

**DELAWARE DEPARTMENT OF TRANSPORTATION**

**REQUEST FOR PROPOSALS**



**Delaware Department  
of Transportation**

**CONTRACT No: 1723**

**VIRTUAL WEIGH STATIONS**

**Delaware Department of Transportation**

**PROPOSAL DUE DATE/TIME:**

2:00 PM Wednesday September 24, 2014

Proposals are to be delivered to Contract Administration, Delaware Department of Transportation, 800 Bay Road, Dover, Delaware 19903 by **2:00 p.m.** (local time) on proposal due date shown above.

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**REQUEST FOR PROPOSALS**  
**VIRTUAL WEIGH STATIONS**

**1. OVERVIEW AND AUTHORITY**

**1.1 Purpose**

The Delaware Department of Transportation desires a Virtual Weigh Station (VWS) system developed and installed at selected VWS sites in the State of Delaware as described in this Proposal. The purpose is to provide the Department with a VWS system that meets and exceeds the Department's technical and functional requirements described in Appendix A, is integrated with the State's Integrated Transportation Management System (ITMS), and supports future upgrades and expansion. The Department desires a proven solution that can be modified to meet the specific needs of the Department.

**1.2 Intent**

The intent of this RFP is to select a VWS system Vendor to develop VWS sites in Delaware as described herein. The VWS system Vendor will be responsible for VWS site design, implementation, integration, testing, and maintenance of VWS sites throughout the State of Delaware, including provisioning of all hardware, software, and ancillary equipment required for a fully functioning system. The Department seeks responses from Vendors that have demonstrated prior experience in implementing VWS systems of similar size and scope in other jurisdictions. The selected VWS system Vendor will be responsible for designing the installation site(s) and will be required to coordinate with a Department-approved Design Firm that will produce final design documents for advertisement in accordance with Department requirements. The VWS system Vendor will also be responsible for coordinating with Department selected Construction Contractor(s) for the construction and approval of infrastructure elements (e.g., foundations, poles, cabinets, conduits) that are installed to support the requirements of the VWS system as specified by the VWS system Vendor.

The Department anticipates that this intent will be served by selection of one Vendor to perform the requested services, but the Department reserves the right to issue multiple awards if it is deemed to be in the best interests of the Department.

**1.3 Scope**

This document contains general information relating to the procedural requirements in the preparation of proposals to the Department, performance requirements, and Vendor characteristics which must be met in order for a proposal to receive consideration. This document should not be considered an all-inclusive list of Vendor responsibilities, existing functionalities, stakeholders and requirements. The Vendors shall be responsible for any liability or cost incurred in connection with responding to this request for proposal. All Vendors shall fully bear the costs associated with pre-contract activities, including but not limited to, proposal preparation, negotiations, and/or proposed contracts.

#### 1.4 Authority

This Request for Proposals is issued pursuant to 29 Del. C. §6981 and §6982(b).

#### 1.5 Questions

Should proposers have any questions as to the intent or meaning of any part of this proposal, they must contact the Department as indicated below no later than the date specified in Section 1.15 to guarantee a reply. All questions and Department responses will be posted on the State's website periodically at <http://bids.delaware.gov>, and become part of the agreement. The Department will not identify the firms submitting questions. Questions should be submitted in the following format:

- Section number
- Paragraph number
- Page number
- Text of passage being questioned
- Question

It is the responsibility of the proposer to check the State's procurement website <http://bids.delaware.gov> often for addenda, questions and answers, and other information concerning this solicitation. All questions concerning this RFP must be submitted to the following e-mail address:

[DOT.profservices@state.de.us](mailto:DOT.profservices@state.de.us)

No other Department Division, or employee may be contacted, and responses from such other person shall have no effect on this solicitation. To ensure that written requests are received and answered in a timely manner, electronic mail (e-mail) correspondence is the preferred method of communication.

#### 1.6 Confidentiality and Integrity of Data

The Department is responsible for safeguarding the confidentiality and integrity of data in State computer files regardless of the source of those data or medium on which they are stored (e.g., electronic data, computer output microfilm (COM), tape, or disk). Computer programs developed to process State Agency data will not be modified without the knowledge and written authorization of the Department. All data generated from the original source data shall be the property of the State of Delaware. The control of the disclosure of those data shall be retained by the State of Delaware and the Department.

1.6.1 Submission of a response to the RFP indicates the Vendor understands its employees, individually, may be required to sign a confidentiality and integrity of data statement prior to beginning any work.

1.6.2 Any and all Department information, knowledge, or data accessed by the Vendor, or provided to the Vendor by the Department is confidential and the property of the State of Delaware. The Vendor will not directly or indirectly disclose or use it for purposes unrelated to the agreement at any time without first obtaining the written consent of the Department, unless the information, knowledge, or data is generally available to the public.

## 1.7 Security

Computer, network, and information security is of paramount concern for the State of Delaware and the Department of Technology and Information (DTI). The State wants to ensure that computer/network hardware and software does not compromise the security of its IT infrastructure. The SANS Institute and the Federal Bureau of Investigation (FBI) have released a document describing the Top 20 Internet Security Threats. The document is available at [www.sans.org/critical-security-controls/](http://www.sans.org/critical-security-controls/) for your review. The Vendor must guarantee that any systems and/or software provided by the Vendor are free of the vulnerabilities listed in that document.

## 1.8 Cyber Security Liability

It shall be the duty of the Vendor to assure that all of the products of its effort do not cause, directly or indirectly, any unauthorized acquisition of data that compromises the security, confidentiality, or integrity of information maintained by the State of Delaware. Vendor's agreement shall not limit or modify liability for information security breaches. In addition to all rights and remedies available to it in law or in equity, the State shall subtract from any payment made to Vendor all damages, costs and expenses caused by such information security breaches.

## 1.9 Compliance with State Law

1.9.1 It is the responsibility of the Vendor to give all notices and to obtain all permits and licenses, and to remit all taxes as required to perform work in the State of Delaware.

1.9.2 The Vendor must comply with all federal, state, and municipal legislation which may have application to any future work or performance of a contract.

1.9.3 The Vendor must comply with all state and federal legislation affecting conditions of work and wage rates including any Delaware Employment Standards Act and/or Workers Compensation Act or any other laws that impose obligations in the nature of employers' obligations.

## 1.10 Right to Amend

The Department reserves the right to amend or supplement this RFP, giving equal information and cooperation by way of an issued addendum to all Vendors as a result of any such amendment.

## 1.11 Liability for Errors

While the Department has used considerable efforts to ensure an accurate representation of information in this RFP, the information is supplied solely as a guideline for Vendors. The information is not guaranteed or warranted to be accurate by the Department nor is it necessarily comprehensive or exhaustive.

Vendors acknowledge and understand that it is their responsibility to obtain clarifications concerning this RFP, and that failure to understand the terms of the RFP will not be considered a valid reason for any resulting non-compliant rating.

**1.12 Use of the RFP**

The RFP document or any portion thereof may not be reproduced or used for any purpose other than the preparation of proposal submissions by the requesting Vendor without the expressed, written consent of the Department.

**1.13 Vendor's Expenses**

Vendors are solely responsible for any expenses they incur in preparing, delivering or presenting a response to this RFP, and for subsequent negotiations with the Department, if any.

**1.14 Timeline**

Provided below is a list of critical dates and actions. These dates are subject to change. Notice of changes will be posted on the State of Delaware Bid Solicitation Directory at [www.bids.delaware.gov](http://www.bids.delaware.gov) under this RFP. It is the responsibility of all interested Vendors to monitor this site for any changing information prior to submitting your proposal.

Action	Date	Local Time
Final Date to Submit Questions in time to receive answers	09/12/2014	4:30PM
Proposal Submission Date	09/24/2014	2:00PM
Vendor Presentations week of *	10/27/2014	TBD
Anticipated Award	01/07/2015	

\*NOTE: If necessary, Department requested Vendor presentations are anticipated to be held during the week listed above. Vendors selected to participate in presentations will be notified via email.

**1.15 Formal Contract**

The selected Vendor shall promptly execute a contract prepared by the Department that shall incorporate the terms of this RFP within twenty (20) days after award, unless an extension of time is mutually agreed upon by both parties. The Vendor is not to begin any work prior to receipt of a Notice to Proceed (NTP) from the Department’s Contract Administration group. The proposal submitted by the Vendor shall become a part of the contract.

**1.16 Contract Terms**

The following contract terms shall be included in the Vendor’s contract with the Department:

**1.16.1 Hold Harmless**

The Vendor agrees that in the event it is awarded a contract, it shall indemnify and otherwise hold harmless the State of Delaware, its agents and any employees from any and all liability, suits, actions, or claims, together with all costs, expenses for attorney’s fees, arising out of the Vendor’s, its agents’ and employees’ performance of work or services in connection with the contract.

1.16.2 **Insurance**

The Vendor recognizes that it is operating as an independent vendor and that it is liable for any and all losses, penalties, damages, expenses, attorney’s fees, judgments, and/or settlements incurred by reason of injury to or death of any and all persons, or injury to any and all property, of any nature, arising out of the Vendor’s negligent performance under this contract, and particularly without limiting the foregoing, caused by, resulting from, or arising out of any act of omission on the part of the Vendor in their negligent performance under this contract.

The Vendor shall maintain such insurance as will protect against claims under worker’s compensation act and from any other claims for damages for personal injury, including death, which may arise from operations under this contract. The Vendor and its officers, employees, and agents are independent vendors and are not employees of the State of Delaware.

The Vendor shall secure and furnish to the Department a certificate of insurance evidencing regular liability, property damage, worker’s compensation, and automobile insurance coverage from an insurance company authorized to do business in the State of Delaware. The State of Delaware Department of Transportation shall be named a certificate holder on the certificates of insurance. The insurance agency shall provide the Department with 30 days’ notice in the event the policy is canceled or not renewed.

During the term of this contract, the Vendor shall, at its own expense, carry insurance minimum limits as follows:

a.	Comprehensive General Liability	\$1,000,000
b.	Medical or Professional Liability	\$1,000,000/\$3,000,000
c.	Misc. Error & Omissions	\$1,000,000/\$3,000,000
d.	Product Liability	\$1,000,000/\$3,000,000
e.	Automotive Liability Insurance covering all automotive units in the work with limits of not less than \$100,000 each person and \$300,000 each accident as to bodily injury and \$25,000 as to property damage to other	
f.	The Vender shall maintain such insurance as will protect against claims under Worker’s Compensation Act and form any other claims for damages for personal injury. The Vendor is an independent contractor and is not an employee of the State of Delaware.	

NOTE: The State of Delaware shall not be named as an additional insured.



**1.16.3 Indemnification**

Notwithstanding the information contained above, the Vendor shall indemnify and hold harmless the State of Delaware, the Department, and its employees from contingent liability to others for damages because of bodily injury, including death, that may result from the Vendor's negligent performance under this contract, and any other liability for damages for which the Vendor is required to indemnify the State, the Department and its employees under any provision of this contract.

The Vendor shall indemnify, defend, and hold harmless the State of Delaware and the Department, their agents, officers and employees from and against all claims, damages, losses and expenses, including court costs and reasonable fees and expenses of attorneys arising out of or resulting from any adjudication by a third party against Department holding that any services performed under this contract infringe a copyright or other intellectual property right or violate a trade secret.

**1.16.4 Discrimination**

In performing the services subject to this RFP the Vendor agrees that it shall not discriminate against any employee or applicant for employment because of such individual's race, marital status, genetic information, color, age, religion, sex, sexual orientation, or national origin. The Vendor shall comply with all federal and state laws and policies pertaining to the prevention of discriminatory employment practices. Failure to perform under this provision constitutes a material breach of contract.

**1.16.5 Certification**

The Vendor certifies that it has not employed or retained any company or person other than a bona fide employee working for the selected firm, to solicit or secure the contract and that he has not paid or agreed to pay any company or person other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift or any other consideration, contingent upon or resulting from the award or making this contract. For breach or violation of certification, the Department shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

**1.16.6 Contract Termination and Suspension**

The Department may terminate the contract at any time upon written notice to the Vendor. In that event, all finished or unfinished documents, data, studies, drawings, maps, models, photographs, reports, or other material prepared by the Vendor in the performance of the contract shall, at the option of the Department, become Department property, and the Vendor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents and other materials which are usable to the Department.

The Department reserves the right to suspend the procurement process or the contract due to funding or other constraints that may temporarily impact the Department's ability to complete the procurement process and/or project implementation.

**1.16.7 Contract Documents**

This RFP (including any written questions and Department responses), the executed Contract between the Department and the Vendor, and the Vendor's proposal to the Department, shall constitute the Contract between the Department and the Vendor. In the event there is any discrepancy between any of these contract documents, the following order of documents govern so that the former prevails over the later: Contract, then RFP (including any addenda to the RFP and any written questions and answers), then oral presentations to the Department, then Vendor's proposal, then the purchase order(s) issued by the Department. No other documents shall be considered. These documents contain the entire contract between the Department and the Vendor.

**1.16.8 Laws of Delaware**

The Laws of the State of Delaware shall apply, except where Federal Law has precedence. The Vendor consents to jurisdiction and venue in the State of Delaware.

**1.16.9 Business License**

The Vendor must have a valid Delaware business license in order to receive payment for services.

**1.16.10 Contract Scope**

If the scope of any provision of this Contract is too broad in any respect whatsoever to permit enforcement to its full extent, then such provision shall be enforced to the maximum extent permitted by law, and the parties hereto consent and agree that such scope may be judicially modified accordingly and that the whole of such provisions of the Contract shall not hereby fail, but the scope of such provisions shall be curtailed only to the extent necessary to conform to law.

**1.16.11 Employee Solicitation**

The Vendor shall not solicit any Department employee or vendor for employment during the period of this contract. The Vendor shall not engage on this project on a full-time, part-time or other basis during the period of this contract any retired or former employees of the Department without the written consent of the Department. The Vendor shall cause the foregoing provisions to be inserted in any subcontract for any work covered by this contract so that such provisions shall be binding upon each vendor acting as a subcontractor to the awarded Vendor, provided that this shall not apply to subcontracts for standard commercial supplies or materials.

#### 1.16.12 **Contract Work**

Should the Vendor fail to furnish any item or items, or fail to complete the required work included in the contract in an acceptable timeframe, the Department reserves the right to withdraw such items or required work from the operation of the contract without incurring further liabilities on the part of the Department.

1.16.12.1 If the Department finds that the Vendor has made errors in completed project deliverables such that the deliverable is not accepted by the Department in accordance with the criteria specified, the Vendor shall make such revisions as necessary. The Department's project manager shall make this determination. The Vendor shall correct the errors so that the deliverables are acceptable to the Department's project manager. The errors shall be corrected without cost to the Department.

1.16.12.2 If the Department and the Vendor agree that any work not identified or reasonably envisioned in the original scope of work, but integral to this project needs to be performed, a proposal shall be prepared by the Vendor. The cost of the additional work must be agreed to by both parties. The contract shall be amended to include the proposal and the Department's acceptance.

#### 1.16.13 **Disclosure, Confidentiality**

The contract shall include disclosure provisions prohibiting the Vendor from divulging any information obtained during the work activities for the Department. Every member of the Vendor's team that shall require access to the State of Delaware or Department networks must sign and comply with the State's Acceptable Use Policy, security, and confidentiality policies. The Department shall have final determination if individuals are acceptable.

#### 1.16.14 **Payment Terms**

Payments will be authorized upon completion of pre-approved project milestones. The Department must concur and certify satisfaction of each milestone prior to payment authorization. Invoices shall be paid within 30 days of approval. Procurement of any goods, services or documents not specifically listed in the contract shall require prior written approval from the Department. All costs are subject to audit review by the Department.

For Phase 1 (Pilot VWS Sites) and Phase 2 (Future VWS Sites), the Department has established the following payment milestones, with corresponding recommended payment thresholds for each:

- DTI/Architecture Review Board (ARB) Requirements and Design Coordination (up to 15% of phase price)
- Factory Acceptance/Equipment Delivery (up to 30% of phase price)
- Construction, Installation & Integration (up to 60% of phase price)

- Demonstration Testing (up to 80% of phase price)
- Final Documentation (up to 90% of phase price)
- Completion of Warranty Period (up to 100% of phase price)

Vendor may propose an alternative milestone payment schedule which shall be subject to final negotiations and approval by the Department. Payment for maintenance services will be made in monthly installments, beginning upon completion of the warranty period.

The Vendor shall provide a spreadsheet to accompany each billing. The information reported shall be on a cumulative basis with each invoice submitted for the duration of the contract and shall include, but not be limited to, the task or milestone, a brief description of the current project status, explanation of expenses, amount billed to-date for each milestone, and the amount of funding remaining under the existing contract limit. The Vendor must provide sufficient billing documentation to allow the Department to properly code expenditures, and provide sufficient documentation and audit trail.

#### 1.16.15 **Access to Records**

The Vendor shall maintain all books, documents, payrolls, papers, accounting records and other evidence pertaining to this contract and make such materials available at its offices at all reasonable times during the period of this contract and for a minimum period of three years after final payment by the Department and shall make the material available upon request for inspection and audit by the Department. The Vendor is required to comply with all reasonable requests and supply information and documentation pertaining to this project to Department authorized auditors.

#### 1.16.16 **Excluded Parties**

Jacobs Engineering Group (Jacobs) has assisted in the preparation of this solicitation and may assist Department during the evaluation of the responses. Jacobs has been excluded from applying for this solicitation. Any contact from proposing Vendors to Jacobs in relation to this procurement will disqualify the Vendor(s) proposal unless addressed in writing in advance by the Department.

#### 1.16.17 **Standard Practices**

The Vendor(s) shall be responsible for ensuring that all products and deliverables furnished to the State are coordinated with DTI and are consistent with practices and standards promulgated by DTI. If any service, product or deliverable furnished by the Vendor(s) does not conform to DTI standards and/or general Practices, the Vendor(s) shall, at its expense and option either (1) replace it with a conforming equivalent or (2) modify it to conform to DTI standards and/or general practices. See Section 4 and Appendix F for additional information regarding DTI requirements.

## **2. BACKGROUND INFORMATION**

### **2.1 Project Overview**

The Department is issuing this RFP to acquire, install, integrate, test, and maintain Virtual Weigh Stations (VWS) at multiple locations throughout the State. VWS are becoming a key component of many states' roadside commercial vehicle enforcement programs. Depending on their design, VWS sites use roadside technologies to support enforcement of truck size and weight regulations, as well as commercial vehicle safety and credentialing regulations. These systems will expand the geographic scope and effectiveness of Delaware's truck size and weight enforcement program by monitoring and screening commercial vehicles on routes that bypass fixed inspection stations, as well as in heavily populated urban or geographically remote locations where it may be difficult to deploy enforcement personnel. Data from VWS sites can also assist in effectively targeting enforcement resources on roadways where overweight trucks are known or are suspected to operate.

The VWS sites can help monitor statewide compliance rates and provide a deterrent to Commercial Motor Vehicles (CMVs) that use bypass routes for the purposes of violating state weight and safety regulations. Occasional and habitual offenders can be identified remotely and pulled over for targeted inspections. This pre-screening approach has significant advantages over a traditional random selection approach by providing law enforcement officers the necessary information to make an informed decision about additional inspection for a targeted CMV.

The Department is an active participant in the federal Commercial Vehicle Information Systems and Networks (CVISN) Program and the Department's approved CVISN Program Plan and Top Level Design includes provisions and funding for the development of VWS sites in the State of Delaware. As part of the State's CVISN Program, the Department, through coordination with the Delaware State Police Commercial Vehicle Enforcement Unit (DSP CVEU), is preparing to construct VWS sites at various locations throughout the State. This deployment may include a mix of technologies, e.g., Weigh-in-Motion (WIM) sensor, License Plate Reader (LPR), Automated USDOT Number Reader (AUR), over-height detector, site activator, as well as both fixed and semi-permanent units. Currently, there are plans for up to six (6) fixed VWS locations, and the State is interested in pursuing, as an option, a semi-permanent set-up that includes a fixed WIM sensor and cabinet, along with portable equipment (e.g., LPR, AUR, overview camera and over-height detector) that can be transported and connected to the fixed WIM sensor and cabinet to provide a fully functioning VWS at each of the semi-permanent locations.

The VWS system shall be based on existing proven commercial-off-the-shelf (COTS) technology and customized, web-enabled COTS software. It shall provide a standard graphical user interface that is easy to use by law enforcement personnel monitoring VWS-enabled bypass routes in the State. It shall also provide a means to exchange data, in real-time, with a remote system, either through database replication, web services, or other data synchronization method.

## 2.2 Project Goals

The goals and objectives of Delaware's VWS Project, as stated in the Delaware CVISN Program Plan and Top Level Design, are summarized as follows:

- 2.2.1 ***Monitor commercial traffic in areas where fixed, staffed sites are not practical or are not warranted*** – In addition to providing data for immediate enforcement of size and weight regulations, VWS will also allow DSP to monitor roadways where manned enforcement stations are not practical or cost-effective.
- 2.2.2 ***Target enforcement activities*** – VWS will enable enforcement officers to identify trends in weigh station bypass, oversize/overweight movements, and other vehicular traffic patterns. This will allow the DSP to conduct enforcement activities at times and in areas where violations are more likely to occur.
- 2.2.3 ***Expand the enforcement net*** – The added coverage provided by VWS and mobile units will enable the DSP to enforce vehicle regulations over a broader geographic area.
- 2.2.4 ***Provide cost-effective truck route and bypass monitoring*** – A key concern associated with size and weight enforcement is the practice of overweight commercial vehicles using routes that bypass fixed enforcement stations. VWS will allow DSP to monitor more roadways, and in particular routes that are typically used to bypass fixed weigh stations.
- 2.2.5 ***Promote improved compliance with weight regulations*** – The VWS will initially allow the DSP CVEU to apprehend violators more efficiently; over time, the VWS should serve as an additional deterrent to violation of size and weight regulations.

## 2.3 Conditions

The following conditions exist for this RFP:

- 2.3.1 The new system must interface with CVIEW and other State and Federal systems through web services.
- 2.3.2 The State of Delaware will own the new system, have a license for all system software, and may eventually maintain the new system.
- 2.3.3 A client/server or web based platform utilizing proven technologies such as .Net or Java is preferred.
- 2.3.4 An industry standard relational database such as SQL Server or Oracle is preferred.
- 2.3.5 The system and corresponding data will be hosted and maintained by the State of Delaware within its existing network.
- 2.3.6 The existing Department network and leased wireless service will be utilized to support the system. Department network assets include, for example, the

State's fiber optic network, 700 MHz wireless system and 4.9 GHz wireless system.

- 2.3.7 Vendor will be responsible for providing all hardware and software required to support the new system. Vendor agrees to work with the State to coordinate the additional work outside of the scope of this RFP to fully implement the VWS system. The State may utilize existing construction service contracts or solicit new bids for the infrastructure work required for full implementation.
- 2.3.8 All VWS devices that collect data shall be equipped with a standard 10/100 Base-T Ethernet port with RJ-45 connector to support the direct connection to The Department's or State's communications network or a RS-232/RS-485 serial communications port to support CDMA/LTE , fiber, 4.9 GHz, etc. communications.
- 2.3.9 The system will meet all applicable federal and State requirements.

### **3. SCOPE OF WORK**

#### **3.1 Project Approach**

The selected Vendor shall be responsible for coordination with Department-approved Design Firm on VWS site design, and Department Construction Contractor(s) on infrastructure construction for each VWS site as described herein. The Vendor shall be responsible for the installation of all equipment furnished under this contract. All equipment provided shall be new; refurbished or reconditioned equipment shall not be acceptable. The Vendor shall provide on-site field engineering to supervise, and technicians to perform the installation. All work shall be performed in a manner adapted to local conditions and best calculated to promote quality installation, to secure safety to life, person, and property, to assure a safe and continuous operation of the roadway under consideration, and to reduce to a minimum any interference with the public and with other Vendors on or about the property. The Vendor shall provide preliminary documentation on installation practices, tests, and quality control procedures of each component of the VWS system at the pre-construction meeting. The Vendor shall provide final documentation on the results of the application of these installation practices, tests, and quality control procedures after completion of the installation at each site. The Vendor shall provide all required documentation and live witness testimony for use in civil or criminal enforcement proceedings in which the data produced by the VWS systems is intended for use as evidence.

#### **3.2 Project Management Requirements**

The Vendor shall be responsible for meeting all of the Project Management requirements specified in this RFP. This shall include, without limitation:

- 3.2.1 Development of project management deliverables (e.g., Project Management Plan, Project Schedule, Quality Assurance Plan). See Section 3.13 for additional information about project documentation requirements.

- 3.2.2 Progress reporting. Progress reports shall be submitted on a monthly basis and shall include milestone schedule status, progress, plans, problems and proposed resolutions to any identified problems.
- 3.2.3 Project meetings. Vendor Project Manager shall convene weekly project coordination meetings as necessary for the duration of the project. Vendor shall also be required to participate in DTI and ARB meetings on an as-needed basis.
- 3.2.4 Project invoicing shall be in accordance with the payment terms outlined in RFP Section 1.16.14.

### 3.3 **Project Design Requirements**

The Vendor shall work with a Department-approved Design Firm that will be engaged by Department through existing Delaware task order agreement, to provide final site design for a complete system, encompassing the roadway and roadside screening elements and portable equipment to meet the goals identified in Section 2.2. Vendor shall work with Department Design Firm to provide the following:

- 3.3.1 Design all roadway related infrastructure in accordance with applicable sections of the Department's Standards for Roadway Construction, as well as all applicable local, state and federal regulations.
- 3.3.2 Design erosion and sedimentation controls as necessary.
- 3.3.3 Design utility accommodation and services in accordance with National Electric Code (NEC) and utility requirements as necessary.
- 3.3.4 Design above-ground support structures in accordance with the latest American Association of State Highway and Transportation Officials (AASHTO) Design Guidelines.
- 3.3.5 Design Maintenance and Protection of Traffic (MPT) requirements for all work to be conducted within the highway right-of-way.
- 3.3.6 Design all proposed signage in accordance with Delaware Manual on Uniform Traffic Control Devices (MUTCD).
- 3.3.7 Design accessibility in accordance with the standards of the State of Delaware Architectural Accessibility Board.
- 3.3.8 Design roadside requirements associated with portable applications, as necessary.
- 3.3.9 Design interface with potential PrePass system at each VWS site.

Vendor shall utilize modular components to the extent practical, specifically those bearing the Underwriters Laboratories (UL) or Conformité Européenne (CE) mark. Vendor shall provide short range communications, where required, in accordance with Federal Communications Commission (FCC) licensing and interference requirements. Vendor shall specify and design equipment to withstand electrical, magnetic and radio



interference to the extent practical. Vendor shall specify and design field components to withstand temperatures ranging from -40 degrees F to 135 degrees F.

### **3.4 Typical VWS Site Concept of Operations**

The typical VWS site shall consist of weigh-in-motion, overheight detection, LPR cameras, site activation system, overview camera, site server PC, remote client, and necessary infrastructure. The general operational concept is as follows:

- 3.4.1 Vehicle passes a site activator (loops or radar-based sensor) to activate the WIM system.
- 3.4.2 Vehicle crosses the WIM scales; vehicle is weighed; weight limits (thresholds) are checked (e.g., gross weight, single axle weight, tandem axle weight).
- 3.4.3 Vehicle passes through overheight detectors, which determine whether the dimensions of the vehicle are within vehicle classification limits.
- 3.4.4 Vehicle passes LPR (and optional Automatic USDOT Number Recognition (AUR) system); vehicle is identified through optical character recognition of the license plate (and USDOT Number); vehicle ID is run through safety and credential screening systems to identify potential credentials and/or safety violations.
- 3.4.5 If the vehicle exceeds the thresholds for size and/or weight and/or potential safety/credential violations are identified, a vehicle record is stored and the overview image camera takes a picture. The size and weight threshold information is summarized on a vehicle record with the digital image, as is the image of the vehicle license plate (and USDOT Number) as well as any flagged violations. If the vehicle does not exceed the thresholds and no violations are identified, only a vehicle record is stored.
- 3.4.6 For vehicles that are flagged for safety violations and/or exceed the threshold size/weight limits, the vehicle record and digital images are transmitted to the VWS Central Server. This information is uploaded to the internet where DSP CVEU officers located downstream from the VWS location can access the information through a secure web site via wireless connection, allowing them to identify potential violators.
- 3.4.7 The suspected violator, identified by the vehicle image, may be pulled over to an area for inspection and static weighing.
- 3.4.8 Static weighing may be accomplished via portable scales and/or the suspected oversize/overweight vehicle could be escorted to the nearest fixed weigh station/inspection facility for official measurement (size and weight), credential check and vehicle inspection.

### **3.5 Concept for Pilot VWS Sites at SR-1 and US-13**

Pilot VWS Sites shall be developed on SR-1 and US-13 northbound in the vicinity of Odessa that operate in conjunction with the current Blackbird weigh station. The Pilot Sites shall include all of the typical site components: weigh-in-motion, overheight

detection, LPR cameras, site activation system, overview camera, site server PC, remote client, and necessary infrastructure. The pilot site concept at SR-1 and US-13 involves escorting suspected violators and/or directing them via Variable Message Signs (VMS) to the Blackbird weigh station for static weighing, additional inspection and potential offloading. The system shall be interoperable with the existing Mettler-Toledo static scale (model number 7541 with indicator IND780) to provide auto-calibration and software interoperability.

### **3.6 Equipment Deliverables**

- 3.6.1 Delivery point: Vendor shall be responsible for providing and maintaining a secure delivery point for each site for all hardware, materials and equipment to be provided by the Vendor.
- 3.6.2 All materials, equipment, etc. shall be owned by the Vendor until the site is completely installed and operational and has been tested and accepted by the Department.

### **3.7 Construction**

- 3.7.1 Vendor shall be responsible for identifying general construction requirements for each VWS site and all of the site components. For example, Vendor shall describe anticipated requirements for placement of the WIM devices in the right-of-way, the number, size and general location of foundations and poles for devices and equipment cabinets, as well as anticipated grounding requirements. Vendors shall note that Department prefers an approach that minimizes roadway impacts and infrastructure requirements.
- 3.7.2 Vendor shall be responsible for coordination with Department-approved Construction Contractor(s) for site construction requirements, including, without limitation, installation of foundations, poles, conduits, grounding system, signs, guardrails, roadway modifications and other construction required for the installation of the Vendor's VWS equipment.
- 3.7.3 Vendor shall be responsible for verifying that the work performed by the Department's Construction Contractor has been completed in accordance with the Vendor's requirements, and as reflected in the Detailed Design Plans prepared by the Department's design firm under the Vendor's direction.
- 3.7.4 The Department's Construction Contractor shall be responsible for ensuring that all existing utilities are properly marked prior to the commencement of any construction activities, and shall be responsible for repairing and/or replacing any existing utilities that are damaged or disrupted during construction at no additional cost to the Department.
- 3.7.5 The Department Design Firm shall verify that all permits are in place (e.g., environmental approvals, right-of-way (ROW) approvals, lane closure and MPT plans).

### **3.8 Installation**

- 3.8.1 Equipment shall only be installed in accordance with installation plans that have been previously approved by the Department. Installation shall not

commence until appropriate installation and MPT plans have been reviewed and approved by the Department. The Vendor shall provide all mounting hardware, cables, plugs, and accessories and all incidentals necessary to complete the work.

- 3.8.2 Site availability for equipment installation - The Department will make its best endeavor to have sites available for installation, however the Department shall not be held responsible for costs associated with any necessary and/or unforeseen unavailability of sites.
- 3.8.3 Each VWS installation shall be planned such that the minimum disruption of service shall occur to the operations of the Department. The installation plan shall consist of four steps: submission of schedule, description, and plans of the work to be accomplished; approval by the Department; accomplishment of the equipment installation; and inspection/testing/approval of the work by the Department or its representatives.
- 3.8.4 The Vendor shall review each site to establish equipment requirements, cable paths and layouts, mounting details, modification requirements, and any other particular site requirements such that all necessary information is gathered for each site installation and provided in the plans.
- 3.8.5 The Vendor shall coordinate with the Department's Design Firm to develop the detailed Site Installation Plan(s), and installation drawings for each site as part of the design submission for each site. Vendor shall supply Preliminary Plans at least ninety (90) days prior to the start of installation. The Department's Design Firm will incorporate Vendor Plans in the Detailed Design submission. The Detailed Design plans shall include equipment layout drawings and elevations, equipment, material, and catalog sheets for technical components.
- 3.8.6 The Vendor shall provide a preliminary schedule showing proposed major and minor milestone accomplishments and projected dates for these accomplishments. Final design plans and schedules shall be submitted to the Department at least thirty (30) days prior to the scheduled start of any installation.
- 3.8.7 The Vendor shall assign a Project Manager (PM) to facilitate and oversee the entire project. The Project Manager shall be the primary contact for the Department for all items concerning the installation, construction, testing, acceptance and production phases of the project. The Vendor must certify that this Project Manager has the authority to make significant and critical decisions relevant to the project and has management access to resolve problems beyond their direct authority.
- 3.8.8 The Vendor's Project Manager must be on site during critical points of each VWS site installation.
- 3.8.9 The Vendor shall not commence any installation work at any site until written notice has been received of Department approval of the final design.

- 3.8.10 Each installation shall be accomplished in accordance with the relevant final design. Any deviations or changes to each relevant final design shall be coordinated with the Department and agreed to by the Department in writing.
- 3.8.11 Equipment installation shall be done in a professional and workmanlike manner and in accordance with all applicable Delaware codes and standards and good engineering practices.
- 3.8.12 All equipment racks and cabinets, and individual equipment shall be properly grounded. In this connection, the Vendor is to take special note of the presence of high ground currents in the vicinity of energized rail tracks and similar ground operating conditions, and take appropriate steps to avoid ground loops and consequent equipment damage. Note that no “all system” grounding will be accepted. Each component which requires grounding shall have its own individual ground rod(s) as required and shall not be electrically bonded to other components to meet the ground resistance requirements.
- 3.8.13 All underground cable ducts shall be installed in accordance with the Department’s Standards for Roadway Construction and marked with marking tape. All bored conduits shall be marked with flexible delineator posts adjacent to roadway crossings for future identification.
- 3.8.14 All equipment shall be connected to suitable breaker panels. All electrical wiring and connections shall be properly made and installed, and properly terminated.
- 3.8.15 The Vendor shall work with the Department’s Design Firm to provide electrical drawings that indicate the locations of each component of the VWS system, location of wiring runs, conduit and interconnect points, and other pertinent details, including the submission of a grounding plan for each location. Loose wiring or wiring not properly contained in a trough, conduit or raceway shall not be acceptable.
- 3.8.16 The Vendor shall conduct the installation of equipment such as to ensure the minimum of disruption to Department operations. Lane closures shall be accomplished with traffic control provisions required by Department Standard Specifications. The Department shall be given advance notification of at least five (5) business days of the time and duration of the proposed MPT and any and all lane closures. Detailed MPT plans shall be developed by the Department’s Design Firm and approved by the Traffic Office for each location. In no circumstances shall any Department equipment be placed out of service without prior written permission from the Department. The Vendor shall coordinate with the appropriate Department and County entity.
- 3.8.17 When proposed changes are initiated or delays are expected to occur, the Vendor shall communicate these changes and/or delays to the Department in writing, along with an estimated schedule impact, schedule revision and remediation steps, if any.
- 3.8.18 Repair of Damage – The Vendor shall be responsible for the installation of all equipment, systems, and parts thereof. Any damage caused by the Vendor shall

be reported immediately to the Department, and damage so caused shall be repaired by the Vendor at the expense of the Vendor. If the Vendor fails to repair the damage within 30 days of its occurrence, the Department may seek to undertake the repairs and withhold such moneys from any balance due and/or seek reimbursement to cover the repair costs.

- 3.8.19 After installation or modification, the Vendor shall ensure that the site is clean and free of any debris, trash, metal and other shavings, grease marks and any water logging. Each site shall be restored to its original condition using seeding, mulching, removal of erosion and sedimentation control devices, etc.
- 3.8.20 The Vendor shall be responsible for installing, correcting, and updating any required software, databases and/or hardware provided by the Vendor. The Vendor shall work closely with the Department and other users to determine the scope and extent of any correctional work required to ensure complete and seamless integration in the provided system.
- 3.8.21 The Vendor shall provide an 'as built' equipment, software and hardware checklists for each individual VWS site that lists all components installed, removed, and/or modified at each site. For each component, the model, type, and serial numbers shall be provided as appropriate. The checklist shall also show progress and completion of all tests and appropriate acceptance signature blocks. The satisfactory accomplishment of this checklist shall be an inherent part of the quality control process.

### **3.9 Testing**

- 3.9.1 This Scope of Work (SOW) requires the completion of all work to the satisfaction of the Department. The Vendor shall carry out all tests required to demonstrate compliance with this SOW, the functional and technical requirements, and that the VWS system is fully operational in all respects. As required, the Vendor shall provide an overall Acceptance Test Plan and Component Calibration Test Plan(s) at the time of the Final Design Submission, and individual Acceptance Test Procedures (ATP) for individual components of the system at least thirty (30) days prior to the test date(s). After Department approval, these ATP tests shall be conducted in conjunction with Department representatives and the results documented. Once the entire VWS system is installed and operational, On-Line Demonstration and Production Testing shall be conducted in conjunction with the Department and DSP (designated users and operators of the system) at each site. After the completion of all tests, and the delivery of all contract deliverables, Final Acceptance shall occur.
- 3.9.2 The Vendor shall be responsible for providing an IT Systems Test Plan in a State-approved functional test environment. IT system testing shall be conducted for the Test System and Production System. Vendor shall be required to be on-site during development and installation of the test and production environment.

- 3.9.3 Equipment and subsystem component power on and associated testing shall be accomplished by the Vendor after the system is installed. As equipment is brought on line, the Department and associated inspection personnel shall be kept updated about progress and next steps in the acceptance testing process.
- 3.9.4 The Vendor shall be responsible for initial setup, data loads, configuration and modification of the system in accordance with the requirement for a complete turnkey system. The Vendor is responsible for installing a fully operational system at the contract price.
- 3.9.5 WIM calibration and testing with certified weight truck(s) shall be observed and accepted by Department engineers and/or their designated personnel. There shall be no exceptions to this requirement.
- 3.9.6 On-line Demonstration and Production Testing – This testing is to be performed along with Department and DSP personnel prior to the commencement of the thirty (30) day testing and acceptance period. The purpose of this testing is to provide definitive proof that the VWS system is providing the necessary functionality at the accuracy and quality listed herein, and that the system is capable of meeting the long-term reliability and performance requirements of this RFP. Testing of all equipment and the system furnished and installed under this RFP shall be conducted by, and be the responsibility of the Vendor. The Department reserves the right to perform any inspections and witness tests deemed necessary to ensure that the system performs to the specifications listed in this RFP (see in particular Appendix A). At a minimum, the following tests shall be performed. The Vendor shall submit detailed test procedures to the Department for approval prior to any testing being performed and witnessed. Provide step-by-step procedures for site component configuration and system installation and operation. The procedures shall be provided to the Department at least thirty (30) days prior to the start of testing for each site. These procedures shall contain:
- WIM performance under various CMV load, axle and speed configurations.
  - Graphical User Interface (GUI) stability and functionality, meeting common look and feel (CLF) requirements.
  - GUI display performance for violation and alarm conditions as specified under operational configuration thresholds, and stability of GUI information, image, and alarm overlays.
  - Daytime camera and image performance under continuous traffic conditions.
  - Nighttime camera and illumination performance under continuous traffic conditions.
  - System recovery (CMV controller/loop detector) under stop and go traffic conditions.
  - Quality of images multicast to user laptops and/or PCs.

- Stability of application using all browsers and operating systems mentioned herein.
- System monitoring status and diagnostic capabilities using remote access tools and remote reboot capabilities for hung applications and/or hardware.
- Verification of all reporting, data collection, and archival functions including backups.

3.9.7 Thirty Day acceptance testing period: Following the on-line demonstration testing, a thirty (30) day production testing and acceptance period shall be observed. During this test the VWS system at each site shall operate normally, 24 hours a day, 7 days a week. Department and law enforcement personnel shall operate the system during this period. During this production testing period, the system, as well as all of its individual components shall operate within the specified level of functionality and reliability and shall operate to the satisfaction of the Department without unresolved, intermittent or sporadic (unplanned) failures. If the system experiences three separate or two of the same failures within the 30 consecutive day period a system mitigation plan will be required to identify the issue(s), provide resolutions, and anticipated schedule for completion of the repairs for Department approval. After completing the required revisions, the complete acceptance period shall be repeated until the system is capable of performing uninterrupted.

3.9.8 A Final Acceptance Test Report shall be provided to the Department by the Vendor for signature approvals upon successful completion of the acceptance testing period. This report shall list all the tests performed, all the deliverables provided and approved, all hardware delivered (equipment list), all software delivered (all COTS software licenses), user manuals, training manuals, and warranty delivery to the Department for the VWS site under test.

### 3.10 Training

3.10.1 The Vendor shall provide two (2) training modules – End User Training and IT/Systems Training. The End User Training is intended for DSP CVEU officers that will be operating the site. The IT/Systems Training is intended for technical personnel (Department and DTI) that will be supporting the VWS system. The Vendor shall provide four (4) sessions of the End User training on the use, operation and routine maintenance of the VWS system and two (2) sessions of IT/Systems Training on the operation, support and maintenance of VWS system. The first training session for each module shall occur at least two (2) weeks prior to the start of on-line demonstration testing. Subsequent training session shall be scheduled on an as-needed basis at a mutually agreeable time during the warranty/maintenance period. These training sessions shall provide an overview and ‘hands-on’ training on VWS usage, result interpretation, general usage guidelines and requirements, data retrieval, reporting capabilities, and customized report generation. The class size at each session will be approximately 8-10 personnel and the duration will be a minimum of four (4) hours. A training manual shall be provided, hard copy as

well as electronic (PDF) for future use. DSP CVEU officers participating in the End User Training shall furnish their own broadband enabled laptops for training; the IT/Systems Training may be conducted using the Department's training lab or on computers provided by the State of Delaware. The Vendor shall be responsible for its own computer(s) and any other equipment necessary to conduct the training.

- 3.10.2 In addition to the training requirements specified above, Vendor is also requested to provide the option for future End-User and IT/Systems Training on an as-needed basis during the maintenance period. This training may be web-based training to minimize cost and travel requirements. Pricing for optional training shall be provided in Cost Matrix 3.

### **3.11 Warranty**

- 3.11.1 The rights and remedies of the Department under this provision are not intended to be exclusive and shall not preclude the exercise of any other rights or remedies provided for in this SOW, and subsequent contract, by law, or otherwise.
- 3.11.2 The Vendor shall warrant that all goods supplied, systems, equipment, designs, and work covered by this SOW and subsequent contract shall be satisfactory for its intended purpose, shall conform to and perform as called for in the Contract requirements specifications and shall be free from all defects and faulty materials and workmanship for a period of one (1) year after the date Final Acceptance of each VWS site. Any goods supplied, systems, equipment, designs, or work found to be defective within the time specified below shall be repaired, remedied, or replaced, hereinafter called "corrective work", by the Vendor, free of all charges including transportation.
- 3.11.3 The warranty period for all Vendor-provided goods supplied, systems, and equipment except spare parts, shall extend to twelve (12) months after Final Acceptance. Vendor shall provide preventive and emergency maintenance and repair services during the warranty period comparable to the maintenance services provided during annual maintenance which commences at the conclusion of the warranty period.
- 3.11.4 The Vendor shall provide a copy of the warranty(s) with the response to this RFP, and provide the formal signed warranty(s) at least thirty (30) days prior to Final Acceptance.
- 3.11.5 Notification and Corrective Work – Except as specified below, the Department will give the Vendor a written notice of observed defects or failures with reasonable promptness. Unless otherwise directed in said notice, the Vendor shall commence corrective work at the time specified by the Department. Department shall have the right, when practical and feasible, in its opinion, to the continued use of any such goods supplied, systems, equipment, and work deemed defective or unsatisfactory, until such can be taken out of service for performance of corrective work by the Vendor.



- 3.11.6 In the event that a defect or failure, in the opinion of the Department, constitutes an emergency, which will jeopardize or impair service operation, then the Department will provide the Vendor both verbal and written notice thereof and the Vendor shall commence “corrective work” within three (3) business days after receipt of such verbal or written notice. Nothing herein shall be construed as preventing Department personnel from immediately commencing corrective work, with labor cost at the expense of the Department, provided all such corrective work is performed in accordance with the Operation and Maintenance manuals furnished by the Vendor. The Vendor shall reimburse the Department or make replacement (at the option of the Department) for any spare parts or materials required by the Department to perform any corrective work with which it must proceed. Such corrective work by the Department shall not be construed to invalidate the warranty provided by the Vendor and other provision herein contained in this Section.
- 3.11.7 For the Spare Parts Inventory, the Vendor shall identify spare parts and equipment that are recommended for on-site storage for quick replacement of broken or malfunctioning equipment during the warranty period and for ongoing system maintenance after the warranty period is complete. The Vendor shall provide a list of such parts with a complete cross reference, supplier source, and part unit price. The availability of replacement parts shall be guaranteed for a period of five (5) years from the time of VWS acceptance of each site. A written statement confirming this required availability shall be provided no later than thirty (30) days after system acceptance of each VWS site.

### **3.12 Maintenance Services**

- 3.12.1 The Vendor shall provide preventive and emergency response maintenance services through an annual maintenance contract renewable for up to five (5) years for each site constructed under this agreement.
- 3.12.2 Periodic (at least two times per year) preventative maintenance shall be included in the annual maintenance price.
- 3.12.3 Maintenance shall include emergency response and all costs for labor, materials and equipment required to keep the VWS sites operational in accordance with the performance requirements specified herein.
- 3.12.4 The Vendor shall be reimbursed for costs associated with the repair and replacement of equipment due to damage caused by the Department and other third parties, including vandalism. Costs will be based on the detailed unit pricing and hourly labor rates provided by the Vendor and agreed upon by the Department during negotiations.
- 3.12.5 The Vendor shall be available to respond to incidents five (5) days per week, Monday through Friday, from 8am to 6pm. Vendors shall respond in the timeframes specified below based on the nature of the incident.
- 3.12.5.1 For a minor incident, defined as an incident that only affects one VWS site, the Vendor shall respond within one (1) business day for all response

maintenance notifications and system repairs shall be completed within five (5) business days.

- 3.12.5.2 For a major incident, defined as an incident that affects multiple VWS sites and/or the Central Server, the Vendor shall respond within four (4) hours and system repairs shall be completed within two (2) business days.
- 3.12.5.3 Failure to respond and/or repair the system in a timely manner shall result in reduced maintenance agreement pricing subtracted from any maintenance fee owed to the Vendor. Failure of Vendor to respond or repair as needed enables the Department to arrange for repair by others that shall not void any warranties or agreements.
- 3.12.6 The Vendor shall be required to submit a comprehensive Maintenance Plan and Procedures Manual for Department approval at least one month prior to the first schedule preventive maintenance work. This Maintenance Plan and Procedures Manual shall include, without limitation, descriptions of the Selected Vendor's maintenance management system, internal controls, safety practices, and detailed procedures for all anticipated preventive and corrective work. This shall include all aspects of the VWS system and may require the Selected Vendor to interact with other systems or service providers. Once approved, The Maintenance Plan and Procedures Manual shall be used by both the Department and the Selected Vendor to guide the management of all maintenance work, and shall be updated as necessary to meet additional needs as they arise.

### 3.13 Documentation

This section summarizes the documentation requirements for the various stages of the VWS project, from proposal submission to contract execution, project implementation, system acceptance testing and project closeout.

- 3.13.1 Proposal Documentation – The following documentation is required at the proposal stage:
  - Technical Proposal (see RFP Section 5.9)
    - Cover Letter
    - Executive Summary
    - System Description, including general construction requirements
    - List of Hardware and Software, including warranty information
    - Compliance with Functional and Technical Requirements
    - Typical Site Diagram (See Appendix G)
    - System Architecture Diagrams
    - Network Requirements
    - Risk Management & Disaster Recovery Plan (draft)

- Maintenance Plan & Procedures Manual (draft)
  - Project Management Plan & Schedule (draft)
  - Demonstrated Experience, Resumes, Organizational Chart, Staffing Plan, and References
- Cost Proposal (see RFP Section 6.4)
    - Cost Proposal Matrices (see Appendix C)
    - Milestone Payment Schedule (proposed)
  - Fully Executed Proposal Forms (see Appendix D)
- 3.13.2 Contract Documentation – The following documentation is required at Contract Execution:
- Executed Contract Agreement
  - Valid Delaware Business License
  - Certificate(s) of Insurance
- 3.13.3 DTI and ARB Documentation – The following documentation is required to be submitted to the Department within fifteen (15) business days upon the request of DTI and ARB:
- Project Management Plan (final)
  - Risk Management & Disaster Recovery Plan (final)
  - Milestone Payment Schedule (final)
  - Data Dictionary (see ARB requirements, Section 4.1)
  - Programmer’s Guide
  - System Configuration & Implementation Guide
  - Batch Job Submission/Scheduling Document
  - Conceptual and Logical Data Models (see IT requirements, Section 4)
  - Entity Relationship Diagram (see IT requirements, Section 4)
  - Vendors are subject to criminal background checks as required by the State of Delaware. Background checks must be paid for by the selected Vendor.
  - State Acceptable Use Policy, signed by each member of the Selected Vendor’s Team.
  - Non-Disclosure Form, signed by each member of the Selected Vendor’s Team.
- 3.13.4 Project Execution Documentation – The following documentation is required to be submitted prior to commencement of any activities relevant to the documentation being provided:

- Project Management Plan & Schedule (final)
- Final Design Documents – to be developed in conjunction with Department Design Firm
- QA/QC Plan for Hardware and Software Installation & Integration
- Hardware and Software Testing Plans & Procedures
  - Factory Test Plan
  - Component Calibration Test Plan
  - Acceptance Test Plan
  - On-Line Demonstration and Production Test Plan
  - Final Acceptance Test Plan
- Test Results and Reports
- Maintenance Plan & Procedures Manual (final)

#### 3.13.5 Product Documentation

- Equipment Manuals
- Product Cut Sheets/Data Sheets
- Software Manuals – for all system software, utilities, databases, licenses, and other packages used to develop, debug and load software
- Hardware and Software Warranty Information
- Training Materials and User Manuals
- Hardware and Software Maintenance and Repair Manuals – this documentation shall provide sufficient information, including schematics, site specific layouts and modifications, test processes and procedures, cabling diagrams and parts lists to permit quick and efficient maintenance and repair by qualified personnel.
- Vendor must provide executable CD/DVD and/or server image to DTI after any significant updates and fixes are implemented for the system.
- Source Code (to be held in Escrow)

#### 3.13.6 Project Close-out Documentation – The following documentation is required to be submitted as part of project close-out for each project phase:

- Lessons Learned Document (DTI)
- Risk Management & Disaster Recovery Plan – Test results and updates as necessary
- Completed Final Close-out Punch List
- Final As-Built Documentation in native format
- Final Acceptance Test Report

- Spare Parts Inventory & Equipment Inventory for Each Site
- VM Ware Image of Active System (provide at Final Acceptance and within five (5) business days of any updates to the system)

#### **4. INFORMATION TECHNOLOGY REQUIREMENTS**

##### **4.1 General Information**

The proposed solution must comply with all applicable Delaware Information Technology standards, which are defined and/or maintained by the Department of Technology and Information (DTI). The State's IT standards are available on the Web at:

<http://dti.delaware.gov/information/standards-policies.shtml>.

See in particular those standards and requirements identified in Appendix F, DTI Requirements. As part of the design approval process, prior to signing an agreement the selected Vendor shall supply sufficient documentation to satisfy DTI requirements and standards. The selected Vendor will be required to support the DTI Business Case documentation, presentations, and review by the Architecture Review Board (ARB). DTI Business Case deliverables shall include a Project Plan, Risk Management Plan, Lessons Learned and Billing Milestones. Selected Vendor shall be required to specify in detail, through narratives and diagrams in Visio format, all components of the proposed VWS system's technical architecture model. This shall include, from end-to-end, each piece of hardware, each network connection, each tier (user workstation, firewall, wide area network, Web server, application server, data server, other middleware tiers), and each piece of software required for the architecture model. Templates for required ARB documentation can be found on the Web at:

<http://dti.delaware.gov/information/ARBtemplates.shtml>

The State prefers to have the flexibility to substitute standard hardware platforms, operating systems, application servers, web servers, database servers, etc., where feasible.

The proposed solution shall have comprehensive and user friendly help instructions that include online help at the page level.

Interfaces and other data extracts or data transfer files shall use Extensible Markup Language (XML) format, web services and secure file transfer protocol. Application shall meet federal standards for Americans with Disabilities Act Section 508. For more information about accessibility requirements follow the link below:

<http://www.w3.org/TR/WCAG10-HTML-TECHS/>

VWS software must be capable of operating on existing laptop computers in use by the DSP CVEU. See Appendix E for overview of current DSP laptop computer configurations. Vendors shall also specify the minimum recommended workstation and laptop computer configuration including CPU, memory requirements, disk space, operating system, and any additional hardware and/or software required to run your VWS system proficiently (include product names, versions and specific vendors). The system shall have the ability for remote monitoring and administration.

Internal and external users that shall have access are: DSP, Department personnel, and VWS maintenance personnel. Other state and federal agencies may also have access. Control of this application's use to view activity at the VWS locations, produce reports, access data, etc. must be via secure environment with the option to produce hard copies of historical data and reports. One example to meet this requirement is to incorporate role-based security, providing external users secure access to their information only, using the State's secure single sign-on technology. Vendor's proposal must specify in detail the security and methodology to access the web-based system for both internal and external users. Proposal must include any similarities and differences between internal/State users and external/non-employee users. Proposal must describe how the system shall protect and secure the data and the business of the Department from non-authorized users.

#### **4.2 Data Security and Ownership**

Every member of the Vendor's team that requires access to the State of Delaware network must sign and comply with the State computer Acceptable Use Policy. Every team member who accesses data must comply with information confidentiality, privacy, and security policy.

The new system will incorporate the State's Oracle Identity Access Manager (IAM) platform for user login, the system shall provide security authentication and authorization mechanisms of its own. The authentication framework should secure both web-based access and web services. Web service authentication utilizing the same authentication scheme, but extended for web services. Provide web service authentication, authorization, and session management services. The Department shall maintain all access rights.

The Department has implemented Secure Socket Layer Virtual Private Network (SSLVPN) technology to secure and protect information across public and private (State) networks. VWS system will reside within the State's secure Demilitarized Zone (DMZ) and the Department's firewall.

System must be developed using true, advanced web technologies. Vendor shall develop VWS system and its components at their office location and distribute the application on the VWS Central Server provided by the Vendor and installed by the Vendor or state employee in the State's DMZ. The Selected Vendor may access test and production application(s) using SSLVPN remote login to maintain the software, troubleshoot, and resolve issues. If the Selected Vendor requires remote access to the test and/or production application, system, or database (for maintenance, updates, troubleshooting, fixes, etc.), the State may decide to hold secure meeting or a similar tool where a connective session would be initiated by internal Department staff.

All servers for VWS software shall reside in one or more DMZs on the State's network.

Some data or information is considered "Private or Confidential"; these data types must be protected during transport across the network and also in database files. The system should provide encryption for confidential transactions between the web browser and server and from server to server.

The system must utilize, per State Policy, Identity and Access Management (IAM) Service or secure Active Direct Federation Services (ADFS). The system should provide the ability to track changes made to data on the system, the dates, and ID of user who worked on a document/transaction/information and what was modified.

The Department shall host the web-based application and shall retain ownership of all test, production, and historical data produced or converted by the proposed system or any other means.

#### 4.3 **System Administration and Disaster Recovery**

Any proposed solution must be recoverable. The State of Delaware's information processing systems are capable of being recovered at "hot sites" or disaster recovery sites. Any proposed solution must document the critical resources that must be recovered in the event of disaster that would prevent system processing either in the batch or online environment. The system should support failover redundancies and swapping of critical system components and critical data of all system components.

The Vendor must document the plans, procedures, and strategy for that recovery process, including: performing a risk analysis, performing a business impact analysis to determine which data and functionality are most critical and should therefore be recovered immediately, and identifying the minimum resources required for immediate recovery including facility parameters, equipment, system software, associated interfaces, data, personnel and time.

The Selected Vendor must provide an executable CD/DVD and/or server image to DTI after any significant updates and/or fixes are applied to the system.

The Selected Vendor shall be required to participate in the "Disaster Recovery Testing" process.

#### 4.4 **System Documentation**

The Selected Vendor is responsible for proper system documentation in accordance with DTI and ARB requirements. All system documentation shall be comparable to industry standards and shall be provided in electronic format on CDs or DVDs (two sets) and one bound set of paper copy.

The system documentation shall be created using standard tools such as Microsoft Word, Excel, Visio diagrams or Data Designer such as Toad or ERwin. The Selected Vendor shall provide current system documentation immediately following selection that shall include, but not be limited to the following:

- 4.4.1 Data Dictionary – Shall include but not be limited to the following: Table names, Description, layouts with field name, field description, synonyms, primary and foreign keys, field type, field format, compression, and cross references.
- 4.4.2 Programmer's Guide – Shall include program names, description, and functions they perform, types, external calls (called by and called from).
- 4.4.3 System Configuration & Implementation Guide – shall include 'configuration and implementation' setup procedures and hardware requirements. Provide

very detailed information and steps to be taken to implement and maintain all components of the application Provide technical bulletins and upgrades to the Vendor-created system manuals. Provide installation, system administration procedures, ongoing maintenance, fine tuning instructions, and error code instructions.

- 4.4.4 Batch Job Submission/Scheduling Document – shall include program run time schedule and sequencing information and completion/error report and actions required in case of unsuccessful completion of the process in midstream (applies if application has a batch job or batch jobs). Interface specifications, file layouts, and parameters.
- 4.4.5 The Selected Vendor shall provide a Reports Manual for all “canned reports” and modify it to include custom reports if any. It shall include name of the report, description of the report, parameter(s) needed to submit them, report layout and program name/ID that was used to create it. Report manual shall be comparable to industry standards. The canned reports shall be flexible enough to modify to meet state’s identifications such as titles, headers and logos, run date and time, etc.
- 4.4.6 Conceptual and logical data models and a data dictionary with field descriptions for the proposed system. The State standard data modeling formats are .cdm (Sybase PowerDesigner) and MSWord for conceptual data models, and .pdm (Sybase PowerDesigner), .erx or .xml (CA Erwin), or .mdl (IBM Rational Data Architect) for physical data models. See Section 4.1 for additional details.
- 4.4.7 A detailed Entity Relationship diagram, high-level application data flow charts, high-level application design and information processing functional flow charts shall be provided by the Vendor. For interface and batch jobs – order/sequence of program execution diagram for successful and unsuccessful job completion. Provide detailed security architecture document and diagram.
- 4.4.8 The Selected Vendor shall provide a VM Ware image of the active system on digital media (e.g., DVD, Flash Drive) to the Department as part of system documentation. Vendor shall provide a new, non-restricted version to the Department on digital media within five (5) business days of any updates to the system.

#### 4.5 **Application Availability and Performance**

- 4.5.1 The system shall provide the ability for DSP and Department personnel and Internet users to have access to the system 24 hours per day, 7 days per week, except for scheduled downtime for maintenance and backups. Authorized preventive maintenance outages do not count against downtime measure. The VWS system should meet or exceed a minimum availability requirement of 95%, measured on an annual basis, with a Not-to-Exceed threshold of 18.25 down days.
- 4.5.2 The application must have acceptable performance and response time as detailed in Appendix A – Requirements. The system cannot negatively affect



performance of current operational systems or the batch processing of the data-processing systems that are supported on the Department's and the State of Delaware's network.

#### 4.6 **IT Support and Maintenance Requirements**

- 4.6.1 The Selected Vendor must provide personnel and software necessary to ensure the system is operating within performance levels. It cannot negatively affect performance of the network.
- 4.6.2 The Selected Vendor shall maintain the software necessary to operate efficiently.
- 4.6.3 Non-severe items identified during "System Acceptance" shall be corrected within 180 days of the final acceptance.
- 4.6.4 Department personnel shall notify the Selected Vendor for periodic software, database upgrades or changes that could require modifications to the Vendor supplied software. Vendor shall comply with IT standard upgrades and shall perform necessary modifications and adjustments. This shall be included in the System Support and Maintenance agreement.
- 4.6.5 The Selected Vendor shall provide technical bulletins, updated system and user guides as necessary.
- 4.6.6 The Selected Vendor shall correct or replace defective software, and or remedy any programming error, which is attributable to the Vendor at no additional cost to Department.
- 4.6.7 As a part of this project, the Department may require scope, time, and cost estimation from the Selected Vendor on future software enhancements and support initiatives.
- 4.6.8 The Department shall approve the estimates for the scope of work, agreed upon turn-around times, and estimated cost. Proposed system enhancements must be completed within a time frame agreed upon by the Department and the Selected Vendor. The Selected Vendor shall not keep the Department waiting for enhancements due to low priority on their Priority list.
- 4.6.9 The Selected Vendor must provide technical support for the duration of the project and during the maintenance period.
- 4.6.10 The Selected Vendor's key personnel shall be on site for implementation of the system or module of the system or the major enhancement/upgrade of the system in the Test and Production Environments.
- 4.6.11 After the system implementation, the Selected Vendor shall provide support for the "implemented application, enhancement of the application, and interfaces with other systems."
- 4.6.12 The Selected Vendor shall respond to maintenance and support calls from Department personnel. Support shall include troubleshooting of technical problems and solutions to application functionality. Dedicated and qualified support personnel including IT programmers and system analysts shall be

available via phone and provide accurate technical and functional assistance in resolving problems or issues.

- 4.6.13 The Selected Vendor shall supply a method to track service requests for support and maintenance (web, documents) including type of issue, problem resolution, module or/ and program modification for each service request.

#### 4.7 **State's Responsibilities**

The State's responsibilities shall include the following:

- 4.7.1 Delaware State Police (DSP) shall provide laptop computers in the state police vehicles used by the Commercial Vehicle Enforcement Unit (CVEU) with wireless connectivity to access the VWS sites through the internet.
- 4.7.2 The Department shall provide training facilities and project oversight.
- 4.7.3 The Department and DSP shall provide a Technical Team consisting of an IT Project Manager, Operational Project Manager, DSP CVEU officers, and consultant resources to assist with all phases of the project. The Department shall also provide functional subject matter experts to assist with DTI and ITMS requirements and integration.
- 4.7.4 If any work that has not been identified in the original Scope of Services needs to be performed, then Department shall create a contract addendum for the selected Vendor to provide cost and time estimates. The estimation requires the Department's approval. Contract addenda must be approved before work outside of the approved Scope can be performed.

### 5. **PROPOSAL REQUIREMENTS**

#### 5.1 **Proposal Documents**

By responding to this RFP, the Vendor hereby grants the Department a license to distribute, copy, print, or translate the proposal submission for the purposes of the evaluation.

#### 5.2 **Submission of Proposals**

The Department will receive sealed proposals in response to this RFP until the date and time indicated in Section 5.4. Proposals must be delivered and addressed as indicated. It is the responsibility of each Vendor to have proposals received at the location identified below by the date and time specified. Facsimile or emailed responses to this RFP are not acceptable.

Proposals must be delivered in sealed envelopes and be clearly marked on the outside: **'DELAWARE DEPARTMENT OF TRANSPORTATION - VWS PROJECT, RFP No. 1723'** and delivered to:

Department of Transportation  
Contract Services Administration  
800 Bay Road  
Dover, DE 19901

An original and one (1) copy of the Price Proposal must be sealed inside the envelope containing the Technical Proposals. It is the Vendor's obligation to make sure proposals arrive on time. Late proposals will be returned to the Vendor unopened and will not be considered by the Selection Committee.

### 5.3 **Changes to Initial Proposal**

The Vendor may change a previously submitted initial proposal by withdrawal, amendment or submission of a replacement if done prior to the RFP due date and time. The information or request should be submitted in writing on company letterhead or equivalent and contain the signature(s) of the person(s) who submitted the original proposal. Vendors must indicate on the outside of the envelope that the proposal contained within replaces and takes the place of a previously submitted proposal or part thereof. Vendors shall clearly indicate that it is their intent is to withdraw a previously submitted proposal prior to the RFP closing. Requests to withdraw a proposal may require a confirmation email, facsimile, or telephone response.

### 5.4 **Proposal Due Date and Time**

Competitive Sealed Proposals are to be delivered to the address indicated in Section 5.2 by 2:00p.m. (local time) on **Wednesday September 24, 2014**. The Department's time shall be the official time.

### 5.5 **Extensions**

The Department may extend the time and place for the receipt and opening of proposals on not less than two (2) calendar days' notice by electronic means. Any extension of time will be posted as an addendum to the RFP on the State's procurement web site at <http://bids.delaware.gov>.

### 5.6 **Submitted Copies**

An original and seven (7) copies of the Technical Proposal must be submitted. An original and one (1) copy of the Price Proposal must be submitted in a separate, sealed envelope per Section 5.2 of this document. An authorized representative of the company submitting a proposal must sign the original proposals. Notification of the proposal award and all communications will be made by e-mail.

5.6.1 Along with the originals, please submit one copy of your proposal in electronic format (CD/DVD or flash drive) in standard Office or PDF format. Please submit a separate file for each of the following and label as such:

- The Technical Proposal
- The Price Proposal
- The Technical Proposal with any confidential information redacted

### 5.7 **Delaware's Freedom of Information Act**

The Department is covered under the Department of Transportation's Freedom of Information Act (FOIA). In order to comply with the State of Delaware's Freedom of Information Act, Vendors responding to this RFP shall prepare and submit one (1) electronic copy (e.g., CD/DVD, flash drive) of their Proposal with any proprietary or confidential information redacted. This copy should be clearly marked as "Redacted

Copy” and submitted along with the other copies. This electronic copy is required even if the submission contains no proprietary or confidential information. Firms should review Delaware’s Freedom of Information Regulations, Section 6, Requests for Confidentiality, on the Department Website [www.deldot.gov](http://www.deldot.gov) and Section 10002(1) “Public record” of the Delaware Code, (<http://delcode.delaware.gov/title29/c100/index.shtml>) to determine what information may be considered proprietary or confidential and may be redacted from their Proposal.

## 5.8 **Proposal Rejection**

Failure to follow instructions contained in this RFP may be cause for rejection of submitted proposals.

## 5.9 **Proposal Format**

Evaluation of proposals is made easier and more efficient when Vendors respond in a similar format. The following is the format and sequence the Department requires to be followed in order to provide consistency in Vendors’ responses and to ensure proposals receive full and equal consideration. All pages of a submission should be consecutively numbered. All proposals must be bound on 8.5”x11” paper, minimum 12 point font, with the name and address of the Vendor and the RFP number clearly written on the face of the binder.

The RFP proposal submission must be clear and concise, allowing the evaluators to readily find information and expeditiously review proposals based upon the information requested. Vendor may reference information from the RFP in their response by section number but should not repeat information from the RFP verbatim in their response. Concise responses are preferred.

All Proposal responses are to be structured as follows, with tabs for each major section of the Proposal:

### 5.9.1 **Cover Letter**

The proposal must contain a Cover Letter on the letterhead of the Vendor submitting the proposal, showing the RFP number, Vendor's name and address, the contact person, title, contact person's telephone number, fax, and email. The Cover Letter will serve as a letter of introduction to the Vendor’s team and shall be signed by a person authorized to sign on behalf of and bind the Vendor to statements made in the proposal.

### 5.9.2 **Table of Contents**

Table of Contents including, at a minimum, the sections listed below, section numbers, and page numbers.

### 5.9.3 **Executive Summary**

The Vendor must provide an executive summary of the highlights of the proposal.

### 5.9.4 **Proposed Solution**

Vendors must provide a detailed narrative of their proposed solution which addresses the Scope of Work in Section 4, in accordance with the functional, technical and other project requirements identified in Appendix A. At a minimum, the Vendor must provide the following information:

- 1) System Description including a narrative describing the overall system and a preliminary design sketch illustrating the system layout. Include descriptions of major system components, subsystems, and general construction requirements. .
- 2) Describe how the Vendor's proposed solution meets each of the VWS Project Goals identified in Section 2.2, following the order of that section.
- 3) Provide a statement indicating that the Vendor's proposed solution meets all of the Functional and Technical requirements specified in Appendix A.3 and A.4. In the event that Vendor's proposed system is not capable of meeting some of the Functional and/or Technical Requirement, identified in Appendix A, Vendor shall identify those Exceptions to the Functional Technical Requirements in a table that identifies the requirement by section number (from the RFP) and describes the capabilities of the Vendor's system in relation to each of the unmet requirements.
- 4) System Architecture Diagrams including systems, interfaces, hardware, and software shall be provided. A graphical representation of the major system components and their interaction shall also be provided. Specifically, Vendor shall provide the system architecture documents required by the Delaware Architecture Review Board (ARB). Templates for these documents can be found at the following web address:  
<http://dti.delaware.gov/information/ARBtemplates.shtml>
- 5) Application Architecture: Identify the type of application architecture (e.g., client/server, browser based). Provide a brief description of application architecture. An application architecture diagram can be included.
- 6) Technologies Used: Identify the technical platform (.NET, Java, etc.) and list the technologies that will be used by servers, workstations, middleware, database, software etc.
- 7) Hardware proposed to support the proposed solution.
- 8) Software proposed, including COTS tools to support the proposed solution.
- 9) Network requirements to support the proposed solution.
- 10) Risk Management and Disaster Recovery Plan.
- 11) Warranty and Maintenance Period – Vendors must describe their approach to meet the warranty and maintenance requirements specified in RFP Sections 3.11, 3.12 and 4.6.

#### 5.9.5 **Project Management Plan and Schedule**

- 1) The Vendor must present its proposed project management plan and schedule.
- 2) The Vendor must submit a detailed phased project work plan in MS Project format that addresses the tasks and estimated timelines required to accomplish the requirements outlined in this RFP. The Department's objective is to have the Pilot VWS Sites (Phase 1) developed during the 2015 construction season and the Future VWS Sites (Phase 2) developed during the 2016 construction season. The proposal must include details related to all Vendor and Department tasks associated with all phases of the project, including, without limitation:
  - Project Initiation
  - System Documentation
  - Requirements and Customization
  - Phase 1: Development of Pilot VWS Sites (SR-1/US-13)
    - Final Site Design for Pilot Sites
    - Approval of Final Site Design
    - Procurement and Factory Testing of Equipment
    - VWS/LPR System Application Server Installation
    - Pilot VWS Sites Construction Coordination
    - Pilot VWS Sites Construction
    - Pilot VWS Sites Equipment Installation
    - Pilot VWS Sites System Integration
    - VWS System Training
    - VWS Subsystem Testing and Acceptance
    - Pilot VWS Sites Operational Test Period (30 Day)
    - Pilot VWS Sites Project Closeout (closeout documentation and as-builts)
    - Pilot VWS Sites Warranty Period Support
    - Pilot VWS Sites Preventive and Emergency Maintenance
  - Phase 2: Development of Future VWS Sites
    - Provide schedule for development of future sites using same tasks as Phase 1
    - For scheduling purposes assume three (3) Future VWS Sites
- 3) The Vendor must identify milestones in the proposed project work plan to measure overall progress and as an indicator of conformance with the established project schedule. Milestones shall be identified by completion date.
- 4) The Vendor's proposed work plan must include a three (3) week timeframe for the Department to review and approve task completion deliverables,

without interrupting the continuing progress towards completion of the project.

- 5) The proposed project work plan must include the time frames and required resources for each phase and task in the project.

#### **5.9.6 Testing and Acceptance**

The Vendor must submit a detailed testing and acceptance plan describing the proposed testing that supports the requirements and phased implementation as described in the RFP. This test plan should cover all aspects of testing throughout the development lifecycle. At a minimum, the plan should include factory testing, testing of each VWS subsystem, integrated system testing, and thirty (30) day operational testing that demonstrates the system meets the requirements and capabilities specified herein.

#### **5.9.7 Training**

The Vendor must submit its plans for a comprehensive training program that will include provision of training manuals, and user's manuals for DSP users and technical personnel (Department IT and DTI). Anticipate two separate training modules, one for DSP users and one for DTI and Department staff that will be supporting the system. For the DSP End Users module, include four (4) training sessions; for the DTI and Department staff, include two (2) training sessions. Vendor may also be required to provide additional training on an as-needed basis during the maintenance period, based on the unit pricing provided in the Cost Proposal. The training plan must include:

- 1) Method of training
- 2) Length of training (estimate number of hours)
- 3) Facility requirements for training
- 4) Detailed outline and description of the training
- 5) List of training materials and samples
- 6) Description of any self-guided training modules that may be available

#### **5.9.8 Warranty**

The Vendor must submit a narrative describing the Warranty period. At a minimum this should include the length, terms and conditions of the warranty period. Warranty must be for a minimum of twelve (12) months from final acceptance by the Department for each VWS site. The Warranty must also include a narrative describing the level of support that will be available during the Warranty period. This level of support shall be equal to or greater than the support required during the maintenance period as described below.

#### **5.9.9 Maintenance Support Services**

The Vendor must submit a comprehensive proposal for post-implementation support services for a period of five (5) years for each phase. The proposal must provide support for both bi-annual preventive maintenance and emergency maintenance services, including a description of the support services and approach for providing the support.

#### 5.9.10 **Demonstrated Experience**

- 1) The Vendor must submit information demonstrating the Vendor's relevant experience in the design, construction, installation, integration, and maintenance of VWS systems similar to the system sought by the Department through this RFP. Include Vendor's business history, number of years in operation, and two (2) most recent audited financial statements. Experience of key subcontractors should also be included here.
- 2) The Vendor must submit a project staffing proposal that supports the proposed project work plan. Identify the project manager and key personnel who will be performing the work on the project. Provide resumes highlighting relevant experience and describe the percentage availability of the PM and key personnel for the anticipated duration of this project. Vendors are advised that no changes or substitutions of the PM or key personnel will be allowed without the prior written approval of the Department. Describe the PM and key personnel's experience in the design, construction, installation, integration and maintenance of the VWS system and subsystems described herein.
- 3) Submit a list of subcontractors and other persons and organizations that are anticipated to furnish the principal items of material and equipment for this project. This list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each subcontractors, person or organization.
- 4) Provide a Matrix summarizing the proposed staffing for this project. The matrix must include a list of personnel with the following columns: Name, Role, Key/Non-Key, On/Off Site, Full-Time/Part Time, Numbers of Years of Experience, list of states where they have been involved in implementing similar systems.
- 5) Include a project team organizational chart.

#### 5.9.11 **References**

Vendors are to provide at least three (3) references of VWS projects with functionality similar to that being requested in this RFP. The Vendor shall provide references for projects of similar size, nature, and complexity as defined by the RFP requirements. Projects shall have been performed within the last five (5) years and demonstrate the Vendor's capability to perform the services required in this RFP. The Vendor should include the following:



- 1) Name of the jurisdiction and client organization(s) for which the project was implemented.
- 2) Name and up-to-date contact information (address, phone number, email address) of a client reference knowledgeable about the project and the Vendor's role.
- 3) Project description.
- 4) Names of the prime Vendor and sub-vendors involved in the project.
- 5) Vendor's role in the project.

**5.9.12 Proposal Forms (Submit completed forms)**

All firms responding to the RFP must complete and return the submission forms located in Appendix D of this document.

- 1) Submission Form
- 2) Certification of Eligibility
- 3) Certificate Of Non-Collusion
- 4) Certification Of Primary Participant Regarding Debarment, Suspension, And Other Responsibility Matters
- 5) Certification Of Restrictions On Lobbying
- 6) Certification Regarding Conflict of Interest

**6. COST PROPOSAL DOCUMENTS**

**6.1 Submission**

Vendors must submit pricing in accordance with instructions in this RFP. The Vendor should submit costs with its proposal as described in this section. The descriptions included in this section are provided to illustrate format and are not intended to be all-inclusive.

Pricing should NOT be included in the Technical Proposal and should be submitted in a separate sealed envelope clearly marked 'PRICE PROPOSAL' per the instructions in Section 5.2. Inclusion of any pricing information in the technical proposal may result in the Department rejecting the Vendor's proposal for noncompliance.

The Vendor must submit a cost proposal in the format described in section 6.4 below. Costs shall include all elements required to complete the scope of work defined in this RFP. The Vendor must include costs based on its proposed solution, including a breakdown of each item, description, and cost following the organization of the Cost Matrices presented in Appendix C. Vendor shall also list all major assumptions that were utilized in the development of its Cost Proposal.

**6.2 Changes**

Should the Department make a request for scope changes that affects the price, then the

Department shall be provided with a written detailed estimate by the Vendor for the work effort involved in the change.

### 6.3 **Currency**

All price quotes are to be: in US dollars; inclusive of duty, where applicable; destination, delivery charges are included in the rates, if applicable; and exclusive of federal/state taxes.

### 6.4 **Cost Proposal Format**

The Vendor shall submit proposal costs in the formats shown below and in Appendix C. All major costs are to be included and described. Cost Matrix 1 will include lump sum and unit pricing for each cost element identified for the Phase 1 Pilot VWS Sites. Cost Matrix 2 will include unit pricing for the Phase 2 Future VWS Sites as defined herein. Pricing for optional products and services shall be provided in Cost Matrix 3 as more fully described below. Standard Labor Rates and Equipment Costs shall be provided in Cost Matrix 4. This information shall serve as the basis for any change orders and maintenance support outside the scope of the maintenance agreement.

#### 6.4.1 **Cost Proposal – Pilot VWS Sites (Cost Matrix 1, Appendix C)**

Vendor shall prepare fixed price for the Pilot VWS Sites at SR-1 and US-13 utilizing the Blackbird Weigh Station as a pull-in area for the VWS. The Pilot Sites Cost Proposal shall be detailed following the organization of Cost Matrix 1, Appendix C. A proposed milestone payment schedule shall be provided for the Phase 1 Pilot VWS Sites (Phase 1 Milestones). The Cost Proposal shall also include annual maintenance costs for the Pilot VWS Sites for a period of five (5) years.

#### 6.4.2 **Cost Proposal – Future VWS Sites (Cost Matrix 2, Appendix C)**

Vendors shall prepare unit pricing for a 'typical' VWS site based on the assumptions provided. The Cost Proposal for Future VWS Sites is not to include any optional goods or services. Each major cost item must have its individual costs detailed following the organization of Cost Matrix 2, Appendix C. A proposed milestone payment schedule shall be provided for the Future VWS Sites. The Cost Proposal shall also include annual maintenance costs for Future VWS Sites for a period of five (5) years.

#### 6.4.3 **Cost Proposal – Optional Items (Cost Matrix 3, Appendix C)**

Vendors may provide pricing for any or all of the optional features identified in this RFP, including the Portable VWS trailer specified in Appendix A (Sections A.3.10 and A.4.8) and the AUR specified in Appendix A (Section A.3.4). The Vendor must submit their costs for any additional optional and/or desirable features proposed and must detail individual costs following the organization of Cost Matrix 3, Appendix C.

#### 6.4.4 **Cost Proposal – Standard Labor Rates and Equipment Costs (Cost Matrix 4, Appendix C)**

Vendors shall provide their standard labor rates for each anticipated labor category and unit costs for the COTS hardware and equipment that constitute

the VWS system, including without limitation, all equipment provided in the Spare Parts Inventory. Provide annual escalation rate for labor and equipment costs. Vendors shall submit their labor and equipment cost information following the organization of Cost Matrix 4. In the 'Description' field, Vendor shall define the labor category and list all equipment by product name/type, manufacturer and equipment number. This information will be utilized as the basis for future tasks that may be assigned in association with the VWS project.

## **7. SELECTION AND AWARD**

### **7.1 Committee**

The Selection Committee shall be comprised of representatives of the State of Delaware. The Committee shall review all proposals submitted in response to this RFP. The Committee Membership is confidential.

### **7.2 Proposal Review**

The proposals contain essential information requested in this RFP and shall be used in the award decision. The information that is required to be submitted in response to this RFP has been determined by the Department to be essential for use by the Committee in the evaluation and award process. Therefore, all instructions contained in this RFP should be met in order to qualify as a responsive and responsible proposer and participate in the Selection Committee's consideration for award.

Proposals that do not meet or comply with instructions of this RFP may be considered non-conforming and deemed non-responsive and subject to disqualification at the sole discretion of the Selection Committee.

### **7.3 Evaluation Process**

The Selection Committee shall determine the Proposals that meet the minimum response requirements pursuant to the criteria specified in this RFP. The Committee may, at its discretion, contact submitting firms for clarification of their proposals. The Committee shall evaluate and score all proposals that meet the minimum response requirements.

#### **7.3.1 Oral Presentations**

The Selection Committee may request on-site presentations/demonstrations in Dover, DE on the dates provided in Section 1.14, and may request best and final offers from one or more firms as described below.

#### **7.3.2 Best and Final Offers (BAFOs)**

The Committee may request BAFOs from one or more proposing Vendors, and proposals may be amended before award for this purpose. Vendors may be asked to amend their proposals to incorporate any requested changes identified in their proposal or during the presentation. The Selection Committee will advise a date by which any revised proposals must be

received. Failure to submit a revised proposal within that time period will cause the Committee to evaluate the original proposal.

#### 7.4 **Evaluation Criteria**

Proposals shall be evaluated and scored according to the Evaluation Criteria listed below, with assigned weight for each criterion in parentheses.

##### 7.4.1 **Proposed Solution (30%)**

- **Technical Solution** – The solution is complete and comprehensive meeting the functional and technical requirements.
- **Proposed Approach** – the project approach meets the project requirements specified in this RFP.
- **Proposal Options** – The options are presented clearly with definitive cost separation and meet the intended purpose.
- **Technical Innovations** – The proposal includes the latest state of the practice technology applications and/or provides innovative solutions to meet the identified goals and objectives of this project.

##### 7.4.2 **Project Management Plan, Schedule and Training Plan (15%)**

- Project Management Plan – The Project Management Plan is comprehensive, feasible, and adequately addresses the variety of project requirements.
- Project Schedule – The project schedule is complete and comprehensive, addressing all project phases and deliverables within a reasonable timeframe.
- Training Plan – The Training Plan is complete, comprehensive, and suitable to address the training requirements specified herein.

##### 7.4.3 **Warranty and Maintenance Services (10%)**

Warranty – The warranty meets or exceeds the requirements specified in RFP Section 3.10. Vendor agrees to provide preventive and emergency maintenance services during warranty period.

Maintenance Services – Proposal provides an approach to preventive and emergency maintenance that meets or exceeds the requirements specified in RFP Sections 3.11.

##### 7.4.4 **Demonstrated Experience (15%)**

- Project Experience – The Proposal provides evidence of similar, successful design, construction, installation, integration and maintenance experience with VWS projects of similar size and scope.
- Qualifications and Experience of PM and Key Personnel – The Proposal demonstrates the relevant experience of the project manager and key personnel.
- References – The Proposal provides positive references from previous clients with projects of similar size and scope.

#### 7.4.5 **Vendor Pricing (30%)**

All Price Proposals submitted by Vendors will be opened and evaluated subsequent to the Proposal Technical Evaluation. Price proposals will be evaluated comparatively, with the Vendor that presents the lowest cost solution receiving the full points for this category and the Vendor that presents the highest cost solution receiving the least points for this category.

If a proposal is not acceptable and not in the best interests of the Department, this category will not be rated and the proposal will not be further considered.

#### 7.5 **Award**

Upon notification of selection, the selected Vendor shall have twenty (20) days (unless extended by mutual agreement) to execute the contract for this project. If the Department is not able to come to agreement with the selected Vendor, the Department may end discussions and begin discussions with the next highest selected Vendor who will then have the same opportunity to enter into a contract with the Department.

Award of the contract will be announced upon successful execution of the contract. All Vendors submitting proposals will be advised of the award.

#### 7.6 **Department Rights**

**The Department reserves the right to:**

- Select for contract or for negotiations a proposal other than that with the lowest costs;
- Reject any and all proposals received in response to this RFP;
- Make no award;
- Issue a new RFP, amend RFP, terminate or suspend RFP process;
- Waive any informalities, irregularities, or inconsistency in proposals received;
- Request modification to proposals from any or all Vendors during the review and negotiation;
- Negotiate any aspect of the proposal with any firm and negotiate with more than one firm at the same time;
- Make partial awards;
- Increase or decrease quantities;

- Reject any request that shows any omission, alterations of forms, additions not called for, conditions, or alternate proposals;
- Deny any and all exceptions to the RFP requirements;
- Reject any non-responsive or non-conforming proposals;
- Make any such award as is deemed to be in the best interest of the State of Delaware.

#### **7.7 Disputes**

In the event of any disputes during the selection process, the SECRETARY of the Delaware Department of Transportation (or his/her designee) shall hear all arguments and render a final decision on the controversy that shall be binding on all parties concerned. All lease and royalty fees necessary to support this right are included in the initial fee as contained in the Price Proposal.

#### **7.8 Protests**

To protest the selection the protesting firm must have been an applicant in the process and must have met all of the requirements of this RFP. A letter of protest must be submitted to the Contract Services Administrator within ten (10) days of the notice of award. In the letter, the applicant must state the reasons for the protest. Protests must be based on pertinent issues relating to the selection process. Appeals based on specifications contained in the proposal shall not be accepted. Appeals that meet these conditions shall be reviewed and respectively answered. The SECRETARY of the Delaware Department of Transportation or designee shall make the final determination of the merits of the protest.

#### **7.9 Source Code**

In the event the Vendor ceases to maintain experienced staff and the resources needed to implement the system, or fulfill the requirements of this contract, the Department shall be entitled to have, use, and duplicate for its own use, a copy of the source code, system executables and associated documentation for the software products covered by the contract. Until such time as a complete copy of such material is provided, the Department shall have exclusive right to possess all physical embodiments of such Vendor-owned materials. The rights of the Department in this respect shall survive for a period of twenty (20) years.

## **APPENDIX A - REQUIREMENTS**

### **A.1 Roles and Responsibilities**

#### **A.1.1 Department Project Manager and Project Management Team**

The Project Manager, Systems Architect, and Department-assigned engineers and inspector(s) shall have the overall responsibility of reviewing and approving or coordinating agency approvals for all the submitted plans and design drawings, material datasheets, catalog cuts, construction and installation schedules, maintenance of traffic plans, testing, including all integrated subsystems, calibration, acceptance, and coordination of ongoing maintenance associated with the installed system at each site.

#### **A.1.2 Vendor**

The Vendor shall be responsible for performing and/or coordinating with Department Design Firm and Department Contractor(s) on the performance of all the tasks associated with the required plans, design drawings, material datasheets, catalog cuts, construction and installation schedules, maintenance of traffic plans, testing and calibration, acceptance, and performing ongoing maintenance associated with the installed system at each site. In addition, the Vendor, through coordination with Department Design Firm and Department Contractor(s), shall also be responsible for submission of permits, development of permit plans, right of way plans, environmental clearances, compliance with all local, State and federal regulations, submittals of directional boring plans, grounding plans, coordination with state and local utilities, providing as-built construction plans and related documentation, final inventory lists, etc. The Vendor shall also be responsible for coordinating the work of any third party value added resellers or subcontractors they choose to partner with to provide the necessary services as detailed under this contract.

### **A.2 General Requirements**

The general concept and operational scenario of a VWS is very flexible. At a minimum, the VWS includes the following technologies: WIM scales, camera system, screening software and communication infrastructure. Mainline WIM scales are used as weight pre-screening tools, along with a sensor (loop or radar-based) and an over height detector for distinguishing CMVs from other vehicles. A high resolution, high shutter speed pole mounted camera is used to capture images of overweight or over-height CMVs, and the information is collected in a roadside cabinet with the appropriate computer and communications hardware and software. The captured information includes the vehicle's image, axle, tandem, combination, bridge formula and gross weights, height, speed, date and timestamp, and a summary display of the violation conditions observed. These are core features.

In addition, other custom features such as tailgating (following too close) and wrong direction can also be tailored to state or location specific requirements. An illuminator shall be used in conjunction with or without ambient site lighting to enhance image

visibility at night time and in adverse weather conditions. A roving enforcement vehicle equipped with a laptop computer, an Internet browser and a broadband communications air card with any acceptable broadband communications technology to access the required information securely over the Internet would have timely access to this information to make informed decisions about pulling offenders over and conducting a more thorough inspection. Construction activities related to infrastructure components shall meet all state regulations as required.

The VWS system procurement shall include:

- A comprehensive system design proposal, including WIM sensor, loops/radar-based sensors, cameras, poles, cabinets, electrical load calculation estimate for system power requirements, and all ancillary equipment, siting surveys, design, layout, maintenance of traffic, and comprehensive inventory list including quantities, model and serial numbers.
- Coordination of Final Design Plans, MPT Plans, Permits, and As-Built Documentation with Department Design Firm.
- All computers, server(s), software, hardware, cabling, mounting structures, etc. as required to provide a fully functioning system.
- Procurement of all necessary components and materials for the entire turnkey system, exclusive of infrastructure elements (e.g., foundations, poles, conduits, grounding system) and roadway enhancements (e.g., expanded shoulder, guardrail).
- Verification that infrastructure elements and roadway enhancements constructed by Department Contractor(s) meet the location and other requirements reflected in the Final Design Plans.
- A comprehensive warranty and maintenance program including preventive and emergency maintenance.

### **A.3 Functional / Business Requirements**

The functional requirements for a typical VWS site are indicated below:

#### **A.3.1 Weigh-In-Motion (WIM) System:**

- A.3.1.1 The WIM shall be capable of performing load and length measurements accurately. Axle load, axle-group load, gross vehicle weight, distances between axles, tandem axles, and bridge groups shall be measured for each CMV passage.
- A.3.1.2 The drift rate of measurements by the WIM system must be calibrated and tested to conform to ASTM E 1318-09 accuracy requirements for Type III WIMs. Once calibrated, the WIM system should meet the ASTM 1318-09 accuracy requirements for Type III WIMs over a six month period.
- A.3.1.3 The date and time of passage shall be indicated for each CMV passage. Date and time shall be synchronized with Network Time Protocol servers at a regular interval. Timestamps shall not drift more than two seconds in a given month.



- A.3.1.4 The vehicle record number (sequence number) shall be indicated.
- A.3.1.5 The speed of CMV passage shall be indicated.
- A.3.1.6 The vehicle class shall be indicated per the American Society for Testing and Materials (ASTM) and Federal Highway Administration (FHWA) assigned vehicle classes. Class, speed, weight and axle spacing data for all vehicle classes indicated by the ASTM and FHWA class tables shall be captured.

The following exceptions need to be tailored to the FHWA vehicle classes:

- 2 axle, class 3 or 5 vehicles under 10,000 lbs. shall be captured for data collection and archival, but filtered from output. Law enforcement is not interested in these vehicles since technically they fall into the class 2 category.
- Any 3 axle vehicles shall not be filtered; Vehicles such as a pick-up truck towing a single axle trailer shall not be filtered. This rule set is configured specifically for law enforcement action, in order to screen vehicles with certain types of violations. This includes, for example, unlicensed commercial operators that register their vehicle as a personal vehicle and then use it for commercial purposes with no CDL or USDOT number.

A.3.1.7 The type or types of violation(s) shall be indicated as any violations occur – typical violations include overweight gross, over weight single axle, over weight tandems, unbalanced loads, bridge formula violations, wrong direction errors, too close, over speed, over acceleration, and off-scale warnings. These violations shall be configurable and selectable for graphical user interface viewing.

A.3.1.8 The user interface shall be configured to receive data regarding every vehicle passage and the threshold levels to define each violation shall be configurable.

A.3.1.9 The WIM subsystem shall include vehicle data with the vehicle record.

### A.3.2 **Overview Image Capture System:**

A.3.2.1 The camera shall be capable of capturing a high quality image for every CMV passage.

A.3.2.2 The camera features such as focus, zoom, and aim shall be configurable but fixed. Pan, Tilt, and Zoom (PTZ) capabilities are not desirable once aimed and fixed.

A.3.2.3 Automatic white balance.

A.3.2.4 Automatic and manual gain settings.

A.3.2.5 Standard JPG format.

A.3.2.6 IP 67 Compliant enclosure.

A.3.2.7 Pressurized nitrogen sealed enclosure.

- A.3.2.8 Able to match image and include with data from other roadside sensors.
- A.3.2.9 Image capture response ranging from 25-200 milliseconds.
- A.3.2.10 Image sequencing.
- A.3.2.11 Shutter speed, color enhancement, and monochrome/color switching modes shall be configurable, however, shall be pre-programmed with automatic day/night mode of operation.
- A.3.2.12 The camera shall be triggered every time a vehicle passes over the detector. Image capture shall be configurable with vehicle class and other configuration settings.
- A.3.2.13 The camera shall be IP-based for connectivity.
- A.3.2.14 CMV distinguishing features such as cab and trailer color and distinguishing characteristics such as company name, graphic logos, etc. and CMV profile shall be recognized from the captured image. The images shall be recognizable to law enforcement personnel and validated during system tests.
- A.3.2.15 Near-invisible lighting shall enhance image capture performance in the early morning and late night hours. The lighting shall be configured to automatically turn off during daytime hours. Vehicles should be clearly illuminated and differentiated by visible truck profiles during nighttime hours for the officer to be able to make a determination of the truck profile and determination of logos and distinguishing features to the extent possible.
- A.3.2.16 Lighting of appropriate intensity shall be selected to illuminate the front and the side of each vehicle. This shall be determined by field conditions unique to each site. Lighting equipment shall be solid state and matched with the camera focal distance.
- A.3.3 **License Plate Recognition System:**
  - A.3.3.1 The LPR Camera shall capture a high-quality image of all vehicle license plates passing the location, not just CMVs.
  - A.3.3.2 The LPR must use Optical Character Recognition (OCR) to determine the alpha-numeric characters and this process must be performed independent of the camera utilized.
  - A.3.3.3 The OCR shall be configurable for both local reads, as well as enhancements to the OCR process.
  - A.3.3.4 The LPR camera shall provide automatic switching between day and night operation.
  - A.3.3.5 The LPR must have 90% accuracy among readable plates.
  - A.3.3.6 The LPR shall provide a 13 foot wide horizontal field of view.
  - A.3.3.7 The LPR shall support multiple plates in the field of view.
  - A.3.3.8 The LPR system shall capture the license plate, perform OCR, query the database, and provide results within 30 seconds.

- A.3.3.9 The LPR shall operate at the accuracy noted at speeds up to 70 mph.
- A.3.3.10 The LPR system shall allow manual license plate entry for screening.
- A.3.3.11 The color digital image is the primary type of data to be collected, while back and white analog is secondary.
- A.3.3.12 The LPR system shall include a lighting system, to ensure image capture and readability during low light conditions.
- A.3.3.13 The LPR shall include a dual lens technology allowing image capture of both the license plate and the vehicle overview.
- A.3.3.14 Camera housing to be IP 68 compliant.
- A.3.3.15 Camera shall be capable of utilizing both external and internal trigger from images within the field of view; however, only one arrangement shall be configured at each site.
- A.3.3.16 The LPR camera shall capture multiple images and include a processor which will vary the flash, gain and shutter setting to provide the clearest possible image for OCR.
- A.3.3.17 The camera shall be capable of capturing up to 60 frames per second.
- A.3.3.18 The camera shall contain no moving parts.
- A.3.3.19 The camera shall be from an Automated License Plate Reader (ALPR) provider.
- A.3.3.20 The camera unit shall include a remote reset feature.
- A.3.3.21 The camera cabling shall include lightning and surge protection.
- A.3.3.22 Utilize adequate illumination using driver safe non-visible light (> 700nm).
- A.3.3.23 The camera shall utilize a fixed focal point from 32-100 feet.
- A.3.3.24 The camera and ALPR shall been proven in roadside commercial vehicle enforcement environments.
- A.3.3.25 ALPR Software
  - A.3.3.25.1. The application software must have the ability to provide OCR updates for new plate designs as required.
  - A.3.3.25.2. The cameras must utilize a Software Camera Controller to facilitate the selection of the optimum settings for the Flash, Gain and Shutter. Once configured by the System Administration or the Vendor, all settings must be automated in each camera.
  - A.3.3.25.3. The camera must offer standard software JPEG compression, with optional hardware JPEG compression capability.
  - A.3.3.25.4. The camera must be IP-addressable.
  - A.3.3.25.5. The system must be capable of providing all of the following data:
    - A.3.3.25.5.1. The License Plate Image.

- A.3.3.25.5.2. The license plate interpretation or system read.
- A.3.3.25.5.3. A corresponding color overview image of the vehicle displaying the captured license plate.
- A.3.3.25.5.4. The date and time stamp of the image.
- A.3.3.25.5.5. Identification of the Camera capturing the image.
- A.3.3.25.5.6. The Vendor must provide variants of the Optical Character Recognition (OCR) Engine that are tailored/designed for a specific state or regional license plate population.
- A.3.3.25.5.7. The integrated camera / processor must allow for up to 12GB of optional compact flash storage to allow for buffering of data.
- A.3.3.25.5.8. The application software must provide a live, simultaneous display of all traffic lanes showing both the plate and vehicle color overview image for each image captured.

**A.3.4 Automatic USDOT Number Recognition System:**

- A.3.4.1 Automatic USDOT Number Recognition (AUR) system shall capture a high-speed, high-quality image of the vehicle side.
- A.3.4.2 The AUR must use OCR to determine the alpha-numeric characters and provide all available information.
- A.3.4.3 The AUR shall use an automatic day/night camera, with configurable shutter speeds (up to 1/7,000 second exposure setting), and brightness settings.
- A.3.4.4 The AUR shall be 75% accurate at speeds up to 60 mph.
- A.3.4.5 The AUR system shall capture the USDOT number and query against the database, providing results within 30 seconds.
- A.3.4.6 The AUR shall provide a minimum continuous aggregated horizontal field of view of 30 foot at the trigger point.
- A.3.4.7 The AUR system shall work with a driver-safe illuminator, as required to capture images in all day and night conditions.
- A.3.4.8 The AUR system shall provide for enhanced low-light resolution.
- A.3.4.9 The AUR system shall provide permutations of the OCR from the USDOT reads, and be configurable for updates based on new USDOT number designs.
- A.3.4.10 Capture and store all USDOT number reads.
- A.3.4.11 Allow manual entry of USDOT number for screening.
- A.3.4.12 The system must be capable of capturing USDOT Numbers (a) displayed anywhere on the lateral surface of a CMV passing through the inspection area; (b) be mountable on either side of the roadway to capture DOT numbers on vehicles passing right-to-left or left-to-right thru the cameras field of view.

- A.3.4.13 The AUR shall have the capability of identifying and interpreting the USDOT when displayed with other non- USDOT identifying information that may be displayed on the lateral side of a passing CMV including but not limited to carrier information, weight classifications and regional registration information.
- A.3.4.14 The software screening results report shall include configurable reports of vehicle counts, alert ratios, alert type breakdowns, alert time of day breakdowns, and alert volume trends over configurable time periods.
- A.3.4.15 The system must have an operator interface to include database remote query functionality.
- A.3.4.16 The system must provide a high resolution image quality with a minimum 4,000,000 picture elements.
- A.3.4.17 The system must be capable of capturing crisp images of passing images with a minimum capture speed of 15fps.
- A.3.4.18 Shutter speed must be capable of 1/10,000 sec exposure setting.
- A.3.4.19 Vibration resistance: 10G (20Hz-200Hz).
- A.3.4.20 All exterior imaging equipment to be housed in a single weather proof enclosure.
- A.3.4.21 The AUR system must be capable of providing at minimum 80% of the required lateral surface area of passing CMVs to be considered adequate coverage for the purpose of USDOT capture and identification function.
- A.3.4.22 The system must have adequate illumination utilizing driver safe lighting systems for day and night operations.
- A.3.4.23 The system must have an operator interface to include ability to review and modify USDOT records associated with each vehicle record.
- A.3.4.24 The system must decode USDOT numbers into a digital string and associate image and USDOT number into a single vehicle record file.
- A.3.4.25 The system must provide a still image capture of the side of each truck for identification purposes and such image to include original image of USDOT Number in the field of view.
- A.3.4.26 The system must be capable of attaching unique identifying information to each image capture in order to ensure data integrity and proper vehicle image association with other roadside sensor systems.
- A.3.4.27 The system must be capable of attaching unique identifying information to each USDOT Number capture sequence in order to ensure data integrity and proper vehicle image association with other roadside sensor systems.
- A.3.4.28 The system must employ a dynamic exposure control including automated recalibration process to optimize OCR performance.
- A.3.4.29 The system must be capable of providing all of the following data:
  - A.3.4.29.1. The USDOT Number image.

- A.3.4.29.2. The USDOT Number interpretation or system read.
- A.3.4.29.3. The image corresponding to the successful USDOT Number read must include the USDOT Number in the field of view.
- A.3.4.29.4. The USDOT Number interpretation overlaid onto the original image.
- A.3.4.29.5. The date and time stamp of the image.
- A.3.4.29.6. Identification of the Camera capturing the image.
- A.3.4.29.7. A percentage confidence rating for each USDOT Number decode.
- A.3.4.30 Allow for dynamic vehicle speed and dimensioning inputs to optimize OCR processing time.
- A.3.4.31 The integrated camera / processor must allow for up to 12GB of optional compact flash storage to allow for buffering of data.
- A.3.4.32 The application software must provide a live, simultaneous display of all traffic lanes showing both the plate and vehicle color overview image for each image captured.
- A.3.5 Over Height Detector**
- A.3.5.1 Any CMV with height characteristics over a configurable preset threshold shall be detected.
- A.3.5.2 Any CMV or other vehicles with heights complying with traffic laws shall not be detected.
- A.3.5.3 False-positives (such as birds, etc.) shall not trigger the over height sensor. If an over height sensor spans multiple lanes, false positives shall be alleviated or eliminated to the extent possible. The Vendor shall need to demonstrate how this can be achieved.
- A.3.5.4 The detector shall identify the direction of travel, and provide alarms for wrong-way violations.
- A.3.5.5 The detector shall function in all weather conditions and be integrated with the vehicle report.
- A.3.6 Communications System**
- A.3.6.1 The communications system will be capable of utilizing either the Verizon cellular service through the existing Statewide agreement, as well as State provided cellular, 700 MHz radio, 4.9 GHz radio, or fiber optic service at the VWS site. Currently, the Department envisions use of the Verizon cellular service for all applications under this contract, however, reserves the right to utilize any option identified at the Department's cost. The Vendor shall coordinate with Department IT to ensure the most efficient communications mode at each location.
- A.3.6.2 A fixed IP address will be provided for the VWS Server PC once the cellular service for the router is provisioned using a state contract vehicle.

**A.3.7 VWS Central Server and VWS Site Server Software:**

- A.3.7.1 The client laptop with a broadband air card, or any client PC on a wireless or wired local or wide area network shall be able to log in to the VWS Site Server PC via Microsoft Internet Explorer with username and password restrictions. Logins and all user interface capabilities shall be tested to work with multiple versions of Internet Explorer, (IE7, IE8, and any IE versions released during the period of performance of this contract). Administrative functions (such as weight and other violation threshold configurations, data archival etc.) shall have separate logins than regular user logins, with distinct administrative rights and privileges.
- A.3.7.2 The VWS Site Server software shall be able to generate a variety of vehicle reports at the client PC. These will include, but are not limited to: a history and thumbnail images of the last ten (10) vehicles or last ten (10) vehicles with violations, vehicle violations by class over a user specified period, vehicle volumes by class and/or speed over a user specified period, vehicle detail report by vehicle ID or similar record, and weekly and/or monthly summaries of the same.
- A.3.7.3 Violation, non-violation, class, weight, volume, speed and other data, including image cleanup thresholds, shall be user configurable.
- A.3.7.4 At least five (5) concurrent connections and/or open sessions shall be possible with the VWS Site Server PC at any given time.
- A.3.7.5 The client GUI shall display thumbnail as well as larger vehicle images and data (speed, axle and gross weights, distance between axles, vehicle class and all violation data and messages - if any) of each vehicle transmitted from the server. These shall be configurable in US and metric (international) weight systems. Violations shall be highlighted in Red.
- A.3.7.6 The GUI shall be lightweight, Java based, and consume minimal resources on the client laptop or PC. This is required to ensure that all law enforcement tools running on a client laptop or PC are not adversely affected for other law enforcement capabilities. A full screen capture of a client based browser session, including the vehicle image and all associated violation or non-violation data should be able to be saved for easy reference.
- A.3.7.7 The application shall be compatible with Windows 7, Windows 8 and any subsequent versions of Windows released during the performance period of this contract.
- A.3.7.8 The application shall be configured for secure user access with usernames and passwords that are not transmitted in clear text. An SSL/TLS (security socket layer/transport layer security) protocol suite such as https shall be used to provide encryption and secure identification to the IP based application.

- A.3.7.9 The application must be a fully-developed, proven commercial-off-the-shelf technology that has been deployed and proven to work in a CMV safety enforcement environment and modified to meet the needs of this RFP. Concept or development stage systems will not be accepted.
- A.3.7.10 The software platform must be hardware agnostic, and have a proven capability of accepting sensor inputs from a variety of vehicle measuring, identification, and characteristic sub-systems and sensors, including the existing Mettler-Toledo static scales at the Middletown and Blackbird Scale Houses (model number 7541 with indicator IND780). This capacity will provide the agency with the most flexibility in the roll out of its electronic screening program.
- A.3.7.11 The Vendor must clearly demonstrate that the software is architected and of a modular design to support future technical sub-component additions. These may include the capability to integrate latest generation Dedicated Short Range Communications (DSRC) readers (5.9 GHz), vehicle tracking and matching sensor technology, alternative methods of identifying and communicating with vehicles through the use of local and wide area wireless devices, and other security detection technologies that an agency may require.
- A.3.7.12 The application software must integrate available WIM and Over-height detection data into each integrated vehicle record.
- A.3.7.13 The application software must be capable of integrating PrePass data into each integrated vehicle record.
- A.3.7.14 The application software must provide manual entry OCR correction and database query re-submission options easily activated by operator.
- A.3.7.15 The application software must uniquely display each vehicle record including all associated roadside sensor data.
- A.3.7.16 The application software must provide search capabilities by date, time and vehicle record, and location (geo-fencing).
- A.3.7.17 The application software must be capable of supporting multiple “hot list” databases.
- A.3.7.18 The application software must be capable of querying both local and remote databases for screening functions.
- A.3.7.19 Databases utilized by the law enforcement agency must be able to be defined as to an alert message indicating the related notifications from each database, i.e., safety records, stolen vehicles, stolen license plates, unregistered vehicles, fines owing, etc.
- A.3.7.20 The application must provide a user-defined screening rules matrix that is matched to each query database screening element.
- A.3.7.21 The application software must include an electronic screening rules manager that allows user-defined alarm notifications to be configured based on sensor inputs, and corresponding database elements.



- A.3.7.22 The screening rules software will be such that the development, management and changes to screening rules will be intuitive.
- A.3.7.23 The application software must have a business rule screening manager that supports both simple logic testing and multi-level conditional logic testing.
- A.3.7.24 The application software must include tools such as access control, statistical reporting, and activity/exception reporting.
- A.3.7.25 The application must employ an architecture that supports multiple client site deployments in a distributed network design.
- A.3.7.26 The application must include a single centralized service responsible for system-wide administration, query management and data repository.
- A.3.7.27 The application must be a windows-based program and support Microsoft Active Directory.
- A.3.7.28 The centralized service database must utilize SQL Server.
- A.3.7.29 The application must provide remote access support. The VWS Central Server will be provided by the Vendor and installed by Vendor at the State DMZ.
- A.3.7.30 The system will include report generation in several forms, including reports associated with the stored vehicle records, as well as system operation and status.
- A.3.7.31 Vehicle record reporting will include the ability to query the stored records for a specific vehicle or fleet and print reports associated with these vehicles.
- A.3.7.32 System operational status reports will include an operations report feature that displays a summary of the station operational status including the traffic passing through the facility, the portion of traffic screened and bypassed, the portion of traffic generating alerts, and the type and quantity of alerts generated. Locally at a station, the information displayed will pertain to that station, and at an administrative level, all stations within the program will be displayed showing comparative rates and volumes.
- A.3.7.33 The software will support additional sites that may be deployed by the state in the future.
- A.3.7.34 The software shall be responsible for routing statewide electronic screening data requests through the Central Server thereby maintaining a system to system link between the Central Server and any of the agency prescribed federal and state credentials/law enforcement databases to be used in the electronic screening process.
- A.3.7.35 The software shall provide a visible mapping of the entire back office database access for access by the agency administrator.
- A.3.7.36 The software shall automatically collect and aggregate all electronic screening data from any screening sites deployed in the state.

- A.3.7.37 The software interface shall utilize dashboards to support program management needs to monitor, measure and evaluate the performance and impact of the system. At a minimum, the software shall include separate dashboards for screening results and for system performance.
- A.3.7.38 The software screening results data report shall include measures on vehicle counts, alert ratios, alert type breakdowns, alert time of day breakdowns, and alert volume trends over configurable time periods.
- A.3.7.39 The software system performance data report shall include measures on OCR read rates & OCR confidence rates for each individual OCR system and in aggregate.
- A.3.7.40 The software shall include measures on sub-system uptime and error logs for each sensor and sensor network deployed at sites. This automated monitoring of sensors and sensor networks shall include automated notification capability to alert administrators of system performance issues at the system and sub-system level.
- A.3.7.41 The software screening results and system performance dashboards shall utilize easy to understand pie charts, line graphs and bar graphs and make aggregated data and reports intuitive and easy to understand.
- A.3.8 **Cabinets, Conduits, Cable, Junction Wells & Interface Requirements**
  - A.3.8.1 All cables shall be in conduits. Power and communications cables shall be installed in separate conduits. All junction wells, cabinets, cabinet bases, and conduits are to meet all requirements of the Delaware Standard Construction Details. Grounding plans shall be provided with design submissions for each site. Duct seal shall be used to seal all conduits in the cabinets and in all junction boxes to avoid rodent and other infestation.
  - A.3.8.2 All underground cable shall be American Wire Gauge. Electrical services shall be three-wire, 120/240 volt service. The Vendor shall coordinate with the electric utility provider to establish service in the Department's name. Provide all service meter, disconnect(s), transformer(s), utility pedestal(s), utility pole(s), wire, breakers, fuses, surge suppression, etc. as required to provide a complete electrical service of the size required to power all equipment to be located at the site. Design service wire in accordance with the National Electrical Code.
  - A.3.8.3 All VWS devices that collect data shall be equipped with a standard 10/100 Base-T Ethernet port with RJ-45 connector to support the direct connection to the Department's or State's communications network or a RS-232/RS-485 serial communications port to support CDMA/LTE, fiber, 4.9 GHz, etc. communications.
  - A.3.8.4 Provide cabinets and all attachment hardware in accordance with Department Standard Construction Details. Detail mounting hardware in the design submission.

A.3.8.5 Design and provide positive roadside protection for each site as required by Department Standards. Detail length of need and barrier layout in the design submission.

**A.3.9 VWS System**

A.3.9.1 The system shall be capable of running unattended continuously, providing real-time notifications to the VWS Central Server for alarm conditions.

A.3.9.2 The system shall be capable of recovering from loop/radar-based detector and classifier errors (low speeds, rush hour backups, stop and go traffic, and similar events) automatically.

A.3.9.3 The system should be modular and rack mountable in a standard Type 332 or equivalent WIM roadside cabinet with a National Electrical Manufacturer Association (NEMA) 4x rating, with foundations as required in accordance with Department standards.

A.3.9.4 The system shall run in a networked configuration.

A.3.9.5 An uninterrupted power supply with at least 30 minutes of backup power to the entire system will be required to support power interruptions, brownouts, and other power anomalies at each location.

A.3.9.6 The system shall be capable of automatically starting up and resuming operation after a sustained power outage.

A.3.9.7 The system shall be capable of remotely rebooting the cabinet and equipment.

A.3.9.8 All construction work, maintenance of traffic, notification of maintenance, and soil disturbance as well as soil and surface rehabilitation work shall be done in accordance with the Department Standard Construction Details and/or the Delaware MUTCD.

A.3.9.9 The system shall be able to integrate with other local devices (e.g., static scales, Dynamic Message Signs (DMS), PrePass system).

A.3.9.10 The system shall provide the following data elements at a minimum:

- Date (MM/DD/YYYY)
- Time (00:00) – 24-Hour Clock
- Location
  - GPS Northing (MM.SSSSS)
  - GPS Easting (MM.SSSSS)
- OCR Variations
  - LPR Reads (XXXXXX, XYZXYZ)
  - USDOT # (XXXXXX)
  - ICC # (XXXXXX)
  - VIN # (XXXXXXXXXXXXXXXXXX)
- Vehicle Classification (XX) – FHWA Classification
  - Estimated Speed (XX.X) – mph
  - Axle Spacing(s) (XX.XX) – inches

- Number of Axles (X)
- Image Copy [linked .bmp, .png or .jpg file(s)]

A.3.9.11 The system shall utilize, exchange and integrate data with Commercial Vehicle Information Exchange Window (CVIEW) and DSP sources for vehicle screening. The VWS Central Server shall query the Delaware CVIEW database to gather Out-of-Service orders, or other applicable “flags” to be coordinated with Department & DSP. The VWS Central Server will also be configured to receive a file from DSP, which contains uninsured vehicles and other “flags” as determined necessary. Each “flag” criteria will have a color coded representation visible when published to the web interface. The color scheme will be determined by DSP for up to 8 flags. The VWS Central Server will correlate the data from interface sources, and push a ‘hot list’ file to each local site a minimum of two (2) times per day. The local site will query this local copy of the ‘hot list’ as vehicles pass the site and information is collected. Upon triggering a “flag” the local site will transmit the site data to the Central Server for immediate posting to the web interface. All site data will be transmitted to the Central Server for posting on the web interface. The Department may decide to utilize, exchange and integrate other internal and/or external systems/sources (such as the motor vehicle system or OS/OW permitting system) with VWS system.

A.3.9.12 NOTE: Site selection – The Department will provide a list of potential locations where VWS systems are to be deployed in Delaware. As part of the final design process, the Selected Vendor shall perform its own site evaluations to assess the feasibility of VWS installations for each site. Department personnel shall accompany the Vendor to the sites at mutually agreeable dates and times. If any site modifications are required, it is the Vendor’s responsibility to provide comprehensive technical, functional, and business reasons why such modifications may be required, and to provide a detailed cost escalation model for each site. These reasons, as well as any design and installation changes required for any individual site, shall be clearly documented and described in the design submission.

### A.3.10 **Portable VWS System**

A.3.10.1 The Portable VWS System can be configured to include each of the components noted herein, with the exception of WIM scales and loops/radar-based detectors. The operational scenario for the portable VWS includes a fixed cabinet and WIM location, continuously collecting weight data and providing that data to the Central Server. The imaging equipment (LPR, Overview, AUR) and over height detection will be mounted on a portable trailer unit, capable of being connected locally to the WIM cabinet within 15 minutes by enforcement personnel and providing the complete screening capabilities.

A.3.10.1.1. The portable VWS will include mounted imaging equipment and lighting.

- A.3.10.1.2. The portable VWS will include solar power, but also an optional 120 VAC plug.
- A.3.10.1.3. The portable VWS will include the local screening software.
- A.3.10.2 The Vendor will provide all fixed roadside and in-road equipment, as well as portable VWS equipment. All equipment shall be compatible with the provisions and equipment noted herein.
- A.3.10.3 Vendor shall provide training on the set up, configuration, operation, and breakdown of the Portable VWS system. Include price for training as part of the optional pricing for the Portable VWS system.

#### A.4 Technical Requirements

The technical requirements for the VWS components are listed below:

##### A.4.1 WIM System

- A.4.1.1 The WIM sensor shall be equivalent in function to the Kistler Quartz 9195 QWIM2 sensor (dual strip) for each installation with associated Kistler electronics, to maintain a standard infrastructure for all VWS installations.
- A.4.1.2 Accuracy of load measurements - tested against measurements by certified scale (tolerance for 95% compliance, ASTM E 1318-09, Table 2).
  - A.4.1.2.1. Accuracy of Axle Load measurements:  $\pm 15\%$ .
  - A.4.1.2.2. Accuracy of Axle-Group Load measurements:  $\pm 10\%$ .
  - A.4.1.2.3. Accuracy of Gross Vehicle Weight measurements:  $\pm 6\%$ .
  - A.4.1.2.4. NOTE: Individual axle, gross weight, and height thresholds shall be set to applicable laws for passage over state roads.
- A.4.1.3 Accuracy of length measurements (distance between axles) – tested against manual measurements (tolerance for 95% compliance).
  - A.4.1.3.1. Accuracy of length between first and last axle measurements:  $\pm 0.5\text{ft}$ .
- A.4.1.4 Accuracy of speed:  $\pm 1.0\text{ mph}$ .
- A.4.1.5 Accuracy of bridge formula calculation:  $\pm 10\%$ .
  - A.4.1.5.1. Code of Federal Regulations (CFR), Title 23, Chapter I, Subchapter G, Part 658 requires that no vehicle or combination of vehicles shall be moved or operated on any interstate highway when the gross weight on two or more consecutive axles exceeds the limitations prescribed by the following formula:
 
$$W = 500 \times \left( \frac{ln}{n-1} + 12n + 36 \right)$$
  - A.4.1.5.2.  $w$  = the maximum weight in pounds that can be carried on a group of two or more axles,  $l$  = spacing in feet between the outer axles of

any two or more consecutive axles, n = number of axles being considered.

A.4.1.5.3. NOTE: Bridge formula test measurements shall be provided by the Vendor during WIM acceptance testing using manual weight and length measurements against inspection report information provided by law enforcement. There is no bridge formula accuracy requirement for a Type III WIM as defined in the ASTM standard.

A.4.1.6 Drift rate of measurements

A.4.1.6.1. Drift rate of weight load measurements over 6 weeks:  $\pm 2.5\%$ .

A.4.1.6.2. Drift rate of length measurements over 6 weeks:  $\pm 2.5\%$ .

A.4.1.7 The percentage of misclassifications:  $< 5\%$ .

A.4.1.8 The percentage of CMV passages that is not recorded by the WIM:  $< 5\%$ .

A.4.1.9 The WIM sensor(s) shall be installed in-ground with epoxy, charge amplifiers, cables and connection hardware. No substitutions shall be permitted.

A.4.2 **Camera(s)**

A.4.2.1 The percentage of vehicle passages captured by the camera:  $> 95\%$ .

A.4.2.2 The percentage of false alarms (The number of non-CMV images/The total number of captured images):  $< 5\%$ .

A.4.2.3 The percentage of images with vehicle distinguishing features and vehicle profile:  $> 95\%$ .

A.4.2.4 The percentage of images with vehicle distinguishing features and vehicle profile in limited light:  $> 95\%$ .

A.4.2.5 NOTE: The vehicle image capture night and day camera shall be standard infrastructure for all VWS installations. The camera will need to be paired with the appropriate IP66/67 compliant, all weather enclosure with heater and blower as appropriate for local weather conditions.

A.4.3 **Overheight Detector**

A.4.3.1 The percentage of misdetections or false detections:  $< 5\%$ .

A.4.3.2 Minimum range of 120 feet.

A.4.3.3 Sunlight immunity to 10,000 foot-candles.

A.4.3.4 Reaction speed less than 2 seconds for an object up to 75mph, at 2.5 inch diameter, one inch above the detection threshold.

A.4.4 **VWS Site Server PC**

A.4.4.1 Vendor shall provide complete technical and environmental specifications for VWS Site Server PC and associated components. The VWS Site Server PC shall be designed for external, environmentally rugged industrial applications. The VWS server PC shall be installed and

secured in a roadside cabinet and include a rack or shelf mounted monitor (15" minimum), a keyboard, and a mouse for diagnostics and maintenance.

- A.4.4.2 The VWS Server PC, router and other applicable devices shall be synchronized to the Network Time Protocol (NTP) periodically and the timestamp drift shall not exceed two (2) seconds.

#### A.4.5 **Site Activation System**

- A.4.5.1 The Site Activation System shall detect the presence of vehicles to trigger the imaging technologies and WIM sensors, and works in conjunction with the WIM sensor to classify vehicles.
- A.4.5.2 Integrates with the WIM data to complete the vehicle record.
- A.4.5.3 Provide vehicle class in the FHWA 13 categories with 95% accuracy.
- A.4.5.4 Provide high reliability in all weather conditions (95% accuracy) and over 10,000 hours mean time between failures (MTBF).
- A.4.5.5 Utilizes non-intrusive technology for high volume (>60,000 ADT) roadways, and/or limited access roadways.
- A.4.5.6 If required and where applicable, loop detector(s) used in conjunction with the WIM layout shall have a minimum loop area of 6 feet x 6 feet. The loop wire shall be single conductor, 14AWG, IMSA 51-5 compliant. Loop leads must be 2 conductor, 14AWG, in IMSA 50-2 cable. All saw cut loops shall be sealed with 3M-loop sealant.
- A.4.5.7 A comprehensive sensor calibration shall be performed by the Vendor after installation and before acceptance testing. This calibration shall include at least ten (10) passes by a truck of certified weight passing over the sensor ten (10) miles below the speed limit and at least ten (10) passes at the posted speed limit for the road under consideration. The results of these tests, along with the associated truck images for each pass, shall be provided to the Department as a part of acceptance testing. These tests shall be carried out in conjunction with appropriate Department personnel present.

#### A.4.6 **Metered Power Service**

- A.4.6.1 Vendor shall assess each site to ensure that power service is available in the immediate vicinity. If power service is not available, the Vendor shall coordinate with the local electric utility company to install, provision, and turn on required metered power for the system. The cost for provisioning this power shall be paid by DelDOT; any utility coordination costs shall be included as part of the "Project Management, Design Coordination and Construction Coordination" line item in the Cost Matrices. If power service is available in the vicinity from a local, Department metered electrical service delivery point, the Vendor shall work with the local electric utility to ensure the availability of sufficient capacity. A separate electrical disconnect shall be provisioned for the

VWS system to ensure complete isolation of power between the VWS and other existing Department-provisioned systems at the site.

#### **A.4.7 VWS System**

A.4.7.1 Vendor to provide detailed technical and functional deliverables that shall include a comprehensive system description and operational characteristics for a fully integrated, turnkey VWS system, including all system sub components and materials. This shall include details regarding secure, weather resistive and climate controlled roadside enclosures, cabinets, poles, etc. for any and all equipment with appropriate concrete pads, foundations and other mounting hardware for local environmental and climate conditions.

A.4.7.2 All construction work, maintenance of traffic, notification of maintenance, and soil disturbance as well as soil and surface rehabilitation work shall be done in accordance with Department Standard Construction Details. All outdoor locations, system components and equipment shall be properly protected from the environment, able to operate from -40F to +135F, and be properly grounded.

#### **A.4.8 Portable VWS Site/Components**

A.4.8.1 Vendor to provide detailed technical and functional deliverables that shall include a comprehensive system description and operational characteristics for a fully integrated, portable or semi-portable VWS system, including all system sub components and materials. This shall include details regarding secure, weather resistant and climate controlled roadside enclosures, cabinets, poles etc. for any and all equipment with appropriate concrete pads, foundations and other mounting hardware for local environmental and climate conditions.

A.4.8.2 Portable VWS shall meet the functional and technical specifications noted for VWS components.

A.4.8.3 All construction work, maintenance of traffic, notification of maintenance, and soil disturbance as well as soil and surface rehabilitation work shall be done in accordance with Department Standard Construction Details and/or the Delaware MUTCD. All outdoor locations, system components and equipment shall be properly protected from the environment, able to operate from -40F to +135F, and be properly grounded.

### **A.5 ITMS Integration Requirements**

#### **A.5.1 Department ITMS Interface**

The Vendor provided System shall be designed to interface to the Department ITMS to facilitate the provision of real-time automatic vehicle classification (AVC), weight, and other data, collectively referred to as VWS data, into the ITMS. This interface may be implemented at the time of the System installation or at some later time. In either case, the System shall be designed such that implementation of the ITMS interface to



provide VWS data shall only require minor changes to the system software and shall not require additional equipment. The ITMS data interface shall be implemented via JSON based messaging via ActiveMQ Messaging protocols in a publish/subscribe design. The Vendor shall describe their implementation approach for the ITMS interface in their proposal.

**A.5.2 Real-Time VWS Data**

The Vendor-provided System shall be designed to provide real-time VWS data to the ITMS. This interface shall be designed such that the data arrive at the ITMS interface within four seconds of the time that they arrive at the VWS Central Server. The Vendor shall provide an Interface Control Document (ICD) with sufficient detail to allow Department personnel to develop an application to decode the various messages and extract data and message content.

## **APPENDIX B – ACRONYM LIST**

AASHTO – American Association of State Highway and Transportation Officials

AFDS – Active Direct Federation Services

ALPR – Automated License Plate Reader

ARB – Architecture Review Board

ASTM – American Society for Testing and Materials

ATP – Acceptance Test Procedures

AUR – Automatic USDOT Number Recognition

BAFO – Best and Final Offer

BOLO – Be-On-The-Look-Out

CE – Conformité Européenne

CFR – Code of Federal Regulations

CIF – Carriage Insurance and Freight

CMV – Commercial Motor Vehicles

COM – Computer Output Microfilm

COTS – Commercial Off-The-Shelf

CVEU – Commercial Vehicle Enforcement Unit

CVIEW – Commercial Vehicle Information Exchange Window

CVISN – Commercial Vehicle Information Systems and Networks

DMS – Dynamic Message Signs

DMZ – Demilitarized Zone

DOIT – Department of Information Technology

DSP – Delaware State Police

DSRC – Dedicated Short Range Communications

DTI – Delaware Department of Technology and Information

FCC – Federal Communications Commission

FHWA – Federal Highway Administration

FOIA – Freedom of Information Act

FTA – Federal Transit Administration

GUI – Graphical User Interface

IAM – Identity and Access Management

ICD – Interface Control Document

ITMS – Integrated Transportation Management System  
IT – Information Technology  
ITS – Intelligent Transportation System  
JAWS – Job Access with Speech  
LP – License Plate  
LPR – License Plate Reader  
MPT – Maintenance and Protection of Traffic  
MTBF – Mean Time Between Failures  
MUTCD – Manual on Uniform Traffic Control Devices  
NEMA – National Electrical Manufacturer Association  
NTP – Notice to Proceed  
OCR – Optical Character Recognition  
PDF – Portable Document Format  
PrePass – Name of service for transponder-based e-screening system  
PM – Project Manager  
PRISM – Performance and Registration Information Systems Management  
PTZ – Pan, Tilt, and Zoom  
RFP – Request for Proposals  
ROW – Right-of-Way  
SAFER – Safety and Fitness Electronic Records  
SOW – Scope of Work  
SQL – Structured Query Language  
SSD – Solid State Drives  
SSLVPN – Secure Socket Layer Virtual Private Network  
UL – Underwriters Laboratories  
USDOT – United States Department of Transportation  
VMW – Variable Message Sign  
VWS – Virtual Weight Station  
WIM – Weigh-in-Motion

**APPENDIX C – COST MATRICES**

<b>COST MATRIX 1 - PILOT VWS SITES (PHASE 1)</b>					
<b>Item</b>	<b>Task Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>
1.1	Project Management, Design Coordination & Construction Coordination	1	Lump Sum		
1.2	DTI/ARB Requirements	1	Lump Sum		
1.3	VWS Site Server PC and Peripheral Equipment (monitor, keyboard, mouse, communications)	2	Each		
1.4	Weigh-in-Motion Scale	2	Each		
1.5	Site Activation System	2	Each		
1.6	Over Height Detector	2	Each		
1.7	LPR Camera	2	Each		
1.8	Overview Camera	2	Each		
1.9	Cabinet and UPS	2	Each		
1.10	System Integration	2	Each		
1.11	Testing and Documentation	2	Each		
1.12	Maintenance and Protection of Traffic (MPT)	2	Each		
1.13	Software Licensing	2	Each		
1.14	Training -- DSP End User	4	Each		
1.15	Training -- DelDOT/DTI Support	2	Each		
1.16	VWS Central Server	1	Lump Sum		
1.17	Controller Software	1	Lump Sum		
1.18	LPR Software/Configuration	1	Lump Sum		
1.19	Spare Parts Inventory -- Pilot Sites	1	Lump Sum		
1.20	Maintenance Cost Year 1*	2	Each		
1.21	Maintenance Cost Year 2*	2	Each		
1.22	Maintenance Cost Year 3*	2	Each		
1.23	Maintenance Cost Year 4*	2	Each		
1.24	Maintenance Cost Year 5*	2	Each		
	<b>Phase 1 Total Cost</b>				

**Note: Equipment Cost includes equipment purchase, installation & integration.**

**\* Provide maintenance cost per site for the 2 pilot sites.**

<b>COST MATRIX 2 - FUTURE VWS SITES (PHASE 2)</b>					
<b>Item</b>	<b>Task Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>
2.1	Project Management, Design Coordination & Construction Coordination	1	Each		
2.2	DTI/ARB Requirements	1	Each		
2.3	VWS Site Server PC and Peripheral Equipment (monitor, keyboard, mouse, communications)	1	Each		
2.4	Weigh-in-Motion Scale	1	Each		
2.5	Site Activation System	1	Each		
2.6	Over Height Detector	1	Each		
2.7	LPR Camera	1	Each		
2.8	Overview Camera	1	Each		
2.9	Cabinet and UPS	1	Each		
2.10	System Integration	1	Each		
2.11	Testing and Documentation	1	Each		
2.12	Maintenance and Protection of Traffic (MPT)	1	Each		
2.13	Software Licensing	1	Each		
2.14	Spare Parts Inventory -- Future Sites	1	Each		
2.15	Maintenance Cost Year 1*	1	Each		
2.16	Maintenance Cost Year 2*	1	Each		
2.17	Maintenance Cost Year 3*	1	Each		
2.18	Maintenance Cost Year 4*	1	Each		
2.19	Maintenance Cost Year 5*	1	Each		
	<b>Phase 2 Total Cost</b>				

**Note: Equipment Cost includes equipment purchase, installation & integration.**

**\* Provide maintenance cost per site; total number of sites undetermined.**

COST MATRIX 3 - OPTIONAL ITEMS					
Item	Task Description	Qty	Unit	Unit Cost	Total Cost
3.1	Variable Message Signs (VMS) for Pilot Site (including construction, utilities, integration)	1	Lump Sum		
3.2	Fixed VWS Sites - USDOT Reader, including software, integration, installation, & licensing*	TBD	Each		
3.3	Portable VWS - WIM & Roadside Cabinet with WIM Server PC, peripheral equipment, and communications	TBD	Each		
3.4	Portable VWS - Portable Trailer with Overview Camera, LPR, Overheight Detector	1	Each		
3.5	Portable VWS - Purchase and Install USDOT Reader (For Trailer)	1	Each		
3.6	Portable VWS - DSP End User Training on Set-up and Breakdown	1	Each		
3.7	Web-Based Training -- DSP End User	TBD	Each		
3.8	Web-Based Training -- DelDOT/DTI Support	TBD	Each		

**Note: Equipment Cost includes equipment purchase, installation & integration**

**\* Provide total cost to add USDOT # Reader to any Fixed VWS Site.**

COST MATRIX 4 - LABOR AND EQUIPMENT COSTS					
Item	Description	Qty	Unit	Unit Cost	Escalation
4.1	Labor Category 01	1	Hour		
4.2	Labor Category 02	1	Hour		
4.3	Labor Category 0x	1	Hour		
4.4	Equipment 01	1	Each		
4.5	Equipment 02	1	Each		
4.6	Equipment 0x	1	Each		

Note: Prove Annual Escalation on a percentage basis.

## **APPENDIX D – REQUIRED FORMS**

The following forms are required to be completed by the Vendor and returned with each Proposal:

- **Submission Form**
- **Certification of Eligibility**
- **Certificate Of Non-Collusion**
- **Certification Of Primary Participant Regarding Debarment, Suspension, And Other Responsibility Matters**
- **Certification Of Restrictions On Lobbying**
- **Certification for Buy America**
- **Certification Regarding Conflict of Interest**



**SUBMISSION FORM**  
**Department of Transportation**  
**Request for Proposal 1723**

**VIRTUAL WEIGH STATIONS**

**Attention:** Wendy Henry, Consultant Control Coordinator  
Delaware Department of Transportation  
800 Bay Road  
Dover, DE 19901

We have read Request for Proposal number 1723 and fully understand the intent of the proposal as stated, certify that we have adequate personnel and equipment to fulfill the requirements thereof, and agree to furnish such services in accordance with the contract documents as indicated should we be awarded the contract.

Debarment or Suspension - Any individual, business, organization, corporation, consortium, partnership, joint venture, or any other entity including subvendors currently debarred or suspended is ineligible to bid. Any entity ineligible to conduct business in the State of Delaware for any reason is ineligible to respond to the RFP.

**Date:** \_\_\_\_\_ **Submitted By:** \_\_\_\_\_

**Proposer Firm:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Designated Contact Person:** \_\_\_\_\_

**E-Mail:** \_\_\_\_\_ **Phone No.:** \_\_\_\_\_

**Signature of Company Authorized Person:** \_\_\_\_\_

**Title of Authorized Person:** \_\_\_\_\_

**Printed Name of Authorized Person:** \_\_\_\_\_

**Federal E.I. No.:** \_\_\_\_\_

**State of DE Business License No.:** \_\_\_\_\_

**Proposer is a [state whether Sole Proprietor,  
Partnership, Corporation, other]:** \_\_\_\_\_

**CERTIFICATION OF ELIGIBILITY**

**Delaware Department of Transportation**

**Request for Proposal 1723 – VIRTUAL WEIGH STATIONS**

**Attention:** Wendy B. Henry, Contract Administration  
Delaware Department of Transportation  
800 Bay Road  
Dover, DE 19901

We have read Request for Proposal number 1723 and fully understand the intent of the RFP as stated, certify that we have adequate personnel and knowledge to fulfill the requirements thereof, and agree to furnish such services in accordance with the contract documents as indicated should we be awarded the contract.

\_\_\_\_\_ hereby certifies that it is not included on the United States Comptroller General’s Consolidated List of Persons or Firms Currently Debarred for Violations of Various Public Contracts Incorporating Labor Standard Provisions.

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Sworn and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2014.  
My commission expires \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

## CERTIFICATE OF NON-COLLUSION

By submission of this bid, each Vendor and each person signing on behalf of any Vendor certifies, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

- 1) The prices in this Proposal have been arrived at independently without collusion, consultation, communication, or agreement for the purpose of restricting to such prices, with any other bidder or with any competitor;
- 2) Unless otherwise required by law, the prices which have been quoted in this Proposal have not been knowingly disclosed by the Vendor and will not knowingly be disclosed by the Vendor prior to opening, directly or indirectly, to any other Vendor or to any competitor; and
- 3) No attempt has been made or will be made by the Vendor to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Date

Sworn and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 2014.  
My commission expires \_\_\_\_\_.

\_\_\_\_\_  
Notary Public

**CERTIFICATION OF PRIMARY PARTICIPANT REGARDING  
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY  
MATTERS**

The Primary Participant (applicant for an FMCSA grant or cooperative agreement, or potential vendor for a major third party contract), \_\_\_\_\_ certifies to the best of its knowledge and belief, that it and its principals:

- 1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;
- 2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- 3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
- 4) Have not within a three-year period preceding this application/proposal had one or more public transactions (federal, state or local) terminated for cause or default.

If the primary participant (applicant for an FMCSA grant or cooperative agreement, or potential third party vendor) is unable to certify to any of the statements in this certification, the participant shall attach an explanation to this certification.

The Primary Participant (applicant for an FMCSA grant or cooperative agreement, or potential vendor for a major third party contract), \_\_\_\_\_ certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provisions of 31 U.S.C. Sections 3801 et seq, are applicable thereto.

\_\_\_\_\_  
Signature and Title of Authorized Official

\_\_\_\_\_  
Date

## CERTIFICATION OF RESTRICTIONS ON LOBBYING

The Bidder or Offeror certifies, to the best of its knowledge and belief, that:

1) No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of a federal department or agency, a member of the U.S. Congress, an officer or employee of the U.S. Congress, or an employee of a Member of the U.S. Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification thereof.

2) If any funds other than federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions (as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq.)).

3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

THE BIDDER OR OFFEROR, \_\_\_\_\_, CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF EACH STATEMENT OF ITS CERTIFICATION AND DISCLOSURE, IF ANY. IN ADDITION, THE BIDDER OR OFFEROR UNDERSTANDS AND AGREES THAT THE PROVISIONS OF 31 U.S.C. §§ 3801 ET SEQ. APPLY TO THIS CERTIFICATION AND DISCLOSURE, IF ANY.

\_\_\_\_\_ Signature of the Bidder or Offeror's Authorized Official

\_\_\_\_\_ Name and Title of the Bidder or Offeror's Authorized Official

\_\_\_\_\_ Date

## CERTIFICATION REGARDING CONFLICTS OF INTEREST

For purposes of Bidder, the potential Vendor, performing services for Delaware Department of Transportation, "conflict of interest" means that, because of activities or relationships with other persons or entities, (1) Vendor is unable to render impartial assistance or advice to Delaware Department of Transportation, (2) Subcontractor's objectivity in performing the services under the Agreement is or might be otherwise impaired, or (3) Vendor has, or attempts to create, an unfair competitive advantage.

The undersigned certifies, to the best of his or her knowledge and belief, that:

1. It does not and will not have a conflict of interest in performing the services for Delaware Department of Transportation pursuant to this Agreement.
2. It will not: (a) engage in activities, or (b) initiate or maintain relationships with persons or entities, where such activities or relationships create a conflict of interest.
3. It will use its best effort to identify and prevent potential sub-vendor conflicts of interest. Vendor will inform Delaware Department of Transportation of any activity or relationship that Vendor has reason to believe may create a conflict of interest.
4. It is not a party to any existing agreement which would prevent Vendor from entering into and performing this Agreement.

\_\_\_\_\_  
(Name of Bidder/Responder)

\_\_\_\_\_  
(Signature of Authorized Representative)

\_\_\_\_\_  
(Printed Name of Authorized Representative)

\_\_\_\_\_  
(Title of Authorized Representative)

\_\_\_\_\_  
(Date of Signature)

## **APPENDIX E – DELAWARE STATE POLICE LAPTOP CONFIGURATION**

The Delaware State Police Commercial Vehicle Enforcement Unit's vehicles are equipped with laptop computers that were purchased in April 2014. The computers are configured as described below.

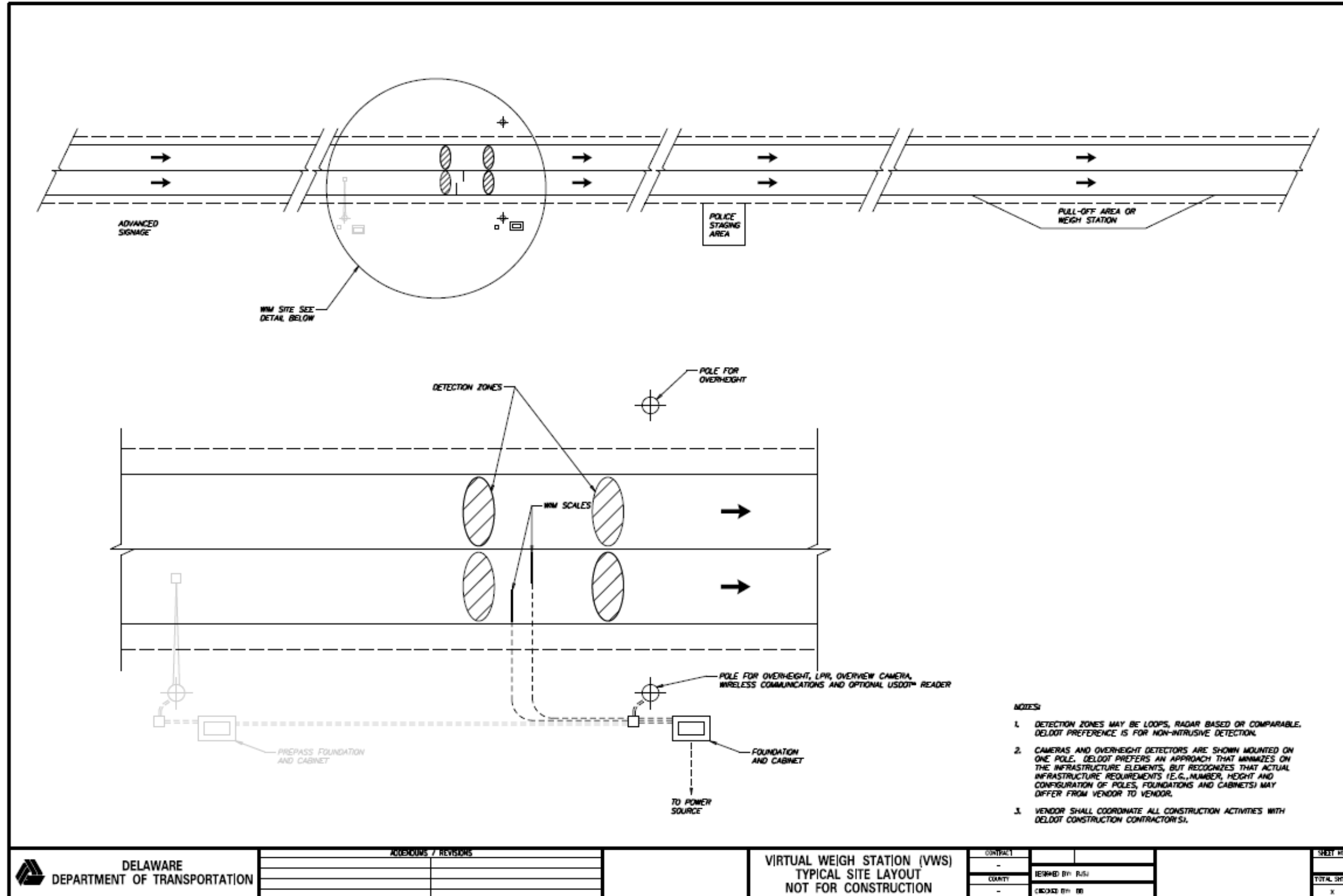
- Latitude E6440 CTO (210-AAXJ)
- 8GB Dual Channel DDR3L 1600MHz (4GBx2) (370-AAPE)
- Internal English Backlit Dual Pointing Keyboard (580-ABBU)
- Intel HD graphics 4600 (490-BBLI)
- Dell Wireless 1506 Driver (555-BBDN)
- 2.5 inch 500GB Solid State Hybrid Drive, Latitude E6x40 (400-AAGJ)
- Windows 7 Professional, 64-bit, No Media, Latitude, English (421-8067)
- 6-cell (60Wh) Lithium Ion battery with ExpressCharge (451-BBBL)
- No Wireless Wan Card (362-BBBB)
- 8X DVD+/-RW Drive (429-AABK)
- Dell Wireless 1506 802.11g/n Single Band Wi-Fi Half Mini Card (555-BBCZ)
- US Power Cord (537-BBBD)

**APPENDIX F – LINKS FOR DTI REQUIREMENTS**

<b>Category/File Name</b>	<b>Web Address</b>
<b><i>Access</i></b>	
Acceptable Use Policy	<a href="http://dti.delaware.gov/pdfs/pp/AcceptableUsePolicy.pdf">http://dti.delaware.gov/pdfs/pp/AcceptableUsePolicy.pdf</a>
Acceptable Use Policy Self Test	<a href="http://dti.delaware.gov/information/aup_self_test.shtml">http://dti.delaware.gov/information/aup_self_test.shtml</a>
Domain Naming Standards	<a href="http://dti.delaware.gov/pdfs/pp/DomainNamingStandards.pdf">http://dti.delaware.gov/pdfs/pp/DomainNamingStandards.pdf</a>
Domain Name Request Process	<a href="http://state.extranet.dti.state.de.us/documents/Domain_Name_Request_Process.pdf">http://state.extranet.dti.state.de.us/documents/Domain_Name_Request_Process.pdf</a>
<b><i>Architecture</i></b>	
System Architecture Standard	<a href="http://state.extranet.dti.state.de.us/documents/SystemArchitectureStandard.pdf">http://state.extranet.dti.state.de.us/documents/SystemArchitectureStandard.pdf</a>
Systems Environment Standard	<a href="http://dti.delaware.gov/pdfs/pp/SystemsEnvironment.pdf">http://dti.delaware.gov/pdfs/pp/SystemsEnvironment.pdf</a>
Database Management System Standard	<a href="http://dti.delaware.gov/pdfs/pp/DatabaseManagementSystems.pdf">http://dti.delaware.gov/pdfs/pp/DatabaseManagementSystems.pdf</a>
Data Modeling Standard	<a href="http://dti.delaware.gov/pdfs/pp/DataModelingStandard.pdf">http://dti.delaware.gov/pdfs/pp/DataModelingStandard.pdf</a>
Document Imaging Standard	<a href="http://dti.delaware.gov/pdfs/pp/DocumentImagingStandard.pdf">http://dti.delaware.gov/pdfs/pp/DocumentImagingStandard.pdf</a>
Geographic Information System Standard	<a href="http://dti.delaware.gov/pdfs/pp/GeographicInformationSystems.pdf">http://dti.delaware.gov/pdfs/pp/GeographicInformationSystems.pdf</a>
Website Common Look & Feel	<a href="http://dti.delaware.gov/pdfs/pp/WebsiteCLF.pdf">http://dti.delaware.gov/pdfs/pp/WebsiteCLF.pdf</a>
<b><i>Network</i></b>	
Cabling and Wiring	<a href="http://dti.delaware.gov/pdfs/pp/CablingAndWiringStandard.pdf">http://dti.delaware.gov/pdfs/pp/CablingAndWiringStandard.pdf</a>
<b><i>Privacy</i></b>	
Disclosure of Individual User e-Resource Records Policy	<a href="http://dti.delaware.gov/pdfs/pp/eRecordsRequestPolicy.pdf">http://dti.delaware.gov/pdfs/pp/eRecordsRequestPolicy.pdf</a>
<b><i>Security</i></b>	
State of Delaware Information Security Policy	<a href="http://dti.delaware.gov/pdfs/pp/DelawareInformationSecurityPolicy.pdf">http://dti.delaware.gov/pdfs/pp/DelawareInformationSecurityPolicy.pdf</a>
Electronic Signature Standard	<a href="http://dti.delaware.gov/pdfs/pp/ElectronicSignature.pdf">http://dti.delaware.gov/pdfs/pp/ElectronicSignature.pdf</a>
Encryption Key Management Policy	<a href="http://dti.delaware.gov/pdfs/pp/EncryptionKeyManagementPolicy.pdf">http://dti.delaware.gov/pdfs/pp/EncryptionKeyManagementPolicy.pdf</a>
Mobile Device Encryption Standard	<a href="http://dti.delaware.gov/pdfs/pp/MobileDeviceEncryptionStandard.pdf">http://dti.delaware.gov/pdfs/pp/MobileDeviceEncryptionStandard.pdf</a>
Remote Access Standard	<a href="http://dti.delaware.gov/pdfs/pp/RemoteAccessStandard.pdf">http://dti.delaware.gov/pdfs/pp/RemoteAccessStandard.pdf</a>
Secure File Transport	<a href="http://dti.delaware.gov/pdfs/pp/SecureFileTransport.pdf">http://dti.delaware.gov/pdfs/pp/SecureFileTransport.pdf</a>
Strong Password Standard	<a href="http://dti.delaware.gov/pdfs/pp/StrongPasswordStandard.pdf">http://dti.delaware.gov/pdfs/pp/StrongPasswordStandard.pdf</a>
Web Application Security	<a href="http://dti.delaware.gov/pdfs/pp/WebApplicationSecurity.pdf">http://dti.delaware.gov/pdfs/pp/WebApplicationSecurity.pdf</a>
Virus Protection Standard	<a href="http://dti.delaware.gov/pdfs/pp/VirusProtectionStandard.pdf">http://dti.delaware.gov/pdfs/pp/VirusProtectionStandard.pdf</a>
VPN Policy	<a href="http://dti.delaware.gov/pdfs/pp/VPNPolicy.pdf">http://dti.delaware.gov/pdfs/pp/VPNPolicy.pdf</a>



**APPENDIX G – DIAGRAM OF TYPICAL VWS SITE**



**DELAWARE**  
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

**VIRTUAL WEIGH STATION (VWS)**  
TYPICAL SITE LAYOUT  
NOT FOR CONSTRUCTION

CONTRACT	
COUNTY	

DESIGNED BY	R/S/J
CHECKED BY	

SHEET NO.	
TOTAL SHEETS	X