      d.   Referenced Documents:

         i.   Associated electronic files of referenced documents from 'equipment information'

        ii.   File names of electronic files shall match what is referenced in appropriate fields for document name. When the web-based tool is used this will be accomplished during the upload process.

2.   Deliverable Format: The Contractor will provide facilities information, per the following:

    a.   Contact, spatial, and equipment information shall be provided in spreadsheet format. For an example of spreadsheet deliverable, see Table 15.7 EMC-01

(XLS) exported from that web-based tool. Format of deliverables, content, and schedule are addressed in other parts of this specification section.

End of this section contains all tables.

Table 01 - Required Equipment List

Table 02 - Equipment Attributes

Table 03 - Example Data Format

Note – The intent of Table 03 is to show an example of what the "hard copy" or objective deliverable would constitute for Contractor to Owner transmittal. When a web based tool is used to organize and compile the data and documents, it is also required to have a final set of deliverables that can be transmitted to the Owner.

Table 04 - Reference Document Example

PART 3 EXECUTION

3.1 Process

A. Web-Based Tool for use

The information in this specification section is presented in tables (originated in XLS format). However, some critical aspects of the FM Data have relationships that are best managed in a relational database tool (and format). Therefore, a tool (a web based software) is available to facilitate and simplify the organization of the required data and documents specified by the narrative and tables included herein. The web based tool provides a means by which the complexities of the requirement can be more readily achieved, managed, verified, and handed over to the Owner during transition to operations and construction contract close-out. The web based tool has been pre-configured to match the data requirements of the specification in advance for use by the construction team. That is, picklists within the tool match the specification requirements, which provides for a measure of build in quality assurance and data validation. The tool also allows for delegation of trade-specific roles to sub-contractors by the Contractor (if so elected by the Contractor). The web based tool provides a consistent platform by which the Owner's project manager and the Owner's designated facilities management organization can review progress of data and documents across multiple projects that are in process. The web based tool also

b. Data shall be submitted (made available) to owner at agreed upon milestone dates for review purposes. The owner will review data for accuracy with documents and field conditions by various means.

c. Following review at various stages, the owner will provide the contractor with an issue report. Issue reports will contain any discovered deviations from field conditions or inaccuracies of facilities data. Any identified deviations from field conditions (issues) will require the contractor correct and resubmit the data within two (2) weeks of receiving the issue report.

C. Tools:

a. The Contractor shall maintain the facilities management data within a data management tool, such as O&M Logger, and be approved by the owner's operation and maintenance organization. The facilities data tool shall be capable of validating that naming standards from this specification are followed during data collection. Also, the facilities data tool shall provide constant access to the Owner for on-going review, comment, and export to spreadsheet format. The facilities data tool shall also allow for access of project information on mobile platforms in the field for data collection and field review purposes.

Table 01 Required Equipment List

Note 1:   This list (table) includes required equipment that can also be called an "Equipment Type Matrix" because the list is organized by "Asset Types".

Note 2   "Serialized" Assets are assets that will have an individual instance by piece of equipment and will be tracked individually. Example: AHU or Chiller. "Group" Assets are assets that will be handled as a "group" and not tracked individually. Example: Interior Lights

Asset Type (Note 1)	Comments	Type	System
DOOR			

System	Asset Type	Attributes
ELEC	DP	capacity*
ELEC	DP	mainbuscurrent
ELEC	DP	aicrating
ELEC	GENERATOR	power*
ELEC	GENERATOR	electrical

System	Asset Type	Attributes
ELEC	MOTOR	break horsepower in bhp
ELEC	Power Equipment	power*
ELEC	Power Equipment	electricalpanelname*
ELEC	Power Equipment	capacity*
ELEC	PULLBOX	location in space (ex: south wall, near parking lot)
ELEC	PULLBOX	power*
ELEC	Solar/PV Equipment	power*
ELEC	Solar/PV Equipment	electricalpanelname*
ELEC	Solar/PV Equipment	capacity*
ELEC	Solar/PV Equipment	cell type
ELEC	Solar/PV Equipment	power tolerance
ELEC	Solar/PV Equipment	number of cells
ELEC	SurgeProtectors	power*
ELEC	SurgeProtectors	electricalpanelname*
ELEC	SurgeProtectors	max allowed voltage drop
ELEC	SurgeProtectors	net impendence
ELEC	UPS System	power*
ELEC	UPS System	
ELEC	UPS System	nm

System	Asset Type	Attributes
HVAC	CoolingTower	operation temperature range
HVAC	CoolingTower	ambient design dry bulb temp
HVAC	CoolingTower	ambient design wet bulb temp
HVAC	Dampers	capacity*
HVAC	Dampers	maximum air flow rate
HVAC	Dampers	nominal air flow rate
HVAC	Dampers	open pressure drop
HVAC	Dampers	leakage fully closed
HVAC	Dampers	IP address
HVAC	Dampers	BASs

System	Asset Type	Attributes
HVAC	FCU	fan type
HVAC	FCU	type of fan drive
HVAC	FCU	fan size (inches)
HVAC	FCU	fan efficiency in % or pf
HVAC	FCU	static pressure in "inches"
HVAC	Heat Exchangers	electre

System	Asset Type	Attributes
HVAC	Unit Heater	electrical panel name*
HVAC	Unit Heater	capacity*
HVAC	Unit Heater	temp rise
HVAC	VFD	power*
HVAC	VFD	electrical panel name*
HVAC	VFD	minimum output frequency
HVAC	VFD	maximum output frequency
HVAC	Water Valves	capacity*
HVAC	Water Valves	maximum operating pressure
HVAC	Water Valves	valve operation
HVAC	Water Valves	type

Table 03 -Example Data Format

Space Information - Tab				
Name	Floor	Category		Ceiling

Table 04 -Reference Document Example

Note – the following directory format is for the electronic files that are part of the deliverable.

END OF SECTION