Contract Number *(VA-130620-CAI)*

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| **STATEMENT OF REQUIREMENTS (SOR)** **SOR #**  **VDOT-210510-01-CAI**  **(SMART Portal 2022)** |

1. **Date:** May 10, 2021
2. **Authorized User**: Virginia Department of Transportation
3. **Authorized User Contact Information:**

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1. **Solicitation Schedule:**

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| --- | --- |
| **Event** | **Date** |
| Release SOR | (05/14/2021) |
| Supplier Response Due | (05/28/2021) |
| Award Decision | (06/10/2021) |
| Estimated Project Start Date | (07/01/2021) |

1. **Evaluation and Scoring**

Supplier’s Response must be submitted in the specified Statement of Work (SOW) format and will be evaluated for format compliance.

Supplier’s Response will be evaluated for technical merit based on its appropriateness to the performance of agency requirements, its applicability to the Commonwealth Agency’s environment, and its effective utilization of Supplier and Commonwealth resources.

1. **Project/Service:**

SMART Portal 2022

1. **Specialty Area** (Check one)**:**

|  |  |
| --- | --- |
| Application Development | Information Security |
| Business Continuity Planning | IT Infrastructure |
| Business Intelligence | IT Strategic Planning |
| Business Process Reengineering | Project Management |
| Enterprise Architecture | Public Safety Communications |
| Enterprise Content Management | Radio Engineering Services |
| Back Office Solutions | IV&V Services |
| Geographical Information Systems |  |

1. **Contract Type** (Check)**:**

Fixed Price, Deliverable-based

1. **Introduction:**

Project History

The purpose of this project is to enhance the existing web-based application tool that was created as part of a legislatively required project prioritization process. Enhancements to the tool will allow applications to be submitted for multiple prioritizations-based grant programs to include State of Good Repair (SGR), Systemic Safety Improvements (SSI), Transportation Alternatives (TA), Revenue Sharing (RS), Highway Safety (HSIP), Bike/Ped Safety (BPSP), High Priority and District grant funding programs, supporting three VDOT divisions and three agencies under the Secretary of Transportation.

The Business has a partially automated process to receive, validate, and score eligible applications for SMART SCALE, Transportation Alternatives, Revenue Sharing, Highway Safety, Bike/Ped Safety, State of Good Repair, and Pre-Scoping applications and they need to enhance and improve the current process to facilitate the intake, screening, validation and scoring of the constantly increasing number of submissions of new applications. Additionally, the business needs to provide a web-based application tool to guide and help applicants to submit complete applications that are eligible for funding.

The current web-based application tool needs to be improved to allow for authorized applicants not only to submit eligible applications, but also re-submit applications not funded in prior cycles. The business needs to provide a system for localities/districts/jurisdictions to submit their Transportation projects that is simple and easy to use by all stakeholders. The tool must make it easier for the state to validate, screen, and score all applications without having to hire additional staff to complete the process within the required short timeframes.

Business Need

The updated version of the web-based application tool must meet the following criteria:

* User must be able to submit application without having to hire a consulting company to help develop the proposed project
* Allow for all applications not selected for the Six-year Improvement Plan (SYIP) to be activated - System will present list and reload data of projects that can be resubmitted
* Maintain previously submitted data - All data previously entered will be available for resubmission
* Allow for Add/Edit/Delete data of existing applications - All data loaded
* Allow applicants to submit for multiple grant programs through a single web-based portal.
* Improve Application Data Architecture
* Administrative Toolset – Provide Tools to better manage the SMART Portal system, users, and organizations through user interface controls
* Allow for scoring integration for all existing programs

The updated version of the tool will support applications submitted for multiple grant programs to include SMART SCALE, State of Good Repair, Systemic Safety Improvements, Transportation Alternatives, Revenue Sharing, Safety, Rail, Bike/Ped, High Priority and District grant funding programs, supporting three VDOT divisions and three agencies under the Secretary of Transportation.

Project Complexity

According to the VITA CPGA Risk and Complexity Assessment, this project is considered Category 4 – Low Risk/Medium Complexity.

This project has been classified as a Major IT project, of medium complexity, according to VITA’s IT Project Complexity Model. Projects in this class do not require IV&V review of technical, financial, and management aspects of the project.

Project Management and Organizational Structure

The SMART Portal project is managed as a Commonwealth of Virginia major IT project. The project is managed through the VDOT Information Technology Division (ITD), with input from Infrastructure Investment Division (IID) as the product owner. A Steering Committee is established consisting of personnel from ITD, Infrastructure Investment, Department of Rail and Public Transportation (DRPT), Office of Intermodal Planning & Investment (OIPI), and VDOT Internal Audit. The VDOT project team is comprised of staff that manages the Enterprise Data Warehouse (EDM) program.

1. **Scope of Work:**

The Authorized User requests the Supplier to provide SMART Portal Development, Maintenance and Support services.

Project work is currently ongoing and multiple phases were completed so far. The new phase of the project is planned to be completed in ten more releases, as follows:

**Release 26 - Implementation Date 09/03/2021**

1. **Revenue Sharing and TA Set-Aside FY2022 Screening and Validation Enhancements and changes** – Enhance the screening process for the Revenue Sharing and TA Programs, to allow VDOT staff to screen applications for FY2023 eligibility, and validation

*Business Need by September 30, 2021*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review RS screening workflow * Review TA screening workflow * Enable correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | S  360-400 hours |

1. **State of Good Repair Bridges FY2023 Pre-Application Intake –** Create the pre-application for SGR Bridges, similar to what is implemented for SMART SCALE, in order to allow VDOT staff to have better visibility of the needs of the locality and assist applicants with project description, and in submitting a more developed project application for the 2021 (FY2023) State of Good Repair Bridge applications.

*Business Need by October 01, 2021.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Develop the Pre-Application and improve the intake process for 2021 program * Inclusion of pre-application intake business validation logic prior to submission | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | S  360-400 hours |

1. **State of Good Repair Primary Extensions (Pavement) FY2023 Application Intake –** Improve and Increase the Number of Automated Data Validations for the 2021 (FY2023) State of Good Repair Pavements applications. The intent is to reduce the manual validation required by VDOT staff and prepare for online validation and scoring.

*Business Need by October 01, 2021.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review and improve the application intake process for 2021 programs * Inclusion of application intake business validation logic prior to submission | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | S  360-400 hours |

1. **State of Good Repair Bridges FY2023 Application Intake –** Improve and Increase the Number of Automated Data Validations for the 2021 (FY2023) State of Good Repair Bridges applications. The intent is to reduce the manual validation required by VDOT staff and prepare for online validation and scoring.

*Business Need by October 01, 2021.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review and improve the application intake process for 2021 programs * Inclusion of application intake business validation logic prior to submission * Bridge data schema changes | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | S  360-400 hours |

1. **State of Good Repair Programs Bridge FY2023 Screening and Validation Enhancements and Changes –** Enhance dynamic workflow and user interface to be used for screening and validations of State of Good Repair Bridges in the SMART Portal.

*Business Need by January 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Update packages of validation and screening workflows * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic screening and validation workflow. * Enhance UI to manage the workflow. | S  360-400 hours |

1. **State of Good Repair Programs Pavement FY2023 Screening and Validation Enhancements and Changes –** Enhance dynamic workflow and user interface to be used for screening and validations of State of Good Repair Primary Extensions in the SMART Portal.

*Business Need by January 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Update packages of validation and screening workflows * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic screening and validation workflow. * Enhance UI to manage the workflow. | S  360-400 hours |

**Release 27 - Implementation Date 11/26/2021**

1. **Revenue Sharing and TA Set-Aside FY2023 Programs Public Visibility –** Results of funding of 2021 (FY2023) Revenue Sharing and TA Set-Aside Program applications.

*Business Need by Mar 1 2022*.

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Provide online visibility of applications, scoring and selection for Revenue Sharing and TA Set-Aside Programs | * Develop UI and database views necessary for display of business approved results of the application process | XS  200-240 hours |

1. **State of Good Repair FY2023 Programs Public Visibility** – Results of funding of 2021 (FY 2023) application types:
   * State of Good Repair – Bridges and Primary Extensions

*Business Need by January 1, 2022.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Provide online visibility of scoring and selection for SGR applications | * Develop UI and database views necessary for display of business approved results of the application process | XS  200-240 hours |

1. **Pre-Scoping Mapping Enhancements –** This is new, map-based functionally.  This will allow applicants to document their ideas about transportation Projects and have the state review and make recommendation on those plans.

*Business Need by November 26, 2021.*

|  |  |  |
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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Enhancements as needed by the business within planned time | * Design and implement solution | M  540-600 hours |

1. **Pre-Scoping Dashboard Enhancements –** This is new, dashboard with new filters functionally.  This will allow applicants to select applications that are being developed with the state, and have the state review and make recommendation on those applications.

*Business Need by November 26, 2021.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Enhancements as needed by the business within planned time | * Design and implement solution | XS  200-240 hours |

1. **Pre-Scoping CRUD Enhancements –** This is new, Create, Read, Update and Delete functions to enhance UI experience with Pre-Scoping.  This will allow applicants to create, read, update or delete applications that are being developed with the state, and have the state review and make recommendation on those applications.

*Business Need by November 26, 2021.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Enhancements as needed by the business within planned time | * Design and implement solution | XS  200-240 hours |

1. **Pre-Scoping Integration with P4P Enhancements –** This is new, potentially map-based functionally.  This will allow the state to have a view of the pipeline of ideas about transportation Projects and have the state review and make recommendation on those plans.

*Business Need by November 26, 2021.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Integrate Pre-Scoping workflows into the Portal | * Technical Tasks to be determined | S  360-400 hours |

1. **Application Maintenance and Technical Debt A (Fall 2021)** 
   * One full sprint of development dedicated to application maintenance and enhancements that will improve application performance and usability

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Prioritized web application technical debt (to be discussed with product owner) | * Technical tasks prioritized on the Technical Debt Backlog | M  540-600 hours |

1. **Non-VDOT Administered Projects Module Enhancements** - Simplify the process for collecting the information for Non-VDOT Administered Projects using the Non-VDOT Administered Project SMART Portal Form and Milestone Form.

*Business Need by November 26, 2021.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Change data upload process from pool so that fields which pool is the source are UPDATED | * Modify NVAP ETL process to perform UPDATE/APPEND instead of just APPEND * Update label front end | S  360-400 hours |

**Release 28 - Implementation Date 02/18/2022**

1. **SMART SCALE FY2024 Integration Improvements** – Improve integration with P4P and Pre-Scoping. SMART SCALE applications will be able to start applications from P4P, Pre-Scoping, by cloning, or from scratch.

*Business Need by Mar 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Allow for SS to get App from Pre-Scoping, cloning, or create new. | * Populate Pre-Scoping apps * Populate clone mapping table * Display clone source information on front end. | S  360-400 hours |

1. **SMART SCALE FY2024 PreApplication Changes and Enhancements (PreApp ReDesign**) – Redesign and improve PreApplication concept (previously implemented for TA and Revenue Sharing programs) into stages for the FY2024 applications. Make changes to application as directed by the business.

*Business Need by Mar 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Change pre-application concept into a staged approach to prevent significant changes after the pre-application is approved | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | M  540-600 hours |

1. **SMART SCALE FY2024 Mapping Improvements –** Enhance SMART SCALE mapping usability.
   * Add LRS to PreApp
   * Enhance visibility of Economic Development routing data
   * Enhance visibility of VTrans Needs
   * Enhance UI to display Detailed VTrans Need description

*Business Need by Mar 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Enhance visibility of unselected VTrans Needs for applicants and VDOT staff. * Include mapping changes in compare differences tool * Give ability for pins and routing to be visible by District/CO Reviewers/Validators * Inclusion (capture) of detailed VTrans Need description | * Create TOC in Map Summary pearl to enable toggling of VTrans Needs map services * Implement compare differences feature in DOJO map control, including previous shape * Show pins and route in each Economic Development Site “Sites Summary” pearl * Display detailed need description under the Need Justifications list below the Location Map | S  360-400 hours |

1. **SMART SCALE FY2024 PreScreening workflow Changes and Enhancements -** Enhance the Prescreening process for the SMART SCALE Program, to allow VDOT staff to prescreen applications for eligibility, assist applicants with project prioritization, and in submitting more developed project applications.
   * Modify wording of risk messages pop up box

*Business Need by Mar 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review SMART SCALE Prescreening workflow * Roll Prescreening application into Full SMART SCALE Application * Enable correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | XS  200-240 hours |

1. **SMART SCALE FY2024 Full Application Changes and Enhancements** – Improve and Increase the Number of Automated Data Validations for the FY2024 applications. Make changes to application as directed by the business.

*Business Need by Mar 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * View application pearls based on role * Review and improve the application intake process for 2022 programs * Inclusion of application intake business validation logic prior to submission | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | S  360-400 hours |

1. **SMART SCALE FY2024 Application and Dashboard Changes** – Adjustments to the SMART SCALE application and Dashboard in preparation for FY2024 application intake.
   * Add Dashboard filters based on application criteria (ex. new grade – separated interchange)
   * Changes to application help

*Business Need by Mar 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review and improve the application intake process for 2024 programs * Inclusion of application intake business validation logic prior to submission | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | XS  200-240 hours |

1. **SMART SCALE FY2024 Needs as required by the business** – Enhance the as required by the business.

*Business Need by Mar 1, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * As required by the business | * Implement changes as required by the business | M  540-600 hours |

**Release 29 - Implementation Date 05/13/2022**

1. **SMART SCALE FY2024 Screening and Validation Enhancements and Changes** – Enhance dynamic workflow and user interface to be used for screening and validation of SMART SCALE applications in the SMART Portal.
   * The system will help validate data to be shared with stakeholders from VDOT
   * The system will help stakeholders from VDOT to automate the process to validate and review applications to be selected for funding

*Business Need by August 1, 2022*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Skip screening review of need in VTrans screening if it is not selected on the application. * Auto generate EWG decision brief * Ability for CO L&D to flag high risk projects to screen in addition to the 10%+2 and >=$50M * Update packages of validation and screening workflows * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic screening and validation workflow. * Enhance UI to manage the workflow. * Develop database views associated with updated screening and validation workflow | S  360-400 hours |

1. **Application Maintenance and Technical Debt B (Spring 2022)** 
   * One full sprint of development dedicated to application maintenance and enhancements that will improve application performance and usability

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Prioritized web application technical debt (to be discussed with product owner) | * Technical tasks prioritized on the Technical Debt Backlog | M  540-600 hours |

1. **SMART SCALE FY2024 Validation Tool Changes and Enhancements** - Enhance Validation Tool and user interface to be used for screening and validation
   * Wording Changes within Validation Tool
   * Save previous Validator comments
   * Filters to allow validators to access applications requiring attention

Business Need by August 1, 2022.

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| \* Change status back to PENDING when District make edits to the application so the CO validation is not wiped (need to preserve older comments so they can be reused by CO). | * Remove process that truncates comments * Ensure performance on dashboard grid is not impacted severely by new filters | S  360-400 hours |

1. **Highway Safety Improvement Programs FY2023 Application Intake** – Enhance dynamic workflow and user interface to be used for screening, validations and scoring of Highway Safety Improvement Programs:
   * Highway Safety Improvement Programs - Highway Safety
   * Highway Safety Improvement Programs - HSIP Bike/Ped
   * Highway Safety Improvement Programs - HSIP SSI
   * Highway Safety Improvement Programs - HSIP Rail
   * Add Federal Clearinghouse CMF Value Tables to HSIP Program Application

*Business Need by November 1, 2022.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Update packages of validation and screening workflows per program * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic screening and validation workflow. * Enhance UI to manage the workflow. * Develop database views associated with updated screening and validation workflow | L  720-800 hours |

**Release 30 - Implementation Date 08/05/2022**

1. **State of Good Repair Bridges FY2024 Pre-Application Intake –** Enhance the pre-application for SGR Bridges, similar to what implemented for SMART SCALE, in order to allow VDOT staff to have better visibility of the needs of the locality and assist applicants with project description, and in submitting a more developed project application for the 2022 (FY2024) State of Good Repair Bridge applications.

*Business Need by October 01, 2022.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Develop the Pre-Application and improve the intake process for 2021 program * Inclusion of pre-application intake business validation logic prior to submission | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | S  360-400 hours |

1. **State of Good Repair Primary Extensions (Pavement) FY2024 Application Intake –** Improve and Increase the Number of Automated Data Validations for the 2022 (FY2024) State of Good Repair Pavements applications. The intent is to reduce the manual validation required by VDOT staff and prepare for online validation and scoring.

*Business Need by October 01, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review and improve the application intake process for 2021 programs * Inclusion of application intake business validation logic prior to submission | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | S  360-400 hours |

1. **State of Good Repair Bridges FY2024 Application Intake –** Improve and Increase the Number of Automated Data Validations for the 2022 (FY2024) State of Good Repair Bridges applications. The intent is to reduce the manual validation required by VDOT staff and prepare for online validation and scoring.

*Business Need by October 01, 2022.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review and improve the application intake process for 2021 programs * Inclusion of application intake business validation logic prior to submission * Bridge data schema changes | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | S  360-400 hours |

1. **Mapping Updates –** All programs using the same mapping.

*Business Need by August 30, 2022.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Enhance visibility of mapping needs for applicants and VDOT staff. * Include mapping changes to all programs | * Enhance mapping associated with all programs | XL  1440-1600 hours |

**Release 31 - Implementation Date 10/28/2022**

1. **Highway Safety Improvement Programs FY2024 Screening** – Enhance dynamic workflow and user interface to be used for screening of Highway Safety Improvement Programs:
   * Highway Safety Improvement Programs - Highway Safety
   * Highway Safety Improvement Programs - HSIP Bike/Ped
   * Highway Safety Improvement Programs - HSIP SSI
   * Highway Safety Improvement Programs - HSIP Rail

*Business Need by November 1 2022.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Update packages of screening workflows * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic screening workflow. * Enhance UI to manage the workflow. | M  540-600 hours |

1. **Highway Safety Improvement Programs FY2024 Scoring Module Changes and Enhancements** – Enhance dynamic workflow and user interface to be used for scoring of Highway Safety Improvement Programs:
   * Highway Safety Improvement Programs - Highway Safety
   * Highway Safety Improvement Programs - HSIP Bike/Ped
   * Highway Safety Improvement Programs - HSIP SSI
   * Highway Safety Improvement Programs - HSIP Rail

*Business Need by November 1 2022.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Update scoring workflows * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic scoring workflow. * Enhance UI to manage the workflow. * Develop database views associated with updated scoring workflow | M  540-600 hours |

1. **User entered labels on map for Project Areas –** Enable applicants to provide map markup for Project Areas; labelling project areas within mapping module as needed

*\*Data Warehouse team/project will be affected by this item*

*Business Need by November 1, 2022.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Enable applicants to provide unique labels for Project Areas | * Rewrite how spatial data is handled/stored/transmitted/displayed for project areas * Change storage of all existing project area data in database * Coordinate changes with Data Warehouse | M  540-600 hours |

1. **Application Maintenance and Technical Debt C (Fall 2022)** 
   * One full sprint of development dedicated to application maintenance and enhancements that will improve application performance and usability

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Prioritized web application technical debt (to be discussed with product owner) | * Technical tasks prioritized on the Technical Debt Backlog | M  540-600 hours |

**Release 32 - Implementation Date 12/30/2022**

1. **State of Good Repair FY2024 Bridge Screening** – Enhance dynamic workflow and user interface to be used for screening of State of Good Repair Programs (Structures and Bridges) in the SMART Portal.

*Business Need by January 1, 2023.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Update packages of validation and screening workflows * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic screening and validation workflow. * Enhance UI to manage the workflow. * Develop database views associated with updated screening and validation workflow | S  360-400 hours |

1. **State of Good Repair FY2024 Pavement Screening** – Enhance dynamic workflow and user interface to be used for screening of State of Good Repair Programs (Primary Extensions) in the SMART Portal.

*Business Need by January 1, 2023.*

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| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Update packages of validation and screening workflows * Make any change necessary to wording, required fields and functionality of review questions and permissions | * Enhance the dynamic screening and validation workflow. * Enhance UI to manage the workflow. * Develop database views associated with updated screening and validation workflow | S  360-400 hours |

1. **State of Good Repair FY2024 Programs Public Visibility** – Results of funding of 2022 (FY 2024) application types:
   * State of Good Repair – Bridges and Primary Extensions

*Business Need by January 1, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Provide online visibility of scoring and selection for Highway Safety Programs | * Develop UI and database views necessary for display of business approved results of the application process | XS  200-240 hours |

1. **Highway Safety Improvement Programs and SMART SCALE FY2024 Public Visibility** – Results of funding of 2022 (FY2024) application types:
   * SMART SCALE
   * Highway Safety Improvement Programs - Highway Safety
   * Highway Safety Improvement Programs - HSIP Bike/Ped
   * Highway Safety Improvement Programs - HSIP SSI
   * Highway Safety Improvement Programs - HSIP Rail

*Business Need by January 1, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Provide online visibility of scoring and selection for Highway Safety Programs | * Develop UI and database views necessary for display of business approved results of the application process | S  360-400 hours |

1. **TA Set-Aside Program FY2025 Pre-Application Changes and Enhancements–** Enhance the pre-application process for the TA Program, similar to what was implemented for SMART SCALE, in order to allow VDOT staff to prescreen applications for eligibility, assist applicants with project prioritization, and in submitting more developed project applications.

*Business Need by May 1, 2023.*

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| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review creation of TA Preapplication * Enable cloning from previous applications into the preapplication for FY2025 * Roll Preapplication into Full TA Application * Review TA Prescreening workflow * Update correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | S  360-400 hours |

1. **Revenue Sharing Program FY2025 Pre-Application Changes and Enhancements** - Enhance the pre-application process for the Revenue Sharing Program, similar to what was implemented for SMART SCALE, in order to allow VDOT staff to prescreen applications for eligibility, assist applicants with project prioritization, and in submitting more developed project applications.

*Business Need by May 1, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review creation of Revenue Sharing Preapplication * Enable cloning from previous applications into the preapplication for FY2025 * Roll Preapplication into Full Revenue Sharing Application * Review Revenue Sharing Prescreening workflow * Update correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | S  360-400 hours |

**Release 33 - Implementation Date 03/03/2023**

1. **Phase Calculations Table enhancements** – Enhance module to assist users in inputting phase costs into program applications
   * Revenue Sharing
   * TA Set-Aside
   * SMART SCALE

*Business Need by March 1, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Add a table to help user to calculate PE estimate cost | * Develop UI and database views necessary for display of business approved results of the application process | XS  200-240 hours |

1. **TA Set-Aside Program FY2025 Full Application Enhancements -** Improve and Increase the Number of Automated Data Validations for the FY2025 applications. Make changes to application as directed by the business.

*Business Need by May 1, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Will be reducing the Full Application questions; no changes to PreApp questions | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | S  360-400 hours |

1. **Revenue Sharing Program FY2025 Full Application Enhancements -** Improve and Increase the Number of Automated Data Validations for the FY2025 applications. Make changes to application as directed by the business.

*Business Need by May 1, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review Revenue Sharing Full Application | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | XS  200-240 hours |

1. **Other Development as requested by the Business**

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
|  | * Create views, stored procedures, reporting, and UIs | XL  1440 – 1600 hours |

**Release 34 - Implementation Date 05/05/2023**

1. **Highway Safety Improvement Programs FY2025 Application Intake** - Improve and Increase the Number of Automated Data Validations for the FY2025 applications. Make changes to application as directed by the business.
   * Highway Safety Improvement Programs - Highway Safety
   * Highway Safety Improvement Programs - HSIP Bike/Ped
   * Highway Safety Improvement Programs - HSIP SSI
   * Highway Safety Improvement Programs - HSIP Rail

*Business Need by August 1, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review and improve the application intake process for 2023 programs * Inclusion of application intake business validation logic prior to submission | * Develop UI changes, back-end logic and changes to database schema * Develop database views associated with new application intake | M  540-600 hours |

1. **TA Set-Aside Program FY2025 PreScreening Enhancements** – Enhance the Prescreening process for the TA Program, similar to what was implemented for SMART SCALE, in order to allow VDOT staff to prescreen applications for eligibility, assist applicants with project prioritization, and in submitting more developed project applications
   * TA Prescreening process needs to be implemented by May 1 2023
   * Review prescreening workflow within the Portal for TA staff

*Business Need by May 1, 2023*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review TA Prescreening workflow * Roll Prescreened application into Full TA Application * Enable correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | S  360-400 hours |

1. **Revenue Sharing Program FY2025 PreScreening Enhancements -** Enhance the Prescreening process for the Revenue Sharing Program, similar to what was implemented for SMART SCALE, in order to allow VDOT staff to prescreen applications for eligibility, assist applicants with project prioritization, and in submitting more developed project applications
   * Revenue Sharing Prescreening process needs to be implemented by May 1 2023
   * Review prescreening workflow within the Portal for RS staff

*Business Need by May 1, 2023*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review Revenue Sharing Prescreening workflow * Roll Prescreening into Full Revenue Sharing Application * Enable correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | S  360-400 hours |

1. **Application Maintenance and Technical Debt D (Spring 2023)** 
   * One full sprint of development dedicated to application maintenance and enhancements that will improve application performance and usability

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Prioritized web application technical debt (to be discussed with product owner) | * Technical tasks prioritized on the Technical Debt Backlog | M  540-600 hours |

**Release 35 - Implementation Date 06/30/2023**

1. **TA Set-Aside FY2025 Screening and Validation Enhancements and changes** – Enhance the screening process for the TA Programs, in order to allow VDOT staff to screen applications for FY2025 eligibility, and validation

*Business Need by June 30, 2023*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review TA screening workflow * Enable correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | XS  200-240 hours |

1. **Revenue Sharing FY2025 Screening and Validation Enhancements and changes** – Enhance the screening process for the Revenue Sharing in order to allow VDOT staff to screen applications for FY2025 eligibility, and validation

*Business Need by June 30, 2023*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Review RS screening workflow * Enable correct permissions and security | * Develop UI changes, back-end logic and changes to database schema * Enable appropriate security | XS  200-240 hours |

1. **SMART SCALE Lane Builder Tool –** This is new, depends on Pre-Scoping needs, and potentially map-based functionally.  This will allow applicants to diagram proposed changes to intersections.  Information to be included:

* Location of intersection(s),
* Number of turn and thru lanes from each approach
* Signal information
* Turning movement counts
* Date of count

*Business Need by June 30, 2023.*

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
| * Develop a standalone tool incorporated with the SMART SCALE application intake process for applicants to sketch out intersection changes (This LOE is a complete guess. This requirement, while high-level, is too vague (“potentially map-based”) to be of use in Technical Task and Effort estimation) | * Design and implement solution | XL  1440-1600 hours |

1. **Other Development as requested by the Business**

|  |  |  |
| --- | --- | --- |
| **Functional Tasks** | **Technical Tasks** | **Effort Range** |
|  | * Create views, stored procedures, reporting, and UIs | XL  1440 – 1600 hours |

**Technical Standards**

* Supplier will use Authorized User standard tools (listed in Appendix)
* Supplier will follow other specific architecture requirements (see EA-SSOR in Appendix)
* Supplier will utilize Authorized User’s artifact templates for deliverables, where available (see Artifact templates in EA-SSOR).

1. **Period of Performance:**

Implementation of the solution will occur within 24 months of execution of this SOW. This includes delivery and installation of all products and services necessary to implement the Authorized User’s solution.

1. **Place of Performance** (Check one)**:**

Authorized User’s Location ­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(City, VA)*

Supplier’s Location \_Richmond, VA\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(City, State)*

Authorized User’s and/or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(Explain)*

Supplier’s Location

1. **Project Staffing**
2. **Supplier Personnel**

The roles listed in the table below represent the minimum Supplier personnel requirements for this engagement.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Key Personnel (Y/N)** | **Years of Experience** | **Certifications** | **References Required (Y/N)** |
| Project Manager | Y | 5 | N/A | Y |
| Technical Lead/Senior Programmer | Y | 5 | N/A | Y |
| Database Developer/Senior Programmer | Y | 5 | N/A | Y |
| Application Developer/Senior Programmer | Y | 5 | N/A | Y |
| Back End/Architect | Y | 3 | N/A | Y |
| GIS Analyst | N | 5 | 5 | Y |

1. **Authorized User Staff**

The roles listed in the table below represent Authorized User’s staff and the estimated time each will be available to work on the project.

|  |  |  |
| --- | --- | --- |
| **Role** | **Description** | **% Project Availability** |
| Project Manager | To provide contractual and procedural oversight and guidance. To coordinate with VDOT Divisional Subject Matter Experts and other staff. | 60% |
| Subject Matter Experts | To provide assistance in understanding the requirements of business users, and to provide input into the deliverables. | As required |
| Systems Engineer | To provide support to set-up, configuration, testing, and deployment. | As required |

1. **Milestones and Deliverables:**

The minimum required milestones and deliverables, and the estimated completion date for each deliverable, are listed in the following table. In addition, interdependencies between deliverables are noted for deliverables that have no stand-alone value or functionality. Such interdependencies will allow the Authorized User to seek recovery of amounts paid for previously accepted deliverables if the Supplier fails to deliver subsequent deliverables that meet the requirements.

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Milestone**  **Event(s)** | **Deliverable(s)** | **Estimated Completion Date** |
| 1 | Revenue Sharing and TA Set Aside Screening and Validation  SGR Intake | Review RS screening workflow  Review TA screening workflow  Enable correct permissions and security  SGR Pavements FY2023 Application Intake  SGR Bridges FY2023 Work Notification Form Intake | Sept 03, 2021 |
| 2 | Revenue Sharing,  TA Set Aside and  SGR Public Visibility  Pre-Scoping Enhancements | Revenue Sharing FY2023 Public Visibility  TA Set-Aside FY2023 Public Visibility  SGR FY2023 Public Visibility  Pre-Scoping Mapping Enhancements  Pre-Scoping Dashboard Enhancements  Pre-Scoping Integration with P4P  Application Maintenance and Technical Debt A (2021) | Nov 26, 2021 |
| 3 | SMART SCALE  FY2024 | SMART SCALE Integration improvements  SMART SCALE PreApplication redesign  SMART SCALE Mapping improvements  SMART SCALE PreScreening redesign  SMART SCALE Full Application improvements  SMART SCALE Application and Dashboard  SMART SCALE Full Application Validation Rules | Feb 18, 2022 |
| 4 | SMART SCALE Screening and Validation  HSIP Intake | SMART SCALE FY2024 Screening and Validation  SMART SCALE Validation tool enhancements  HSIP Intake redesign  Application Maintenance and Technical Debt B (2022) | May 13, 2022 |
| 5 | SGR Bridges Pre-App and Pavements  Full App Intake | SGR Bridges Pre-App implementation  SGR Programs FY2024 Application Intake  Mapping updates | Aug 05, 2022 |
| 6 | HSIP Screening and Validation | HSIP FY2024 Screening and Validation  HSIP FY2024 Scoring module redesign  User entered labels on map for Project Areas  Application Maintenance and Technical Debt C (2022) | Oct 28, 2022 |
| 7 | SGR Validation,  and SMART SCALE, SGR and HSIP Public Visibility | SGR FY2024 Screening and Validation  SGR FY2024 Public Visibility  HSIP FY2024 Public Visibility  SMART SCALE FY2024 Public Visibility  TA Set-Aside FY2025 Pre-Application (C&E)  Revenue Sharing FY2025 Pre-Application (C&E) | Dec 30, 2022 |
| 8 | TA Set-Aside and Revenue Sharing Enhancements | Phase Calculations Table  TA Set-Aside FY2025 Full Application (C&E)  Revenue Sharing FY2025 Full Application (C&E) | Mar 03, 2023 |
| 9 | HSIP Intake and  TA Set-Aside and Revenue Sharing Enhancements | HSIP FY2025 Application Intake  TA Set-Aside FY2025 PreScreening (C&E)  Revenue Sharing FY2025 PreScreening (C&E)  Application Maintenance and Technical Debt D (2023) | May 05, 2023 |
| 10 | TA Set-Aside and Revenue Sharing Screening and Validation  SMART SCALE and other enhancements | TA Set-Aside FY2025 Screening and Validation  Revenue Sharing FY2025 Screening and Validation  SMART SCALE Lane builder tool | Jun 30, 2023 |

The supplier will need to provide following one time only documents:

* Topology (spreadsheet with description and names, and Visio drawing docs)
  + Current and
  + Final up-to-date
* Wireframes/Prototype before each release

At the end of each Sprint, the following documents need to provide:

|  |
| --- |
| **Deliverable Description** |
| Updated version of the SMART Portal Design Document |
| Release Notes for each release moved to UAT during the Sprint |
| Use Cases for new functionality released to Prod |
| Process Flow for new functionality released to Prod |
| Updated Requirements Traceability |
| SMART Portal Project Releases Schedule |
| Spreadsheet with test performed and results |
| Weekly Status Report for each week within the Sprint |
| Sprint Retrospective form |
| Wireframes presented before each release |

The Supplier should provide all deliverables in electronic form, using the following software standards (or lower convertible versions):

|  |  |
| --- | --- |
| **Deliverable Type** | **Format** |
| Manuals, Specifications, Minutes | Microsoft Word 2010 |
| Spreadsheets | Microsoft Excel 2010 |
| Figures, Diagrams, Data Models | Microsoft Visio 2010 |
| Project Schedule | Microsoft Project 2010 |
| Tools, scripts, configuration files, application source code | Microsoft Visual Studio 2010 |

1. **Travel Expenses** (Check one)**:**

No travel will be required for this engagement

Travel must be included in the total fixed price of the solution

Travel should be invoiced separately (with prior Authorized User approval). Supplier should provide estimate of total travel expenses in their SOW response.

1. **Payment** (Check all that apply)**:**

Payment made based on successful completion and acceptance of deliverables

All payments, except final payment, are subject to a *(XX)*% holdback

1. **Acceptance Criteria:**

The Project Manager will have 5 days from receipt of the deliverable to provide Supplier with the signed acceptance receipt.

Final acceptance of services provided under the SOW will be based upon (Check one):

User Acceptance Test

Acceptance Criteria for this solution will be based on a User Acceptance Test (UAT) designed by Supplier and accepted by Authorized User. The UAT will ensure that all of the functionality required for the solution has been delivered. The Supplier will provide the Authorized User with a detailed test plan and acceptance checklist based on the mutually agreed upon UAT plan. This UAT plan checklist will be incorporated into the SOW.

Final Report

Acceptance criteria for this solution will be based on a final report. In the SOW, Supplier will define the format and content of the report to be provided to Authorized User for final acceptance.

Other (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Project Roles and Responsibilities:**

| **Responsibility Matrix** | **Supplier** | **Authorized User** |
| --- | --- | --- |
| Provide Supplier’s with network and development environment access |  |  |
| Infrastructure – Preparing the system infrastructure to meet the recommended solution |  |  |
| Server Hardware |  |  |
| Server Network Connectivity |  |  |
| PC Workstations – Network Access |  |  |
| PC Workstations – Client Software (VPN) |  |  |
| Wireless Network Access Points |  |  |
| Project Planning and Management |  |  |
| Requirements Analysis |  |  |
| Develop data flow and process flow diagrams for the enhanced workflows |  |  |
| develop wireframes (or other UI prototype) for new user interfaces |  |  |
| Application Design and Implementation |  |  |
| Scripts and instructions to move to User Acceptance Testing (UAT) |  |  |
| UAT Deployment |  |  |
| Review received code to meet industry standards and recommended practices for database design and ETL |  |  |
| Follow Change Management Request/Request For Change (CMR/RFC) process using VDOT standard  templates |  |  |
| Application Testing |  |  |
| Scripts and Instructions to move to Production |  |  |
| Production deployment |  |  |
| Implementation Support |  |  |
| Conversion Support – SME | n/a | n/a |
| Documentation |  |  |

1. **Criminal Background Checks and Other Security Requirements:**

*Criminal Background Checks Required?*

*YES*

*NO*

*(Please provide details surrounding agency specific background check and/or other security requirements).*

1. **Performance Bond** (Check one)**:**

Required for *(XXX)* % of the SOW value

Not Required

1. **Reporting** (Check all that are required):

**Weekly or Bi-weekly Status Update**

The weekly/bi-weekly status report, to be submitted by Supplier to Authorized User, should include: accomplishments to date as compared to the project plan; any changes in tasks, resources or schedule with new target dates, if necessary; all open issues or questions regarding the project; action plan for addressing open issues or questions and potential impacts on the project; risk management reporting.

**Other(s)** (Specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Federal Funds** (Check one):

Project will be funded with federal grant money

Project will be funded with federal ARRA funds

No federal funds or ARRA funds will be used for this project

1. **Training and Documentation:**
2. **Training is:**

Required as specified below

Not Required

Training Requirements:

Document highlighted updates to SMART Portal 2022.

1. **Documentation is:**

Required as specified below

Not Required

Documentation Requirements:

* Solution Requirements and Solution Approach.
* Release note documentation as needed to support delivery of each build as well as final implementation details.
* Sprint Planning and schedule
* Sprint retrospectives, review, and lessons learned.
* Weekly status report
* Documents required on EASSOR.

1. **Additional Terms and Conditions:**

The services to be provided are subject to the following additional provisions:

N/A

1. **Scheduled Work Hours:**

8:30AM – 5PM EST, Monday through Friday (excluding state holidays)

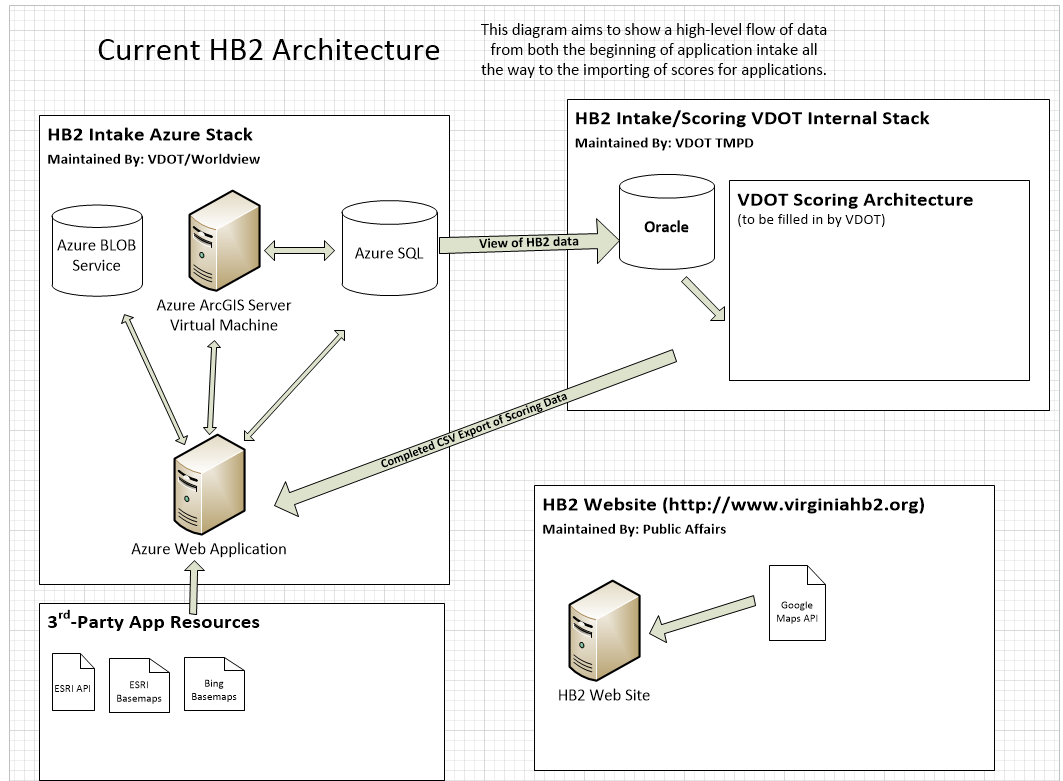
1. **Facility and equipment to be provided by Authorized User:**

* Facility Access:
  + VDOT Building, 1401 East Broad Street, Richmond, VA
* For Development, Source Control Team Foundation Server (TFS)
  + Development Environment
  + Test Environment
  + Change Management Request (CMR) for User Acceptance Test (UAT) Environment
  + CMR for Production Environment

VPN access to conduct meeting scheduling and software development

**27. Appendix**

**A. Architecture Diagram – new features are provided; should include a new architecture diagram**



**B. Metadata Template – new database views being developed; should notate metadata**

**C. Enterprise Architecture Supplemental SOR**