

## 1. Control Computer Workstation Hardware

- a. Environmental Conditions: System components shall be capable of withstanding Indoor installation in spaces that have environmental controls to maintain ambient conditions of 36 to 140 deg F dry bulb temperature and 20 to 95% relative humidity, noncondensing environmental conditions without mechanical or electrical damage or degradation of operating capability.
- b. Computer: Commercial standard with supporting 32- or 64-bit hardware (as limited by the pneumatic tube system software). Internet Explorer v6.0 SP1 or higher, Windows Script Hosting version 5.6 or higher, Windows Message Queuing, Windows Internet Information Services (IIS) v5.0 or higher, minimum 2.0 GHz processor, minimum 4GB DDR3 SDRAM (minimum 1333 Mhz) memory, minimum 1 TB 7200 rpm SATA hard drive with 16 MB cache, 512 MB video card, and 16 speed high density DVD-RW+/- optical drive.
- c. Serial Ports: Two USB ports and one RS-232-F serial ports for general use, with additional ports as required. Data transmission rates shall be selectable under program control.
- d. Sound Card: For playback and recording of digital WAV sound files associated with audible warning and alarm functions.
- e. Color Monitor: PC compatible, not less than 19 inches, LCD type, with a minimum resolution of 1280 by 1024 pixels, noninterlaced, and a maximum dot pitch of 0.28 mm.
- f. Keyboard: Minimum of 64 characters, standard ASCII character set based on ANSI INCITS 154.
- g. Mouse: Standard, compatible with installed software.
- h. Network Interface Card (NIC): integrated 10-100-1000 Base-TX Ethernet NIC with an RJ45 connector or a 100Base-FX Ethernet NIC with an SC/ST connector.
- i. External speakers: compatible with system for audible warning and alarm functions.

2. Printer: provide a dedicated, minimum resolution 600 dpi, black/white laser printer, connected to the Control Computer through a USB interface.
  - a. RAM: 512 MB, minimum.
  - b. Printing Speed: Minimum 30 pages per minute (black/white).
  - c. Paper Handling: Automatic sheet feeder with 250-sheet x 8.5 inch x 11 inch paper cassette and with automatic feed.

## 3. Operating System (OS) Software

- a. Software shall reside on the Workstation PC.
- b. Operating System Software: Based on 32- or 64-bit, Microsoft Windows operating system, as required by the pneumatic tube system software. Software shall have the following features:
  - 1) Multiuser and multitasking to allow independent activities and monitoring to occur simultaneously at different workstations.
  - 2) Graphical user interface to show pull-down menus and a menu tree format.
  - 3) Capability for future additions within the indicated system size limits.

4. Office Automation Software shall consist of the e-mail, spreadsheet and word processing portions of the project site's standard office automation software.
5. Virus Protection Software shall consist of the project site's standard virus protection software complete with a virus definition update subscription.
6. Pneumatic Tube System Software
  - a. Basic Requirements:
    - 1) Fully compatible with and based on the approved operating system.
    - 2) Password-protected operator login and access; three levels, minimum.
    - 3) Password-protected setup functions.
    - 4) Context sensitive on-line help.
    - 5) System operational status.
    - 6) Event log.
    - 7) Management report generation in multiple formats (HTML, PDF, etc.).
    - 8) Failure location and type.
    - 9) Failure Action - Locate where carrier is and corrective action to be taken.