

**Village President**

Vernard L. Alsberry Jr.

Clerk

Isaac R. Wiseman

Acting Village Manager

Dante Sawyer

Village of Hazel Crest**Trustees**

Mary E. Grant

Kevin Moore Sr.

Benjamin Ramsey

Marlon D. Rias

Java Rogers

Sandra Slayton

ORIGINAL: April 26, 2019

REVISED: May 8, 2019

Due to the complexity of the Scope of Work for this project, the RFP due date has been extended until Friday, May 17, 2019, 5:00 p.m.

Village of Hazel Crest Technology Infrastructure Scope of Work for New Village Hall

The Village of Hazel Crest is preparing to move to a new Village Hall building. A new network infrastructure is required to facilitate operations and connectivity to other village locations as well as the internet.

There are approximately 40 Village staff members that will be occupying the new space and will be moving their own phones, PCs, monitors, printers/copiers and peripheral devices. There is an approximate total of 130 voice/data locations in the new facility that are required to be active upon completion of work. The scope below is required for completion of a successful technology move.

Bidders will design the network with conditions and manufacturers listed and will recommend model numbers of hardware. (where models are not specified) and will recommend back up power and bandwidth needed based on their design.

New Infrastructure

Internet Service:

The IT contractor will be responsible for assisting the Village of Hazel Crest with ensuring that a new high-speed internet circuit is installed and fully functional at least 2 weeks before the scheduled move in date. The Village of Hazel Crest currently has a relationship with Comcast, but it is the IT Contractor's responsibility to assist the Village with selecting the best service provider.

- The speed should be no less than 150Mb Down with 10Mb Upstream
- Comcast Metro-E preferred (fiber)
- The Village should have a secondary internet service provider for failover if the primary service is interrupted. Some additional circuit options could be AT&T, Crown Castle or other local service providers. Both services will have to be configured as a SD-WAN.

- The Internet service provider is to provide 5 static IP addresses
- The Business class modems should be installed in the MDF room on plywood or on a shelf on the rack
- Wireless service should not be provided by the ISP, as it cannot be properly secured for internal network access

Firewall:

The IT Contractor will be responsible for the following scope of work and requires the following specifications for completion:

- Provide, install, configure and update Sonicwall Firewall Appliance and all modules
- Upgrade the OS and licensing in the firewall to the latest version
- Rack mount the Sonicwall Firewall
- Make the appropriate connections to the ISP and internal network
- Configure Static IP Addresses provided by the ISP
- Configure SSH ONLY from the internal management, routing and data network (not wireless)
 - SSH Version 2
 - Diffie-Hellman group 14
 - 2048 bit encryption key generated
- Disable HTTP (if needed, it should be on a port other than 443, preferably higher than 40000)
- Disable Telnet
- If VPN is required, configure multifactor authentication
 - Only use Sonicwall VPN
 - Use a port other than default of 443
- Configure IPSEC VPN tunnel between the buildings using IKE v2, AES-256bit encryption and Diffie-Hellman Group 14 or higher unless limited by existing firewalls at other locations.
- Configure the firewall to route traffic destined for internal networks to the switch stack referenced below.
- All networks in the building are to have a 10.2xx.0.0/16 address
 - Non-public VLANs within the building should all be 10.2xx.y.0/24
 - Public wired VLAN within the building should be 192.168.x.0/24
 - Public Wi-Fi VLAN within the building should be 172.16.x.0/23
- Configure the firewall as the gateway to the internet using a routing VLAN
- The firewall will be the default router for the VLANs as follows:
 - Public WIFI
 - Surveillance
 - Door access control
- Configure network address translation with both static and dynamic as required

The installation of the firewall will be deemed complete when the firewall is rack mounted, powered on, upgraded, VLANs are defined and tested, management is secured and connectivity from all VLANs are completely functional and routing is successful throughout the entire Village network from the new Village Hall.

Ethernet Switches

The IT Contractor will be responsible for the following scope of work and requires the following specifications for completion:

- Provide, install, configure and update a new stack of (4) new 48 port Gigabit switches with Dual 110V AC Power Supplies w/Stackable Capabilities. Supports PoE+ (power over ethernet).
- Switches will be outfitted with 10 GIG SFP Modules connected with Single Mode LC to LC Fiber cable.
- Rack mount all new switches
- Provide and install all necessary patch cables (cabling should be neat and organized within wire management)
- Every port on the patch is designated for a computer, phone, printer/copier, IP camera or other device and should be patched.
- All switches are to be stacked with stacking cables
- Network support agreement is to be provided for onsite and technical assistance from the manufacturer.
- Switches are to be upgraded to the latest IOS
- Switches are to be configured to be the default router for all VLANs on the network and will forward traffic to the firewall.
- Separate VLANs are to be created for the following:
 - Management (Something other than VLAN1)
 - Servers
 - Voice
 - Data
 - Secure WIFI
 - Public WIFI (layer 2 Only)
 - Public Wired (layer 2 only)
 - Video Surveillance (layer 2 only)
 - Door Access Control System (layer 2 only)
 - Audio/Video
- Only SSH or HTTPS should be allowed
 - Telnet and HTTP disabled
 - SSH V2
 - Diffie-Hellman Group 14
 - 2048 bit encryption key generated
- AUTO QOS configured
- All ports configured for public access initially
- Ports identified for internal use should be configured as follows:
 - Untagged Data VLAN
 - Tagged Voice VLAN
 - Auto QOS
 - Portfast
 - Access port
- Trunk port should be configured for the interface to the firewall
 - Should contain the routing VLAN and the layer 2 VLANs hosted by the firewall
- Provide and install all stacking, fiber and patch cables necessary

The installation of the Ethernet switches will be deemed complete when all of the new switches are rack mounted, upgraded, all locations are patched and all connectivity is completely configured, operating and routing of network traffic is successful to and from all defined VLANs per the outline above including as sections of this RFP.

Wireless Infrastructure

The IT Contractor will be responsible for the following scope of work for completion:

- Design, provide, install and configure a cloud managed wireless infrastructure (APs are to be mounted by the IT Contractor). Complete coverage of the facility is required.
 - Ubiquiti
- Access points are required to be POE (power over ethernet) and will connect to the stack of ethernet switches
- Access points will be configured with 3 SSIDs. One for Internal operations, one for Guest usability and one for Audio/video.
- Access points will require an IP address on the management VLAN as specified above
- Access points should be affixed to the ceiling based on a predictive survey of the location. The location will determine the quantity of the access points needed for adequate coverage.
- Each SSID will be configured to the minimum of WPA2-PSK.
- Backbone cabling for the access points is provided by others.

The installation of the wireless network will be considered complete when the wireless access points are installed, configured, connectivity is tested, and routing is fully functional for all wireless networks to all other networks that should be accessible from the respective networks.

- Internal Wi-Fi connectivity to all networks except door controls and Video surveillance
- Internal Wi-fi connectivity to the internet
- Internal Wi-fi to all other enterprise networks
- Audio/Video connectivity to the A/V network
- Audio/Video connectivity to the internet
- Public Wi-fi to the internet only

Power and Battery Backup

The IT Contractor will be responsible for the following scope of work and requires the following specifications for completion:

- Provide and install (2) APC Rack mounted UPSs (Uninterruptable Power Supply).
 - (1) UPS for Equipment Rack and (1) UPS for Server Rack.
 - Each APC will have a web card with environmental sensor to communicate with assigned person when or if there is a power issue or environmental issue.
- Provide and install (2) Raritan PX2-2145R Rack mounted PDUs 30A/208V (Power Distribution Unit) or equivalent
 - (1) for the network equipment Rack and (1) for the Server Rack.
 - For devices with (1) Power supply, a Zonit ATS Input cord shall be supplied for Dual power capability
- All power should be a fixed to an emergency outlet that is backed up by a generator

Racks and wire management

The IT Contractor will be responsible for the following scope of work and requires the following specifications for completion:

- Provide and install (2) 4 post open racks (Chatsworth Products: 15212-703 or equivalent)
 - One rack will be used for network equipment (i.e. firewall, switches and UPS)
 - One rack will require shelves to support the existing (6) Village servers, new KVM switch and new UPS

- Provide and install (3) double sided, Vertical wire managers
 - Manufacturer: Chatsworth Products: 13912-703 or equivalent
- Provide and install (5) double sided Horizontal wire managers
 - Manufacturer: Chatsworth: 30530-719 Products or equivalent
- Provide and install (1) Raritan MCD-LED17108 KVM switch with LCD Monitor and keyboard or equivalent

Server Relocation

The Village currently has (qty. 6) servers/workstations that will be relocated to the new facility. The Village has a cloud and on premise image based back up solution.

- Ensure that there is enough cooling /storage capacity in the new MDF room to house the relocated servers.
 - If there are deficiencies, the contractor shall notify the Village and work with them to ensure that deficiencies are addressed prior to the server move
- Provide recommendations for upgrading servers if needed. Must be Hewlett Packard.
- Physical Server relocation includes:
 - Perform and verify a complete backup of all servers prior to relocation
 - Investigation and documentation of server functionality and current configuration
 - Document the name, brand, model number, OS and purpose of servers
- Facilitate move the servers to new location
- Servers include the following:
 - HP Proliant ML 350 (located in existing MDF room)
 - (1) HP Proliant ML350p Gen8 (located in existing MDF room) 4VM's Hyper V.
 - (1) HP Proliant ML30 Gen10 (located in existing MDF room)
 - (1) HP ProDesk Workstation (located in existing MDF room) ESX Management
 - (1) Proprietary server (located in existing MDF room) BDR
 - (1) Granicus Server (located in administrative office)
- Install servers in new rack location
- Reconfigure servers as required for network integration
- Update DNS to reflect the change and test connectivity from all networks required to access the servers
- Document and test and ensure access as required for Village employees

Server relocation will be deemed completed when the servers have been fully tested, are completed operational and are accessible by the respective network clients devices.

Data Backup Solution

The IT Contractor will be responsible for the following scope of work and requires the following specifications for completion:

- Provide, install image based, on premise and cloud back up for all Police servers remaining in old location. Police server currently has 500GB, and has a 2.5TB capacity.

Please breakout labor and material cost separately. Request will be accepted until **Friday, May 17, 2019, 5:00 p.m.** and must be returned to Irma Holloway, Economic Development Director, Village of Hazel Crest, 3000 W. 170th Place, Hazel Crest, IL 60429 or by email at iholloway@villageofhazelcrest.com For questions please contact Ron Valdez, Heritage Technology Solutions, by email at ron.valdez@htspc.net

Thank you,

Irma Holloway

Irma Holloway
Economic Development Director