7) Appendix 1 – Functional and non-functional requirements

Functional requirements (5):

Requirement #:	1	Requirement Type:	9 - Functional	Event/ BUC/ PUC #:	N/A
Description:	The system will not allow customers/ contractors of the delivery storage facility to book deliveries to take place during the disallowed overnight period (22:00 – 07:00) during normal operating conditions as a standard part of the system.				
Rationale:	Due to delivery issues, authorisation to access the storage facility will only be granted between the hours of 7am (07:00) and 10pm (22:00).				
Originator:	Wishes of the Client (wholesale delivery company), recorderd by Ms Penny Pincher, SolveIT.				
Fit Criterion:	Testing will ensure deliveries can not be booked to take place during the disallowed overnight period (22:00 – 07:00) by attempting to do so and failing. All such attempts will be rejected.				
Customer Satisfaction:		5	**Customer Dissatisfaction:**		5
Priority:	High		**Conflicts:**	None	
Supporting Materials		See Interview Notes Section 5.5 Delivery and Monitoring.			
History:	None				
Comments:	Confirm whether the delivery slots at 07:00 and 22:00 are bookable or not. Overnight authorisation (between 22:00 and 07:00) will be granted on an ad hoc basis by reception office for urgent deliveries. Also do not allow deliveries to be booked on storage facility closed days e.g. Christmas day if applicable.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			**acknowledgement to Atlantic Systems Guild**		

Requirement #:	2	Requirement Type:	9 - Functional	Event/ BUC/ PUC #:	N/A
Description:	The progress/ status of each delivery will be recorded at each barrier/ checkpoint.				
Rationale:	Accurate monitoring/tracking requires information about the progress/ status of each delivery. The progress/ status of a delivery may prompt further action which may be triggered by a particular status e.g. delivery vehicle late for arrival on site.				
Originator:	Wishes of the Client (wholesale delivery company), recorderd by Ms Penny Pincher, SolveIT.				
Fit Criterion:	Testing will ensure accurate progress/ status information is recorded using simulations of different delivery scenarios with different progress statuses and will be calibrated to the frequency, format and detail required by the client. 80% of staff users testing the system will be able to demonstrate they can query the progress status of any vehicle in the facility at a given time in under 60 seconds.				
Customer Satisfaction:		5	**Customer Dissatisfaction:**		5
Priority:	High		**Conflicts:**	None	
Supporting Materials		See Interview Notes Sections 3 & 5.5 High Level Objectives for DMS Prototype (DMS-P) & Delivery and Monitoring.			
History:	None				
Comments:	Requires feedback from the client on frequency, format and detail of progress/ status information. Status information will be provided by sensors which are out of scope of the main system.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			**acknowledgement to Atlantic Systems Guild**		

Requirement #:	3	Requirement Type:	9 - Functional	Event/ BUC/ PUC #:	N/A
Description:	The system must issue a bar-coded ticket for each valid authorised delivery at each barrier/ checkpoint.				
Rationale:	To deliver to a storage facility a vehicle's registration will be scanned. If the access request is recognised as valid (i.e. the registration can be read and authorised the vehicle is permitted to enter the storage facility at that time), a bar-coded ticket will be issued and the registration number recognition system will release a barrier; if not the barrier will not be released.				
Originator:	Wishes of the Client (wholesale delivery company), recorderd by Ms Penny Pincher, SolveIT.				
Fit Criterion:	Testing with authorised and unauthorised vehicles will ensure all authorised deliveries are issued a barcoded ticket and unauthorised ones are not. The barcoded ticket will be issued within 60 seconds of authorisation of a delivery at the entry barrier.				
Customer Satisfaction:		5	**Customer Dissatisfaction:**		5
Priority:	High		**Conflicts:**	None	
Supporting Materials		See Interview Notes Section 5.5 Delivery and Monitoring.			
History:	None				
Comments:	See non-functional requirement above re: accessibility and consider option to print a large text barcode ticket for people with visual impairment.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			**acknowledgement to Atlantic Systems Guild**		

Requirement #:	4	Requirement Type:	9 - Functional	Event/ BUC/ PUC #:	N/A
Description:	The system must not allow a delivery to be booked to take place with less than 24 hours notice.				
Rationale:	A delivery can be booked and authorised up to 24 hours prior to the delivery.				
Originator:	Wishes of the Client (wholesale delivery company), recorderd by Ms Penny Pincher, SolveIT.				
Fit Criterion:	Testing will ensure all attempts to book a delivery with less than 24 hours notice will be rejected. Only delivery bookings/ modifications with 24 hours notice or more will be allowed.				
Customer Satisfaction:		5	**Customer Dissatisfaction:**		5
Priority:	High		**Conflicts:**	None	
Supporting Materials		See Interview Notes Section 5.3 Registration of delivery vehicles and staff.			
History:	None				
Comments:	There may be urgent deliveries where less than 24 hours notice is given. It is assumed this will be dealt with on an ad hoc basis by the reception office. The system should allow contractors to edit their delivery booking details at a later date as long as 24 hours notice still applies in respect of any changes made to a booking.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			**acknowledgement to Atlantic Systems Guild**		

Requirement #:	5	Requirement Type:	9 - Functional	Event/ BUC/ PUC #:	N/A
Description:	The system must authorise the access of all delivery drivers and assistants.				
Rationale:	Security should be strong given that the storage facility contains high value goods. Each contractor will provide their staff details such as company ID, forename (first name), surname (last name), title and work phone number. All employees of participating companies will be authorised with the delivery vehicle and the vehicle registration will be scanned at the entrance of the delivery area and a bar-coded permit access to enter specific storage facility locations.				
Originator:	Wishes of the Client (wholesale delivery company), recorderd by Ms Penny Pincher, SolveIT.				
Fit Criterion:	Testing will ensure all access to the storage facility location will be denied until each delivery employee has been authorised to enter. The system will authorise or reject the delivery driver and assistants individually within 60 seconds of each persons ID being produced at the barrier for verification.				
Customer Satisfaction:		5	**Customer Dissatisfaction:**		5
Priority:	High		**Conflicts:**	None	
Supporting Materials		See Interview Notes Sections 5.1 & 5.2 Delivery vehicles and company employee storage facility access.			
History:	None				
Comments:	For urgent non-booked deliveries dealt with on an ad hoc basis, ID of all delivery drivers and assistants and vehicles must be provided to the reception office in order to be permitted access.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			**acknowledgement to Atlantic Systems Guild**		

Non-functional requirements (3):

Requirement #:	6	Requirement Type:	Non-functional 17a – legal requirement, incorporating 15c – privacy	Event/ BUC/ PUC #:	N/A
Description:	The system must safely collect and store personal details with permission of all contractor drivers and assistants in accordance with the eight principles of the Data Protection Act 1998.				
Rationale:	To ensure the privacy of confidential contractor driver and assistant personal data.				
Originator:	Wishes of the Client (wholesale delivery company), recorderd by Ms Penny Pincher, SolveIT.				
Fit Criterion:	The method of data collection and storage will be independently approved by a legal professional as fully compliant with the latest applicable UK legal requirements and/ or industry standards, whichever is greater. The website for booking a delivery shall also be fully compliant and there will be a test for user confidence where at least 80% of the test users in a group representing the contractors booking deliveries, entering mock real data will rate the system as reputable, secure and trustworthy.				
Customer Satisfaction:		4	**Customer Dissatisfaction:**		4
Priority:	Medium		**Conflicts:**	None	
Supporting Materials		See Interview Notes Sections 5.1, 5.2 & 5.3 Delivery vehicle and delivery company employee storage facility access & Registration of delivery vehicles and staff. See also UK Data Protection Act 1998			
History:	None				
Comments:	Specific details and uses of the confidential personal data are given in the sections of the supporting material above. The client may need to register on the UK information commissioner's website in order to be legally allowed to store personal data. Renew annually.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			**acknowledgement to Atlantic Systems Guild**		

Requirement #:	7	Requirement Type:	Non-functional 15a - access	Event/ BUC/ PUC #:	N/A
Description:	The system should allow admin staff restricted access to admin monitoring features of the system unlike reception staff through a standard PC and interface.				
Rationale:	To allow admin staff to; monitor usage of the storage facility over a fixed time period, present the data in a variety of ways for the delivery manager to get an overview and to maintain competitor and contractor data.				
Originator:	Wishes of the Client (wholesale delivery company), recorderd by Ms Penny Pincher, SolveIT.				
Fit Criterion:	Admin staff will be able to demonstrate their ability to access and use the restricted admin features of the software to produce reports as required using mock real data in a timed test after any initial training is completed. During the 30 minute timed test 80% of admin staff will successfully complete the tasks they have been set e.g. to produce a mock real report. Reception staff will attempt and be unable to access the above restricted access features.				
Customer Satisfaction:	5		Customer Dissatisfaction:		5
Priority:	High		Conflicts:	None	
Supporting Materials		See Interview Notes Section 6 DMS-P Monitoring and Administration Function			
History:	None				
Comments:	Specific uses of the software by admin and reception staff are listed under section 6.1 of the supporting material above titled: HCI Considerations.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			acknowledgement to Atlantic Systems Guild		

Requirement #:	8	Requirement Type:	Non-functional 11e – accessibility incorporating parts of 11a – ease of use	Event/ BUC/ PUC #:	N/A
Description:	The system should be optimised for consistent layout, logical organisation, ease of use and user friendliness with consideration of our client's staff and their customers/ contractors who may have some users with impairments or disabilities in accordance with the Equality Act 2010.				
Rationale:	There is potentially a large number of people who may interact with part or all of the system due to many contractors. Statistically this increases the number of people who may have impairments or disabilities. Failure to consider this requirement could lead to exclusion of staff or customers/ contractors and potentially a loss of income for the delivery storage facility.				
Originator:	Mr Malcolm-Brown, Requirements engineer, SolveIT.				
Fit Criterion:	Staff will be able to demonstrate their ability to access and use the features of the software using entry of mock real data in a 15 minute timed test after any initial training is completed. 80% of staff completing the test will rate the system as easy to use. Customers/ contractors will be able to demonstrate their ability to access and use the features of the booking website using entry of mock real data in a 15 minute timed test after any initial training is completed. 80% of customers/ contractors completing the test will rate the system as easy to use. Testing will ensure compatability with enhanced access technologies such as screen readers and magnifiers. The system will be independently approved by a legal professional as fully compliant with the latest applicable UK legal requirements and/ or industry standards, whichever is greater.				
Customer Satisfaction:	4		Customer Dissatisfaction:		4
Priority:	Medium		Conflicts:	None	
Supporting Materials		See UK Equality Act 2010			
History:	None				
Comments:	Users may have an impairment or disability which they do not wish to declare. Furthermore, 20% of males are red-green colour blind. Avoid potentially bad colour schemes and consider providing the option to choose a large text printed barcode ticket at the barrier if desired.				
Volere Shell © 1995 - 2010 the Atlantic Systems Guild Limited			acknowledgement to Atlantic Systems Guild		

These functional and non-functional requirements were generated from the list of important characteristics in section 3 of the DMS software process model recommendations report, originally extracted from the interview notes with the client recorded by Ms Penny Pincher.