

# **DIVISION 27**

## **Section 27 20 00**

**Technology Systems  
Design and Installation Guidelines  
for Architects and Engineers**



**Pinellas County  
Business Technology Services**

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## SECTION 27 20 00 – VOICE/DATA COMMUNICATIONS EQUIPMENT

### PART 1 - GENERAL

#### 1.1 PURPOSE OF THIS DOCUMENT

- A. The purpose of this specification section is to indicate to A&E and designers of low voltage infrastructure, working in construction or renovation projects for Pinellas County Government, the design requirements by BTS when it comes to such infrastructure. This document will be a starting point for completing a set of construction documents but **SHALL NOT** be used unedited as a bid document.

#### 1.2 PINELLAS COUNTY WIRED DATA NETWORKS

- A. Facilities where Pinellas County employees work could have a presence of one of more of the following networks:
  - 1. BTS Network: This network services County employees (users) and the general public in most facilities under the control of the BCC. See Specification Section 27 00 10 Technology General Provisions for a detailed explanation of all users. This network services:
    - a. Desktop computers
    - b. Printers
    - c. VoIP devices
    - d. Surveillance cameras
    - e. Access control system
    - f. Building Automation system
    - g. Audio/Visual systems
    - h. Public Wi-Fi
    - i. Private Wi-Fi for users.

This network also provides WAN access and VPN for employees and vendors with legitimate needs to remote into this network.

2. PCSO Network: This network services only Pinellas County Sheriff's Office (PCSO) employees. This network does not service the public and it can be found only in facilities or areas under the control of PCSO. This network services:
  - a. Desktop computers
  - b. Printers
  - c. Surveillance cameras
  - d. Access control system
  - e. Audio/Visual systems
  - f. Private Wi-Fi for users.
3. Traffic Management, Utilities
4. Isolated Networks: In some facilities there are isolated purpose networks such as a closed loop security network or building automation network. Such networks typically do not cross more than one site and are under the specific control of a user group.

### **1.3 PINELLAS COUNTY WIRED VOICE COMMUNICATIONS**

- A. All Pinellas County Employees with a work area in any of the facilities under the control of the BCC have an extension in an Enterprise Voice Communication system controlled and operated by BTS. This is a VoIP system.
- B. PCSO does not use a separate voice communication system. They also use the same system owned and operated by BTS.

### **1.4 PINELLAS COUNTY WIFI NETWORKS**

- A. General: Wi-Fi in most facilities is operated by BTS or PCSO. Public, free Wi-Fi is offered in all facilities within public and/or customer service areas.
- B. Design: Careful placement of WAPs during the project is key to a good Wi-Fi service in a building. The process of selecting WAP locations shall be a 3-stage process as described below:
  1. Predictive analysis: The first step of this process is to create a Predictive analysis software for the project. This task shall be done by the A&E using any of the commercially available Wi-Fi predictive software. The idea is to produce heat maps with the floor plan of the facility at all currently available Wi-Fi standards, such as 802.11a, 802-11b, 802-11g, 802-11n and 802.11ac. Not all building surfaces need to be modeled correctly. Some examples of predictive software are:

- a. AirMagnet survey by NetScout Systems
  - b. Ekahau Site Survey by Ekahau
  - c. iBwave WiFi by iBwave solutions
  - d. TamoGraph Site Survey by TamoSoft
  - e. Prime Infrastructure 3.0 Wireless Planning Tool by Cisco
- 2. Wireless survey: Once the building is enclosed.
  - 3. Final adjustment
- C. Specific SSID: Any user requiring Wi-Fi for any specific application will need to contact BTS for requirements on getting a specific SSID.

### **1.5 PINELLAS COUNTY RADIOS**

- A. There are two groups in Pinellas County that own and operate radios. One is Pinellas County Fire and Rescue, the other is the Pinellas County Sheriff's Office.
- B. For all issues related to DAS system for life safety in new construction, A&E needs to contact Director of Radio and Technology with the Department of Safety & Emergency Services for understanding the frequencies and types of systems installed.

### **1.6 USER COMPUTERS, PRINTERS AND OFFICE ELECTRONIC EQUIPMENT**

- A. Depends on each project. In case there is no permitted down time.
- B. For most cases, computers and phones associated with standard work areas for Pinellas County employees are not part of a construction project scope. Each employee, when hired, will be assigned by the County a workspace that is inclusive of such devices. Nevertheless, in many projects, there are devices and services that will need to be part of the project such as:
  - 1. Computers for common areas such as conference rooms or check in kiosk
  - 2. Phones or conference phones in areas of common use, such as MEP rooms, conference rooms, courtrooms, etc.
  - 3. Printers for common use
  - 4. Computers for building systems such as security and building automation
  - 5. Cost of moving such equipment from one location to the new location

- C. For all equipment that needs to be part of the project, the A&E shall prepare a list with quantities for all devices needed. The A&E shall work with the users of the project to understand their needs when it comes to such systems and establish specifications for each device based upon those needs. These specifications shall be provided to BTS for approval. BTS shall provide all software and hardware requirements for those devices to make sure they can be incorporated into existing maintenance and support programs.
- D. For most cases, printers in common areas are leased by each individual user group. Such lease agreements do not represent a cost to a construction project, they are part of operational cost for each department. The A&E shall work with the users understanding if printers for common areas will be leased or purchased. If they are purchased, then they could be part of the project cost.

## PART 2 - PRODUCTS

### 2.1 ACTIVE VOICE/NETWORK EQUIPMENT

- A. For all active voice/data network equipment to be purchased for any given project, specifications on such equipment will be provided and approved by BTS.

## PART 3 - EXECUTION

### 3.1 PURCHASING OF VOICE/DATA COMMUNICATIONS EQUIPMENT.

- A. All purchasing of voice/data communications equipment shall be approved through BTS.

### 3.2 REQUEST OF IP ADDRESSES FOR BTS NETWORK

- A. All requests of IP addresses for building systems shall be done through BTS in a specific format. See **Appendix C** in Division 27 Appendices document.

### 3.3 REQUEST FOR VOICE COMMUNICATIONS VoIP NUMBERS

- A. All request of VoIP phones and numbers for building systems or users shall be done through BTS.

### 3.4 REQUEST FOR CENTRAL OFFICE B1 CIRCUITS

- A. All request of B1 circuits and numbers for building systems shall be done through BTS.

**3.5** REQUEST FOR VPN ACCESS

- A. All request for VPN access for supporting building systems shall be done through BTS.

**END OF SECTION 27 20 00**