extension	114
Warwick	Post Road (US 1)	Centerville Road (RT 117) / Greenwich Avenue (RI 5)	63
Warwick	Warwick Avenue (RI 117/117A)	Airport Road / West Shore Road (RI 117)	410
Warwick	West Shore Road (RI 117)	Warwick Neck Avenue	65
Warwick	West Shore Road (RI 117)	Warwick Avenue (RI 117A)	389
Warwick	West Shore Road (RI 117)	Oakland Beach Avenue	33
Warwick	West Shore Road (RI 117)	Sandy Lane / Strawberry Field Road	157
Warwick	West Shore Road (RI 117)	Buttonwoods Avenue	14
Warwick	West Shore Road (RI 117)	Long Street	652
Warwick	Warwick Avenue (RI 117A)	Oakland Beach Avenue	104

## Attachment 8

### **CONTRACT 6 – SOUTH** *North Kingstown, South Kingstown, Narragansett, Westerly* *(17 High Hazard Intersections)*

<u>TOWN</u>	<u>PRIMARY ROADWAY</u>	<u>INTERSECTING ROADWAY</u>	<u>RIDOT SIGNAL NO.</u>
N. Kingstown	Ten Rod Road (RI 102)	Dean Avenue	Unsignalized
N. Kingstown	Colonel Rodman Highway (RI 4)	Oak Hill Road	531
N. Kingstown	Colonel Rodman Highway (RI 4)	West Allenton Road	270
N. Kingstown	Post Road (US 1)	Oakdale Road / Plaza Driveway	571
N. Kingstown	Tower Hill Road (US 1)	Colonel Rodman Highway (RI 4)	51
N. Kingstown	Boston Neck Road (RI 1A)	RI 138 Ramps	Unsignalized
S. Kingstown	Kingstown Road (RI 108)	Saugatucket Road / Curtis Corner Road	560
S. Kingstown	Kingstown Road (RI 108)	Charles Street	306
S. Kingstown	Tower Hill Road (US 1)	Old Tower Hill Road	Unsignalized
S. Kingstown	Cmdr. Perry Memorial Highway (US 1)	Post Road	Unsignalized
Narragansett	Boston Neck Road (RI 1A)	Bridgetown Road / South Ferry Road	320
Narragansett	US 1 Ramps	Point Judith Road (RI 108)	Unsignalized
Narragansett	Point Judith Road (RI 108)	Woodruff Avenue / South Pier Road	126
Westerly	Granite Street (US 1)	Cross Street	229
Westerly	Granite Street (US 1)	John Street	228
Westerly	Franklin Street (US 1)	Wells Street	227
Westerly	Post Road / Franklin Street (US 1)	Westerly By-Pass (RI 78) / Airport Road	290

## Attachment 9

### **CONTRACT 7 – METRO/ NORTH** *North Providence, Pawtucket (16 High Hazard Intersections)*

<b>TOWN</b>	<b>PRIMARY ROADWAY</b>	<b>INTERSECTING ROADWAY</b>	<b>RIDOT SIGNAL NO.</b>
N. Providence	Mineral Spring Avenue (RI 15)	Charles Street (RI 246)	81
N. Providence	Mineral Spring Avenue (RI 15)	Cooper Street	319
N. Providence	Mineral Spring Avenue (RI 15)	RI 146 NB Ramps	396
N. Providence	Mineral Spring Avenue (RI 15)	RI 146 SB Ramps	395
N. Providence	Mineral Spring Avenue (RI 15)	Woodward Road	155
N. Providence	Mineral Spring Avenue (RI 15)	Lexington Avenue	326
N. Providence	Mineral Spring Avenue (RI 15)	Douglas Avenue (RI 7)	49
N. Providence	Mineral Spring Avenue (RI 15)	Smithfield Road	156
N. Providence	Mineral Spring Avenue (RI 15)	Sunset Avenue	368
N. Providence	Waterman Avenue (RI 104)	Greystone Avenue	26
N. Providence	Smith Street (US 44)	Fruit Hill Avenue (West End)	499
N. Providence	Smith Street (US 44)	Fruit Hill Avenue (East End)	498
Pawtucket	Newport Avenue (US 1A)	Cottage Street	445
Pawtucket	Newport Avenue (US 1A)	Central Avenue	447
Pawtucket	Smithfield Avenue (RI 126)	Weeden Street	71
Pawtucket	Smithfield Avenue (RI 126)	Mineral Spring Avenue (RI 15)	35

## Attachment 10

### **CONTRACT 8 – METRO-SOUTH** *Providence, East Providence (17 High Hazard Intersections)*

<b>TOWN</b>	<b>PRIMARY ROADWAY</b>	<b>INTERSECTING ROADWAY</b>	<b>RIDOT SIGNAL NO.</b>
Providence	RI 146 NB Ramps	Branch Avenue	859
Providence	RI 146 SB Ramps	Branch Avenue	860
Providence	Smith Street (US 44)	Orms Street / Candace Street	853
Providence	Smith Street (US 44)	Chalkstone Avenue	854
Providence	Smith Street (US 44)	River Avenue	856
Providence	Dean Street	Kinsley Avenue	847
Providence	Dean Street	Promenade Street	848
Providence	Huntington Expressway (RI 10) Ramps	Union Ave	Unsignalized
Providence	US 6 Ramps	Killingly Street (RI 128)	Unsignalized
Providence	Broad Street (US 1)	Pearl Street	865
E. Providence	Warren Avenue (US 6)	Broadway	112
E. Providence	Warren Avenue (US 6)	Pawtucket Avenue (RI 114)	39
E. Providence	Highland Avenue (US 6)	Warren Avenue (US 6) / Skycrest Ave	111
E. Providence	Highland Avenue (US 6)	Catamore Boulevard	516
E. Providence	Pawtucket Avenue (RI 114)	Wampanoag Trail (RI 114)	237
E. Providence	Pawtucket Avenue	Veterans Memorial Parkway (RI 103)	56
E. Providence	Wampanoag Trail (RI 114)	Mink Road	506