

Department of Lands and Surveys

Requirements Definition Document

Department of Lands and Surveys

Specialized Equipment Mapping Solution

(Volume ii)

November 2018

**Version**

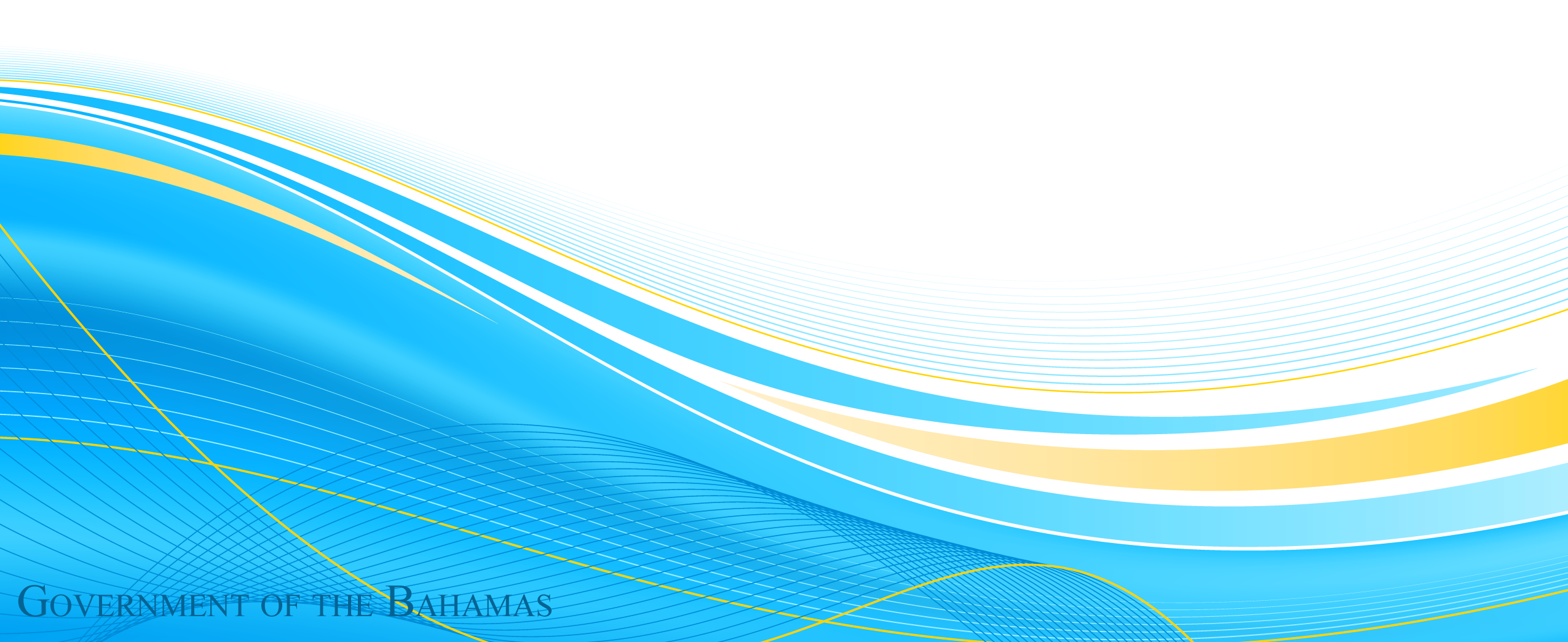
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**Produced By:**

Technical Committee:

Lands And Surveys,

Department of Information Technology

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# Introduction

The Department of Lands and Surveys (DoLS) mandate is to manage the Crown Lands and Government Lands, held in trust on behalf of the Bahamian people.

The Mapping Section is responsible for conducting surveys and quality recording of surveys and mapping.

The significance of the DoLS as a data producer and procurer for other governmental agencies, private sector and the public cannot be overstated.

Currently within the DoLS, there exists antiquated equipment (hardware & software), that are inadequate and lack the required capacity needed to fulfil governmental and private requests for information and data.

The DoLS is therefore seeking to solicit qualified Bidders for the provision of Specialized Mapping Equipment to meet the needs for the Mapping Section within the DoLS.

## Purpose

This document describes the functional and non-functional requirements, as well as the operating environment under which the specialised hardware and software will be procured, in order to collect, capture, record, process, and manage large volumes of data and documents.

## Project Scope

To procure specialised hardware and software, inclusive of professional services, for the Department of Lands and Surveys Mapping Section that will be utilised for the collection, capture, recording, processing, and management of huge amounts of data and documents. We estimate an initial 10 users.

To procure Business Process Management services for the reengineering of processes, mapping as-is processes and to-be processes

To procure Project Management services for the planning, execution, controlling and managing of the project from initiation to close-out.

The solution (hardware and software) is to be accessed from anywhere, both inside as well as outside The Bahamas.

The engagement will include:

1. The comprehensive analysis of the functional and non-functional requirements of DoLS.
2. Based on analysis (a), map the as-is process and to-be process (Business Process Reengineering).
3. The development, inclusive of any customizations, of products and services based on the results of the analysis, and in alignment with the DoLS requirements.
4. The installation of hardware and software within the The Bahamas Government’s Data Centre as well as the DoLS, with replication in the Disaster Recovery site.
5. Post implementation support and maintenance.
6. The deployment of a test and training environment.
7. Provision of User Manuals, Systems Manuals, Training Manuals, and Operational Guides. Other training aids such as videos and tutorials.
8. Training of system administrators and super/power users.
9. Project Management

## Reference

The layout of this material was formulized by Karl E. Wiegers, copyrighted 2000 with modifications and customizations by the Department of Information Technology, Government of The Bahamas. Further reference can be found: <http://www.processimpact.com/goodies.shtml#reqs>.

# Overall Description

## Product & Service Perspective

The Specialized Mapping Equipment (Software and Hardware) will enable improved productivity in the DoLS Mapping Section through use of modern technology for more efficient and effective processes and procedures; this in turn leading to greater customer satisfaction. The proposed solution will replace the inadequate products currently housed at the DoLS.

Modernized equipment and software impacts the current (mostly) manual process and therefore Business Process Re-engineering is required.

For successful project that delivers a product and result that is acceptable to stakeholders, sound project management is a must. Industry standard initiation, planning, execution, control and monitoring, and close-out is required.

Security and privacy features, which authenticate users and allows setting of their access level (authorization) is critical due to the nature of information received and processed by this agency. The proposed law prohibits the dissemination of information except under prescribed circumstances and only by authorized persons.

The Mapping solution will be required by law to retain information for a minimum required time specified by the Government of The Bahamas

It is important that the new specialized equipment be user friendly to ensure relative ease of use for both technical and non-technical persons. Equipment should also be readily upgradable and, where required, be able to integrate into the entire mapping solution seamlessly.

## Product (Hardware & Software) Features

1. Two (2) Large Format Scanners
2. Two (2) 11x17 or A3 Scanners
3. Two (2) Large Format Colour Plotter
4. Two (2) 11x17 or A3 Printer
5. Six (6) CAD/GIS/Photogrammetry Laptops
6. Six (6) Large Computer Screens
7. ArcGIS Pro
8. ArcGIS (w/ Survey component)
9. Mapping software
10. Document Management Software
11. Drone Processing software
12. Twenty Three (23) Geodetic Systems
13. Five (5) Sea level Monitoring Systems
14. One (1) Multi Beam Scanner System
15. Four (4) Precise Leveling and Accessories
16. Four (4) Electronic Level and Accessories
17. Four (4) RTK Equipment and Accessories
18. Four (4) Total Stations and Accessories
19. Two (2) UAS RGD Aerial Imaging Camera
20. Four (4) 3G Mobile Broadband Modem
21. Storage devices for large volumes of data, and readily retrievable
22. Servers with processing power for large documents and large volume

# Description Of Products Need

### Large Format Scanner

This product will be used for the scanning of large documents, maps, plans, etc. 18x24 to 42x42 which cannot be scanned with conventional scanners as this data may have to be reproduced. Large volume processing is expected.

### 11x17 or A3 Scanner

This product will be used for the scanning of Crown Grants, medium sized maps, plans, and documents. Large volume processing is expected.

### Large Format Colour Plotter

This product will be used for the high speed plotting of oversize maps, plans, aerial photographs, and documents that cannot be plotted with conventional printers/plotters. High volume levels.

### 11x17 or A3 Printer

This product will be used to print Crown Grants, medium sized maps, plans, and documents.

### CAD/GIS/Photogrammetry Laptops

This product will assist technicians in the field when critical data has to be accessed, manipulated or computed during field exercises. This includes the processing of CAD data, aerial photographs, satellite imagery and drone data.

### Large Computer Screens

This product will be used during the reproduction and creation of maps, plans and ortho-photogrammetric documents giving the user better visual effects. It gives users the ability to view high resolution imagery which is required for CAD/GIS and digital data processing and graphical presentation.

### ArcGIS Pro

This product software will be used to decipher and disseminate and utilize data in the GIS environment. It assembles all types of GEO data for sharing, presentation, storage and updating. It is a complete map authoring, advances analysis, data visualization, extensibility, and web GIS integration.

### ArcGIS (w/ Survey Component)

This product software will help to utilize data from the survey component in the GIS environment. It processes surveys and other data required to produce GEO referenced databases that can be queried, analysed, presented and updated.

### Mapping software

This software should have the ability to capture, enhance and automate the existing workflows for the Mapping Section processes. It will allow for a seamless mapping of field survey data to production of final Crown Grant/Lease. This will include all aspects of the plan registration process in accordance with the Land Surveyors Act, Chapter 251.

### Drone Processing software

This software will allow the processing of data collected in the field by drones both for colour photography and remote sensing images. It will follow the processes and accuracies as determined by the Surveyor General and as mandated by the Land Surveyors Act, Chapter 251.

### Twenty Three (23) Geodetic Systems

These will be to establish and maintain improved mapping system and provide the tools to access and extend the existing geodetic control. The Surveyor General is required by the Land Surveyors Act, Chapter 251, to provide this control for the licenced Land Surveyors and approved photogrammetry.

### Five (5) Sea level Monitoring Systems

These will be required to establish and monitor the mean sea level as required to support the geodetic systems and the overall benchmark controls as mandated under the Land Surveyors Act, Chapter 251.

### One (1) Multi Beam Scanner System

The system is a cost effective multi-beam sonar seabed mapping solution, which provides seafloor bathymetry.

### Four (4) Precise Levelling and Accessories

These are required to extend the mean sea level heights to the existing and extended geodetic control as referenced in 3.1.11 and 3.1.12.

### Four (4) Electronic Level and Accessories

These are necessary for the establishment of the topographic heights needed on site surveys which are referenced to the geodetic systems in 3.1.11 above.

### Four (4) RTK Equipment and Accessories

This equipment is needed for the survey of the control, parcels, and easements as required for all of the cadastral and topographic surveys which are normally executed by the Mapping Section. These surveys are critical to the complete mapping solution from the field to the final end product of a Crown Grant/Lease.

### Four (4) Total Stations and Accessories

These are pivotal for parcel surveys and topographic surveys which are used in combination with the equipment in 3.1.15 above. This equipment will be integral in the field to final product process of the mapping solution.

### Two (2) UAS RGD Aerial Imaging Camera

These UAS devices form the basis of producing aerial imagery both as colour photography and remotely sensed imagery. They are essential for mapping work in all aspects of departmental goods and services.

### Four (4) 3G Mobile Broadband Modem

These are necessary for the field teams for extended network coverage in remote areas. Survey campaigns will utilize these extensively for a prolonged period of time.

### Eight (8) Rugged Tablets w/ Cases

These items are required for field verification/onsite inspections. They will be able to withstand rough weather and harsh environments.

### Document Management Component

The document management facility will be used to store, retrieve, and manage whole information objects through a document storage facility for the Mapping Section and survey job files. This should ensure reusability, file sharing (the ability for officers and users (for public documents) to revise and review the same document), integrity, and interchange (the ability to access documents across different document repositories) of documents. The facility will enable documents to be indexed.

It will create, index, edit, save and store, and delete documents within a repository. The facility will automatically generate the date the document was created or the image was scanned and the originator (user responsible).

Audit trail will be maintained identifying who, what, when, and mode of access.

Readily integrated with other systems.

# Functional Requirements

| **ID** | **Requirement** | | **Product Satisfaction**  ***(Select appropriate response)***  ***0 = Does Not Meet***  ***1 = Partially Meets***  ***2 = Fully Meets***  ***3 = Exceeds*** | | **Comments** |
| --- | --- | --- | --- | --- | --- |
| **Functional Requirements** | | | | | |
| Large Format Scanner (LFS) | | | | | |
| **LFS001** | Should be able to handle variety of different paper weight and types, in particularly: card stock, drafting film, or basic printing paper. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS002** | Should have a stand. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS003** | Should have a maximum scan width of 42in (106.7cm). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS004** | Should have a maximum media width of 44in (111.6cm). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS005** | Should be high speed and high quality. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS006** | Should be able to scan documents and maps up to 0.08″ (2 mm) in thickness. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS007** | Should ensure that delicate or fragile media such as old maps or blueprints can be safely and accurately scanned without problems. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS008** | Should be able to scan large volume of maps and other documents for archiving purposes. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS009** | Must have the ability to feed multiple pages at a time. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS010** | Must be networkable | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LFS0011** | Should have OCR capability | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| 11X17 or A3 Scanner (SCN) | | | | | |
| **SCN001** | Should have sheet feeder. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **SCN002** | Should be high quality and high volume. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **SCN003** | Should be able to handle variety of different paper type and weight, in particularly: card stock, drafting film, or basic printing paper. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **SCN004** | Should have at least TWAIN or ISIS drivers | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **SCN005** | Should use USB 2.0 or 3.0 connections. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **SCN006** | Should be networkable. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **SCN007** | Should be able to feed multiple pages. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **SCN008** | Should have OCR capability | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| Large Format Color Plotter (FCP) | | | | | |
| **FCP001** | Should have a minimum of 320 GB Hard Drive. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP002** | Should be able to allow plotting from any device by various connections (network, Bluetooth, WiFi, etc...) | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP003** | Should be able to produce high quality, large-format prints at high speed. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP004** | Should have an intuitive touchscreen interface that enables users to quickly and easily select files to print and upload to network storage simultaneously. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP005** | The interface should be replicated via a mobile device, allowing users to control the printer from their tablets or smartphones. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP006** | Should have a maximum scan width of 42in (106.7cm). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP007** | Should have high speed, high volume, and high quality | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP008** | Should be able to handle variety of different specialized media, in particularly: card stock, drafting film, or basic printing paper. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **FCP009** | Should have a stand. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| 11X17 or A3 Printer (PRT) | | | | | |
| **PRT001** | Should be high quality and high volume. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PRT002** | Should have sheet feeders (especially A3 and 11x17). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PRT003** | Should be able to handle variety of different specialized media, weight and type, in particularly: card stock, drafting film, or basic printing paper. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PRT004** | Should be accessible via variety of connections (network, Wi-Fi, Bluetooth). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PRT005** | Should use USB 3.0 connections. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| CAD/GIS/Photogrammetry Laptops (PGL) | | | | | |
| **PGL001** | Should have high speed processing and graphics | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL002** | Should have Microsoft Windows 10 (64-bit version) Operating System | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL003** | Should have large monitor and DVDr burners. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL004** | Should have up to 4TB of storage. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL005** | Processor should be i7 or Xeon. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL006** | Processor speed should be Quad-Core 2.80 GHz (Intel i7-860 2.8 GHz) or better. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL007** | Should have a minimum RAM of 32 GB or greater. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL008** | Should have a minimum Hard Disk of 100 GB or more. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL009** | Should have DirectX 9 (or higher) compatible graphics card with 512 MB memory or more | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL0010** | Should support I/O Ports and USB 2.0 port or higher. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL0011** | Should be Networkable | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **PGL0012** | Should have a HDMI port | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| Large Computer Screens (LCS) | | | | | |
| **LCS001** | Should be flat screen. detailed survey work and used as the desktop monitor for the survey CAD/GIS laptops | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LCS002** | Should be used as a monitor for the survey CAD/GIS laptop. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LCS003** | Should be a minimum of 1920x1080 (HD standard) resolution. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LCS004** | Should have HDMI and DVI connections. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LCS005** | Should be no less than 42”. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **LC006** | Should have Adjustable height capability | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| Document Management SOFTWARE (DOC) | | | | | |
| **DOC001** | The software will be required to manage all documents related to **mapping solution**. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC002** | The software should allow documents to be captured, indexed, and attached/linked to the appropriate record and easily retrievable. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC003** | Should allow for quality verification and quality adjustment/correction (skew, contrast, speckle, etc.) | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC004** | The software should automatically generate the date a document was created or the image was scanned and the originator (user responsible). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC005** | The software must allow for secure annotations. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC006** | The software must provide audit trails to record the creating, editing, printing, and viewing of all documents. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC007** | The software should have data in the audit trail that include userid, date, type of operation, and workstation or session. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC008** | The software must allow appropriate permission levels for document access. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC009** | The software should ensure tracking and version control of document that is shared (the ability for users to revise and review the same document). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC010** | The software should maintain document integrity. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC011** | The software should allow for portability (the ability to access documents across different document repositories) of documents. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC012** | The software should allow creating of documents within a repository. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC013** | The software should allow indexing of documents within a repository. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC014** | The software should allow editing of documents within a repository. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC015** | The software should allow saving and storing of documents within a repository. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC016** | The software should allow deleting of documents within a repository. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **DOC017** | The software should have a user-friendly front-end for accessing, managing, searching/querying, and reporting. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
|  | Mapping Solution (MPS) | |  | |  |
| **MPS001** | Must have user-friendly selection tools. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS002** | Must have user-friendly workflows for automated mapping and surveying projects (geodetic, topographic and cadastral). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS003** | Must be able to provide customizable templates for mapping and surveying. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS004** | Should allow for integration across multiple apps and operating systems | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS005** | Should be able to integrate with various forms of survey information (survey job files, conveyances, historical plans, field books, control station card, etc…) | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS006** | Must have search feature capability. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS007** | Must allow for payment and integration with the government’s Financial Management System. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS008** | Should have a web interface for users’ access and payments. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS009** | The software must allow appropriate permission levels for document access. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS010** | Must have the ability to generate reports. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS011** | Must have the ability to print documents (Leases, Crown Grants, Survey Plans, etc…) from the system on various specialized media. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS012** | Must be able to store, maintain, manage and update the register of Land Surveyors (Geomatics Categories). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS013** | Should be able to send email notifications to users. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS014** | Must allow for online application submissions for Survey Plan recording and Land Surveyors Licence (Geomatics Categories). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS015** | Must be able to facilitate other agencies request online. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS016** | Should be able to have a service request tracking feature. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS017** | Must be able to handle varying data formats for import and export. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS018** | Must be capable with other existing systems used within government (ESRI, AutoCAD, Microstation, MicroSurvey, Trimble, etc...). | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS019** | Should allow for deleting of documents. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **MPS020** | Must provide audit trails to record the creating, editing, printing, viewing and deleting of all documents. | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| Geodetic Systems (GEO) | | | | | |
| **GEO001** | Should be able to support wide range of activities relative to precise positioning | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **GEO002** | Should be a high quality geodetic unit | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **GEO003** | Should be able to track and record all components of the GPS signal | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **GEO004** | Should be able to collect P-code and C/A-code pseudo-ranges as well as L1 and L2 carrier phases | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **GEO005** | Should have real-time output capability | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **GEO006** | Should have high speed data collection rate | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **GEO007** | Should allow for easy remote operation | | Click here to enter Product Satisfaction. | | Click here to enter Comments. |
| **GEO008** | Should have high level of reliability | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO009** | Should be able to maintain operation during power outages | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO010** | Should provide structure to house equipment for protection from elements and security for the components | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO011** | Should be capable of collecting and recording of GNSS data | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO012** | Should have to ability to utilize RINEX data. | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO013** | Should be able to support both static post-processing or RTK data | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO014** | Should allow for a real time network, which provides continuous (24hrs) high quality data | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO015** | Must have scalable and flexible software systems | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO016** | Must have a standard platform for enhanced system performance | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO017** | Should allow for integration across multiple apps and operating systems | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO018** | Should have a web interface for users access and payments | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO019** | Should the ability to provide user information reports | | Click here to enter Comments. | | Click here to enter Comments. |
| **GEO020** | Should have a user-friendly interface | | Click here to enter Comments. | | Click here to enter Comments. |
| Sea level Monitoring Systems (SMS) | | | | | |
| **SMS001** | | Should be stand-alone, unattended system | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS002** | | Should be GPS enabled with antennas and transmitters | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS003** | | Should be able to acquire and transmit data | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS004** | | Should be able to store data and produce continuous water level reports | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS005** | | Should have radar water level sensor with appropriate mounting | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS006** | | Should have battery back-up for redundancy | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS007** | | Should have solar panels for power supply | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS008** | | Should be GOES, equivalent or superior standard | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS009** | | Should provide structure to house equipment for protection from elements and security for the components | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS010** | | Should provide reliable real time data streaming | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS011** | | Should provide system versatility and two-way communication | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS012** | | Should be scalable | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SMS013** | | Should have the ability to make some meteorological observations such as sea water and air temperatures, wind velocity and pressure | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Multi Beam Scanner System (MSS) | | | | | |
| **MSS001** | | Should have the ability to produce high resolution bathymetry imagery | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MSS002** | | Should have GPS location capability | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MSS003** | | Should be highly portable | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MSS004** | | Should be able to capture accurate measurement of bathymetry data of underwater structures, objects and sites | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MSS005** | | Must be able to integrate with the processing software | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MSS006** | | Must have a minimum of 120 degree swath port to starboard scanning area | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MSS007** | | Must include the processing and conversion software | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MSS008** | | Must be integrate with new/existing mapping solution | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Precise Levelling and Accessories (PLA) | | | | | |
| **PLA001** | | Should be water and fog proof | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **PLA002** | | Should provide high accuracy levelling for 1km double run ±0.8mm without micrometre and ±0.4mm with micrometre, or better | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **PLA003** | | Should have automatic compensator and must prevent magnetic interference | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **PLA004** | | Should have the ability to operate effectively in extreme conditions, including high humidity | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **PLA005** | | Should have 34x high-magnification, high-resolution telescope to assure sharp images in poor light | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **PLA006** | | Should have a medium-duty, aluminium tripod | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **PLA007** | | Should have two (2) grade rods, with 5 sections telescopic and 5 meter metric | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Electronic Level and Accessories (ELA) | | | | | |
| **ELA001** | | Should have a minimum of 0.3 or 0.7 mm accuracy level | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **ELA002** | | Should have dust and waterproof rating of IP55 | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **ELA003** | | Should have a minimum 3 day battery life | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **ELA004** | | Should allow for USB Storage | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **ELA005** | | Should have carrying case, battery, data transfer cable and manual | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **ELA006** | | Should have a light weight, aluminium tripod | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **ELA007** | | Should have two (2) levelling telescopic rods | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| RTK Equipment and Accessories (RTK) | | | | | |
| **RTK001** | | Should have the ability to receive and process L1/L2 GPS and GLONASS bands for GNSS satellite applications | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RTK002** | | Should be scalable to GALILEO receiver standard | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RTK003** | | Should have a durable range pole with bipod | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RTK004** | | Should have a radio and antenna system | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RTK005** | | Should have an adjustable tripod for GPS with two (2) mounts | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RTK006** | | Should include RTK Processing software | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RTK007** | | Should include durable carrying cases | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Total Stations and Accessories (TSA) | | | | | |
| **TSA001** | | Should have a minimum angular accuracy of 1 second or greater | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA002** | | Should have a minimum EDM distance accuracy of 1.0 mm + 2 ppm Prism / 2.0 mm + 2 ppm DR or greater | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA003** | | Should have servo technology that is robotic or auto-lock | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA004** | | Should have a maximum distance range of 5,500 meters | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA005** | | Should have a complete field-to-office solution for quick data capture and processing | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA006** | | Should have the ability to integrate seamlessly with GNSS receivers | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA007** | | Should have a 360◦ Prism with a standard telescopic rod | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA008** | | Should have instrument tripod with standard dual clumps | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA009** | | Should have multiple battery charger (minimum 5 batteries) with power cords | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA010** | | Should have five (5) additional lithium – ion long lasting batteries | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TSA011** | | Should have Bluetooth, integrated, data logger/controller | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| UAS RGD Aerial Imaging Camera (UAS) | | | | | |
| **UAS001** | | Should be fixed wing | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS002** | | Should be a UAS with infrared Camera, and have GPS capability | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS003** | | Should be a UAS with a photogrammetry camera, Rededge, similar or superior, and GPS capability | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS004** | | Photogrammetry camera should have a minimum ground sample distance of 8.2 cm/pixel (per band) at 120 m (400 ft.) AGL | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS005** | | Photogrammetry camera should have a capture speed of 1 capture per second (all bands), 12-bit RAW | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS006** | | Photogrammetry camera should have the ability to operate in 0 - 40 degrees Celsius | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS007** | | Infrared camera should be of the highest quality resolution | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS008** | | Infrared camera should have the ability to operate in -20°C to +50°C | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS009** | | UAS should charging system and power strip | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS010** | | Should have download cable | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS011** | | Should have a launcher | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS012** | | Should have additional batteries | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS013** | | Should have available spare parts for UAS | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS014** | | Should have aerial photogrammetry and infrared processing software | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **UAS015** | | Should have the ability to integrate with other GNSS and total stations | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| 3G Mobile Broadband Modem (MBM) | | | | | |
| **MBM001** | | Should allow for multi-port connections | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MBM002** | | Should be able to support both 2G and 3G networks | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MBM003** | | Should allow for a SIM card | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MBM004** | | Should be able to compress send/receive data | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MBM005** | | Should be easy to install and configure | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **MBM006** | | Should be easy to carry | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Rugged Tablets w/ Cases (RAG) | | | | | |
| **RAG001** | | Must have industrial strength frame | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG002** | | Must have sealed ports | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG003** | | Must have Gorilla type chemically strengthened glass | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG004** | | Must have minimum Intel Core i5 processor | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG005** | | Must have minimum 100GB SSD Storage | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG006** | | Must have minimum 1300 NITs Backlighting with resistive display | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG007** | | Must have minimum 8.5 hour warm swappable battery | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG008** | | Must have a minimum 10.5” touchscreen display | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG009** | | Must have multiple ports, allowing for multiple connections (inclusive of communication) | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG010** | | Should have a built-in 5-megapixel camera with LED flash | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAG011** | | Must allow for GPS integration | | Click here to enter Product Satisfaction. | Click here to enter Comments. |

# Non-Functional Requirements

| **ID** | **Requirement** | **Product Satisfaction**  ***(Select appropriate response)***  ***0 = Does Not Meet***  ***1 = Partially Meets***  ***2 = Fully Meets***  ***3 = Exceeds*** | **Comments** |
| --- | --- | --- | --- |
| Human Factors (Usability) (HUM) | | | |
| **HUM001** | The equipment should be easy to learn and should allow users to efficiently complete tasks once they have learned the solution. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **HUM002** | The equipment’s user interface must be easily customizable. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **HUM003** | The equipment should be designed to limit the number and severity of user errors, and should provide the user with clear error messages and instructions on error recovery. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **HUM004** | The equipment must be able to provide comprehensive on-screen help facilities. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Security (SEC) | | | |
| **SEC001** | The equipment should implement a security model and mechanisms which provide for identification and authentication of users. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SEC002** | The equipment should prevent unauthorized access to and use of resources. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SEC003** | The equipment should protect the confidentiality and integrity of information throughout its entire lifecycle. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SEC004** | The equipment should encrypt information during transmission over unsecured communication channels. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SEC005** | The equipment’s security implementation should be specified and documented by the vendor. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Resource Auditing (RAU) | | | |
| **RAU001** | The equipment (software) should provide proper auditing of all data resources, inclusive of the details associated with creation, modification, and deletion operations.  These details should include the identity of the user performing the operation, and the operation timestamp. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAU002** | All deletions should be soft deletes in which the “deleted” resources are either logically marked as deleted or are moved to an online archive. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAU003** | The equipment must retain a copy of all data resources which are transmitted to external systems. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **RAU004** | The use of an effective date is necessary for whenever a change is made to formulas, calculations, and criteria. This effective date should be utilised whenever the solution is performing an operation that is effected by or dependent on historical formulas, calculations, and criteria. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Availability (AVA) | | | |
| **AVA001** | The equipment (software) is expected to be available 24 hours per day, 7 days per week.  The allowed downtime for regular maintenance is 2 to 4 hours per month. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **AVA002** | The equipment (software) must include a test environment. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **AVA003** | The equipment (software) should include a disaster recovery component. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Language and Localization (LAL) | | | |
| **LAL001** | The language for the equipment (software) is English and the system should be adapted the locale of The Bahamas. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| Software Quality (SWQ) | | | |
| **SWQ001** | The software is expected to conform to industry best practices for software construction. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SWQ002** | The source code for the software is expected to conform to standard coding conventions. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SWQ003** | The software must be delivered by the vendor to the Department of Lands and Surveys with no critical or major defects. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **SWQ004** | All normal and minor defects must be declared and documented by the vendor and must be corrected within 3 months of delivery date. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
|  | Client Environment (CLI) | | |
| **CLI001** | The system should support web browser-based thin-clients and should communicate using HTTP/HTTPS over the standard TCP/IP ports. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **CLI002** | The system should be able to operate correctly with reasonable efficiency and response times on computing devices with the following specifications:   * Web browsers - Microsoft Internet Explorer version 9 and higher, or Mozilla Firefox version 20.0 and higher, Goggle Chrome version 68.0.3440.106 or higher. * Java Virtual Machine version 1.4or higher. * Display resolution - 1024 x 768 pixels. * Network speed - 75 Kb/s. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
|  | Technical Constraints (TEC) |  |  |
| **TEC001** | The system should be designed as a Java web application. | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TEC002** | The following products are currently available in the Bahamas Government technology environment on premise Data Centre. where appropriate:   | Functionality | Product | Ver. | | --- | --- | --- | | Application Server | WebSphere Application Server or Compatible Java EE Server | 7.0 | | Database | DB2 | 9.7 | | SQL Server | 2008 | | Directory Service (intranet users) | Lotus Domino LDAP | 8.5.2 | | Operating System | AIX | 6.2 | | Windows Server | 2008 | | Linux | Kernel 2.6 | | IBM System i | V7R1 | | Software Configuration Management | Rational Team Concert | 7.0 | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
| **TEC003** | The following products currently available in the Bahamas Government technology environment gCloud (off-premise Data Centre) where appropriate:   | Functionality | Product | Ver. | | --- | --- | --- | | Application Server | **All major application servers (currently supported by vendor) are available upon request (x86):**  Java-based (RedHat JBoss, Oracle J2EE, ASF Tomcat, Oracle WebLogic, IBM WebSphere Application Server, RedHat WildFly)  Javascript-based (Node.js, Wakanda, Phusion, and more)  Microsoft-based (IIS-Internet Information Services, Windows Server AppFabric, .NET Framework)  Python-based (mod\_python, Zope, etc)  Perl-based (Catalyst, Plack, mod\_perl, etc)  PHP-based (Zend Server, PHP-FPM, etc)  Ruby-based (Phusion Passenger, Iodine, etc) |  | | Database | **All major releases of *Relational* and *NoSQL* databases (currently supported by vendor) are available upon request (x86):** |  | | **Relational:** Apache Derby, IBM DB2, MariaDB, Microsoft SQL Server, MySQL, Oracle, PostgreSQL, SQLite, SAP HANA (taken from https://en.wikipedia.org/wiki/Relational\_database\_management\_system  **NoSQL** (classified below by data model), taken from https://en.wikipedia.org/wiki/NoSQL#Types\_and\_examples\_of\_NoSQL\_databases  • Column: Accumulo, Cassandra, Druid, HBase, Vertica.  • Document: Apache CouchDB, ArangoDB, BaseX, Clusterpoint, Couchbase, Cosmos DB, IBM Domino, MarkLogic, MongoDB, OrientDB, Qizx, RethinkDB  • Key-value: Aerospike, Apache Ignite, ArangoDB, Berkeley DB, Couchbase, Dynamo, FairCom c-treeACE, FoundationDB, InfinityDB, MemcacheDB, MUMPS, Oracle NoSQL Database, OrientDB, Redis, Riak, SciDB, SDBM/Flat File dbm, ZooKeeper  • Graph: AllegroGraph, ArangoDB, InfiniteGraph, Apache Giraph, MarkLogic, Neo4J, OrientDB, Virtuoso |  | | Directory Service (intranet users) | **Deployed in production (current):**  Microsoft Active Directory 2012 R2, Domino  **Available upon request:**  Apache Directory, OpenLDAP, Red Hat Directory Services, Oracle Directory Server Enterprise Edition |  | | Operating System | **212 supported operating systems available upon request, including all variants of Windows/ Linux.** Details in attached list (downloaded for ESXi 6.5 U2 from <https://www.vmware.com/resources/compatibility/search.php?deviceCategory=software&details=1&releases=408&productNames=15&page=1&display_interval=10&sortColumn=Partner&sortOrder=Asc&testConfig=16> ) |  | | Software Configuration Management | **Available upon request:** VMware vRealize vRealize Configuration Manager, Chef, Puppet, Ansible Tower, Microsoft System Center Configuration Manager (formerly Systems Management Server). |  | | Click here to enter Product Satisfaction. | Click here to enter Comments. |
|  | Technical Standard (TST) |  |  |
| **TST001** | The system should utilize the following open technical standards:   |  |  | | --- | --- | | Domain | Standard | | Network Level Protocol | TCP/IP | | Transport Protocol | HTTP and HTTPS | | Structured Documents and Messages | Extensible Markup Language (XML) and XML based Standards | | Directory and Discovery | Universal Directory, Discovery and Integration (UDDI) | | Web Services Definition | Web Services Definition Language (WSDL) | | Workflow | Web Services Workflow Language (BEPL) | | Remote Object Access and Activation | Simple Object Access Protocol (SOAP) | | Programming Model | Specific J2EE Technologies:   * Java Portlets * Java Server Pages (JSP) * Servlets as controllers in an MVC architecture * Java Naming and Directory Interface (JNDI) for directory access * Enterprise Java Beans (EJB) components (These should be used judiciously and not be used in high-volume situations) * Java Database Connectivity (JDBC) for database access * Java Message Service (JMS) for messaging * HyperText Markup Language (HTML). * Cascading Style Sheets (CSS) for appearance and formatting. | | Click here to enter Product Satisfaction. | Click here to enter Comments. |

# Other Requirements

## Training Requirements

User training will focus on the use of the equipment (both hardware and software).  The successful Respondent, with the purchaser, shall ensure that all users must be adequately trained in the use of each module, function, feature, screen and buttons and icons on each screen.  The users must be able to understand the purpose and the proper use of each of the above.  They must also be able to understand and interpret error messages and instructions displayed / popped up on the screen.

The Respondent shall provide a description of their approach to delivering training.

The Respondent shall provide a preliminary training plan detailed descriptions of training courses to be carried out, including:

* Course title
* Learning or training objective
* Class size and composition
* Course duration
* Training sequence (relation to other courses)
* Class outline (subject area, topics and critical learning points)
* Delivery methods
* Locations of course offerings

The Vendor shall provide a description of their approach to updating the training plan as details of training requirements are finalized during the course of the project.

A detailed training schedule, including the dates, areas covered, time and the training literature (to be supplied to the Purchaser) at various stages of the cycle must be provided in the technical proposal.

| ID | Other Requirements | Vendor will supply  Yes / No | Comments |
| --- | --- | --- | --- |
| Documents and Manuals (MAN) The successful Respondent is responsible for developing manuals (see table below and for each potential user of the solution) explaining all options for each activity and what decisions he can make and what effect it will have on the solution. | | | |
| MAN001 | Equipment (hardware & software) architecture and design, inclusive of security any database design | Click here to enter text. | Click here to enter comments. |
| MAN002 | Build and deployment guide | Click here to enter text. | Click here to enter comments. |
| MAN003 | Administration, configuration, and operational guides | Click here to enter text. | Click here to enter comments. |
| MAN004 | Training Manuals | Click here to enter text. | Click here to enter comments. |
| MAN005 | User Manuals | Click here to enter text. | Click here to enter comments. |
| DOC001 | Configuration Document | Click here to enter text. | Click here to enter comments. |
| DOC002 | Project Management Plan (See Project Management section below) | Click here to enter text. | Click here to enter comments. |
| DOC003 | Project Documents (See project Management section below) | Click here to enter text. | Click here to enter comments. |

| ID | Other Requirements | Vendor will provide  Yes / No | Test Procedures and methods used |
| --- | --- | --- | --- |
| Testing (TES) This testing protocol being provided by the successful Respondent shall execute the software and evaluate its operation for conformance to requirements.  Testing shall cover all components that are implemented.  The Respondent shall submit a comprehensive Test Plan that delineates the test procedures and methods used for all phases of testing. | | | |
| TES001 | Unit Testing (for customized components only) | Click here to enter text. | Click here to enter comments. |
| TES002 | Configuration Testing | Click here to enter text. | Click here to enter comments. |
| TES003 | Integration Testing | Click here to enter text. | Click here to enter comments. |
| TES004 | System Testing | Click here to enter text. | Click here to enter comments. |
| TES005 | Security Testing | Click here to enter text. | Click here to enter comments. |
| TES006 | Regression Testing | Click here to enter text. | Click here to enter comments. |
| TES007 | Installation Testing | Click here to enter text. | Click here to enter comments. |
| TES008 | User Acceptance Training | Click here to enter text. | Click here to enter comments. |
| TES009 | Test Data Preparation (guidance ) | Click here to enter text. | Click here to enter comments. |
| TES010 | Resolution of all system problems that arise during testing; and | Click here to enter text. | Click here to enter comments. |
| TES011 | Testing Schedule | Click here to enter text. | Click here to enter comments. |

| ID | Other Requirements | Vendor will provide  Yes / No | Plan |
| --- | --- | --- | --- |
| Maintenance, Support & Warranty Requirements (MSW) In addition to normal three (3) year warranty coverage, the DoLS requires that the Respondent identify the on-going maintenance costs for the suite of products provided as part of this procurement for a three (3) year period following the warranty period. These costs will be included in the evaluation of the tender price (See further the Request For Proposal document). The Respondent shall include a detailed Warranty, Maintenance and Support plan in its tender, including: | | | |
| MSW001 | Warranty period of three (3) years | Click here to enter text. | Click here to enter comments. |
| MSW002 | On-going support for all software components of the solution for a period of six (6) years (3 warranty plus 3 maintenance), including:   1. Distribution, documentation, and installation of patches and upgrades. 2. Bug fixes. 3. Rectification of any issues which hamper normal business 4. Modifications / customization / configuration to meet any minor new application functionalities / reports requirements. Minor requirement shall be defined as those which require less than 60 person days of programming efforts | Click here to enter text. | Click here to enter comments. |
| MSW003 | The SLA times that are proposed to respond to trouble tickets, resolution times and inquiries. | Click here to enter text. | Click here to enter comments. |
| MSW004 | Make qualified personnel available to the DoLS by telephone, via a domestic or toll-free line staffed during business hours of The Bahamas, for the reporting of non-conformities or other problems with the system. During the Warranty Period, such telephone service to DoLS shall be unlimited. | Click here to enter text. | Click here to enter comments. |
| MSW005 | During or as a result of telephone conferences, or electronic exchanges, the Respondent shall make every reasonable effort to correct such Non-Conformities or to resolve such problems. If any such Non-Conformities or problems are not corrected within four (4) hours of the initial Telephonic Contact, Respondent shall send qualified maintenance personnel to the project sites upon the conclusion of such four (4) hours, and such personnel shall ensure that such non-conformities are resolved. | Click here to enter text. | Click here to enter comments. |
| MSW006 | The Respondent shall commence the work necessary to remedy defects or damage in accordance with specifications in the contract. | Click here to enter text. | Click here to enter comments. |
| MSW007 | The successful Respondent shall be required to enter into Source Code Escrow Agreement as part of the support contract. | Click here to enter text. | Click here to enter comments. |
| MSW008 | For outright purchase Respondent shall provide maintenance contracts inclusive of all consumables (annually and/or on a three year agreement). | Click here to enter text. | Click here to enter comments. |
| MSW009 | For lease agreement, the Respondent contract shall include all consumables (Annual renewals). | Click here to enter text. | Click here to enter comments. |

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## Management

The successful respondent will be responsible for performing structured Project Management in line with PMBoK or similar recognized methodology.

| ID | Other Requirements | Vendor will provide  Yes / No | Test Procedures and methods used |
| --- | --- | --- | --- |
| PM001 | Submit Inception Report that will provide guaranteed adherence to and confirm understanding of the Scope of Work | Click here to enter text. | Click here to enter comments. |
| PM002 | Submit Project Management Plan inclusive of but not limited to: - Scope Management Plan - Time Management Plan - Communication Strategy, - Risk Management Plan - Quality Management Plan - Stakeholder's Management Plan - Change Management Plan - Baselines: Scope, Schedule, Cost  -Configuration Management Plan | Click here to enter text. | Click here to enter comments. |
| PM003 | Direct and Manage Project Work, Monitor and Control Project Work, Perform Integrated Change Control | Click here to enter text. | Click here to enter comments. |
| PM004 | Deliver Project Management Plan and Project Document Updates (Issue Log, Change Log, Risk Register, and others) | Click here to enter text. | Click here to enter comments. |
| PM005 | Submit Progress (Performance) Reports, Status Reports, Interim Reports, and other reports (phase transitions) | Click here to enter text. | Click here to enter comments. |
| PM006 | Report on Training | Click here to enter text. | Click here to enter comments. |
| PM007 | Provide end of Product Phase Reports | Click here to enter text. | Click here to enter comments. |
| PM008 | Submit report on User Acceptance/Approval (phase and final) | Click here to enter text. | Click here to enter comments. |
| PM009 | Provide End of Project Report and Finalized Project Documents | Click here to enter text. | Click here to enter comments. |

## Business Process Re-engineering

The successful Bidder in close consultation with DoLS Team shall document and analyse as-is business processes and reporting and suggest improvements through a to-be process design. During this exercise, the successful Bidder will explicitly identify key weaknesses in the existing processes and how they will be addressed through revised processes in line with good international practices.

| ID | Other Requirements | Vendor will provide  Yes / No | Test Procedures and methods used |
| --- | --- | --- | --- |
| BP001 | Submit and Report on: - As-is Processes - To-be Processes  For PFM Redesigned Processes, Procedures, and Policies. | Click here to enter text. | Click here to enter comments. |