Project Scope of Work (SOW)

Project Name: District-Wide Network Switch & Power Infrastructure Modernization
Client: Huntington School District
Target Platform: Cisco Catalyst 9350 Series Switches, APC Smart-UPS Systems, & Structured Cabling Modernization

*Specific model numbers are included to describe intended project however, proposals for equivalent solutions for any manufacturer and/or model numbers will be accepted with documentation to support equivalency.

1. Project Overview & Objectives

The contractor shall deliver a turnkey network and power infrastructure modernization across all 8 school facilities in the Huntington School District. The project encompasses pre-deployment backup, hardware installation, configuration migration, hardening, power redundancy balancing, structured cabling cleanup, physical rack consolidation, and final documentation.

2. Detailed Tasks & Technical Requirements

Phase 1: Project Site Walkthrough, Scheduling, & Work Windows

- **Optional Site Walkthrough:** A comprehensive district-wide site walkthrough will be conducted on November 23rd starting at 8:30 AM. Vendors will have the opportunity to visit every network closet (MDF and IDF) across all 8 school buildings to audit physical rack space, power outlets, existing cable runs, and closet conditions prior to deployment.
- **Cutover & Execution Schedule:** All cutover operations and high-impact downtime must strictly occur during school closures (summer/holiday breaks) or on weekdays after 4:00 PM when school is out of session.
- **Continuous Service Verification:** Ensure minimal disruption to essential building services during non-cutover hours, including VoIP telephony, IP security cameras, access control card readers, and wireless access points (APs).

Phase 2: Pre-Deployment & Configuration Management

- **Existing Configuration Backups:** Perform full, verified backups of running and startup configurations for all existing legacy Cisco switches prior to physical modification.
- **Configuration Migration:** Translate and migrate backed-up Cisco IOS configurations to modern Cisco IOS-XE syntax optimized for the Cisco Catalyst 9350 platform.
- **Firmware Standardization:** Flash all new Cisco C9350 switches with the latest Cisco-recommended, gold-star standard Cisco IOS-XE release before installation.

Phase 3: Configuration Optimization & Security Hardening

- **Best Practice & Security Review:** Review all existing switch configurations and implement Cisco Enterprise best practices and security hardening.

Phase 4: Physical Installation, Rack Consolidation, & Cable Remediation

- **Physical Hardware Deployment:** Unpack, rack-mount, and install all new Cisco C9350

switches and StackWise-480 stacking cables across all MDF and IDF locations.

- **Rack Layout Standardization (1:1 Modular Patching):** Standardize all telecommunications cabinets across 50 IDF locations using the 1:1 patch-to-switch layout:
    - 24-Port Patch Panel → Cisco 48-Port Switch → 24-Port Patch Panel → 24-Port Patch Panel → Cisco 48-Port Switch using short 6-inch Category 6 slim patch cables (approximately 2,500 6-inch patch cables deployed district-wide). The picture below is the goal.



- **Contingency Patch Panels Procurement & On-Site Stock:** Include up to 40x Category 6 24-port patch panels in the project inventory to be available on-site as contingency stock for terminating additional home runs or replacing decommissioned legacy Category 5/5e patch panels. Unused panels will remain with the district IT Department upon project completion. (District will only request E-Rate reimbursement for panels that are installed and used)
- **Port Reconfiguration & VLAN Re-alignment:**
    - Reconfigure switch port settings to match the physical placement of patch panel drops and allow proper utilization of 6-inch patch cables without requiring long crossover patches.
    - Adjust and re-align switch port VLAN assignments across all core endpoint networks:
        1. Computers / Workstations
        2. VoIP Telephony
        3. IP Security Cameras
        4. Card Readers / Physical Access Control
        5. Wireless Access Points (APs)
- **Legacy Cable Demolition & Department Handover:**
    - Disconnect and remove all existing patch cables; neatly package and return them to the IT Department.
    - Decommission existing SFP/SFP+ transceivers, replace them with new SFP-10G-SR and SFP-10G-LR modules, and return all legacy optics to the department.
    - Carefully remove all decommissioned legacy switches, organize them by building, and hand them over to the district IT Department for formal inventory and decommissioning.
- **Legacy Patch Panel Removal & Port Migration:**

    - Decommission and remove all legacy Category 5 and Category 5e patch panels.
    - Safely re-terminate active ports (~300 district-wide) onto modern Category 6 patch panels (utilizing new Cat 6 24-port panels as required). Tone, test, and label all migrated lines where possible.
- **Unterminated Cable Termination (Home Runs):**
    - Terminate approximately 200 loose or un-terminated direct cabling runs into open ports on Category 6 patch panels.
    - Tone, test, and label each run where possible.

Phase 5: Power Infrastructure & UPS Deployment

- **UPS Battery Backup Installation:** Unpack, place, and configure all new APC Smart-UPS tower units (SMT1500C, SMT2200C, and SMT3000C) across all MDF/IDF locations.
- **Power Redundancy & Load Balancing:** Connect the dual 1600W AC power supply modules (PWR-C2-1600WAC-I) of each switch across distinct circuit sources and UPS units to ensure uninterrupted dual-corded power redundancy.

Phase 6: Procurement, Budgetary Terms, & E-Rate Conditions

- **E-Rate (SPI) Requirement:** The district will only accept vendors who support SPI invoicing. Vendors must apply E-Rate discounts upfront on all eligible equipment and services so the district is only billed for its non-discounted share.
- **Budget Contingency & Approval:** This project is contingent upon the formal approval and passage of the 2027–2028 school year district budget.

Phase 7: Documentation & Knowledge Transfer

- **As-Built Topology Documentation:** Deliver comprehensive as-built documentation, including:
    - Updated district-wide network topology diagrams.
    - Port-mapping schedules, VLAN mapping tables, management IP addressing tables, and stack member roles.
    - UPS load allocation mapping per closet.
- **Knowledge Transfer & Handover:** Conduct formal knowledge transfer sessions with the district network engineering team covering stack management, power monitoring, configuration backups, and troubleshooting guidelines.