PRELIMINARY SMART SCHOOLS INVESTMENT PLAN

MIDDLE COUNTRY CENTRAL SCHOOL DISTRICT
DISTRICT ALLOCATION = $8,318,342
January 27, 2016

Introduction and Rationale

"Our students are at the center of everything we do. As educators, our foremost goal is to prepare them for their future." - International Society for Technology in Education

The International Society for Technology in Education (ISTE) provide an internationally recognized set of standards that describe the skills and knowledge students, teachers and administrators need to learn, teach, and plan for respectively, to live productively in an increasingly global and digital society. Every piece of technology that is purchased by the Middle Country Central School District is scrutinized against these standards to provide the best learning resources for our students to increase student achievement.

In addition to project(s) listed in this Smart Schools Investment Plan, possible District projects that may be funded by the NYS Smart Schools investment plan include a structured SMART Board replacement plan, a student desktop replacement plan vs. desktop virtualization, phase 2 of wireless rollout to support a potential 1:1 program, and a district-wide replacement of all networking switches as the age out in the next few years.

Middle Country Central School District is in a good financial position. In addition to available Smart School funds, the district recently passed a local bond which contained a number of technology projects. In addition, the district also has federal money available to us via E-Rate. Current District projects that were already in progress are listed in our District Technology Plan, but the District is currently evaluating options with regard to using budget, District bond, E-Rate, and Smart Bond funds. This is done to maximize the value for the tax payers of the Middle Country Central School District. This is supported by New York State, who approve of the leveraging of as many resources as are available for these purposes.

School Connectivity

Districtwide Internal Building Fiber Optic Cable

Supply and install 12 strand multimode 50 micron armored fiber from all instructional building MDFs to all building IDFs. The fiber will be terminated at both ends using LC type connectors in a rack mount fiber termination box. This fiber optic cable will support up to 40 Gbps interconnects between District data closets, but will initially be lit at 10.

Materials used will include:

- 12 Strand Armored 50 Micron Multimode Fiber
- Rack Mount Fiber Termination Boxes
- LC Type Connectors
- Fiber Adaptor Plates

Description	Price	Qty	Ext. Price
Dawnwood Middle School (2 IDFs & connection to DAO – Approximately 1460' of fiber)	$11,372.00	1	$11,372.00
Centereach High School (7 IDFs & connection to DMS – Approximately 3805' of fiber)	$39,205.00	1	$39,205.00
Newfield High School (7 IDFs – Approximately 2480' of fiber)	$28,691.00	1	$28,691.00
Eugene Auer (1 IDF – Approximately 410' of fiber)	$3,332.00	1	$3,332.00
Oxhead (1 IDF – Approximately 330' of fiber)	$2,854.00	1	$2854.00
Holbrook Road (2 IDFs – Approximately 605' of fiber)	$13,079.00	1	$13,079.00
Unity Drive (1 IDF – Approximately 330' of fiber)	$6,704.00	1	$6,704.00
Stagecoach (2 IDFs) – Approximately 760' of fiber)	$10,156.00	1	$10,156.00
Hawkins Path (2 IDFs – Approximately 630' of fiber)	$13,228.00	1	$13,228.00
New Lane (2 IDFs – Approximately 595' of fiber)	$5,319.00	1	$5,319.00
North Coleman (2 IDFs – Approximately 720' of fiber)	$9,917.00	1	$9,917.00
Selden Middle School (7 IDFs – Approximately 2240' of fiber)	$31,108.00	1	$31,108.00
Jericho (2 IDFs – Approximately 575' of fiber)	$9,049.00	1	$31,108.00
Bicycle Path (2 IDFs – Approximately 840' of fiber)	$6,784.00	1	$6,784.00
Transportation (Connection to Special Education, Buildings and Grounds, Central Registration and Data Services (3) IDFs)	$28,729.00	1	$28,729.00
		Total:	**$219,627.00**

Rationale

The current fiber optic cable that is installed intra-building between main distribution facilities (MDF) and intermediate distribution facilities (IDF) was installed approximately 16 years ago. This fiber optic cable has a maximum bandwidth capability of only 1 Gbps. With District support services, District educational supplemental resources and State testing increasingly moving to being internet-based—as well as systems that were traditionally on parallel, separate systems (i.e. security and voice) transitioning to sitting on the common data network—the new fiber will we be able to support all of these services. This system will also support the bandwidth requirements of the Smart Schools Bond, as well as any additional network requirements deemed necessary by a wireless expansion or potential 1:1 program.

Completion of District WiFi Rollout – Phase 1:

Wireless access points and necessary infrastructure to complete Phase 1 of wireless rollout program for Centereach High School, Newfield High School and New Lane Elementary.

Description	Price	Qty	Ext. Price
Aruba AP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas (AP-205)	$410.05	200	$82,010.00
Aruba Access Point Mount Kit (box style, secure, flat surface). (AP-220-MNT-W2W)	$44.25	50	$2,212.50
Aruba 7220 Mobility Controller with 4x 10GBase-x (SFP/SFP+) and 2x dual media (10/100/1000BASE-T or SFP) ports. Includes one 350W AC power supply. (7220-US)	$15,042.05	2	$30,084.10

10GBASE-SR SFP+; 850nm pluggable 10GbE optic; LC connector; up to 300 meters over multi-mode fiber (Type OM3) or 400 meters with OM4 (SFP-10GE-SR)	$734.55	2	$1,469.10
Access Point License (256 Access Point License) (LIC-256-AP)	$9,150.90	1	$9,150.90
Policy Enforcement Firewall (256 AP License) (LIC-PEFNG-256)	$8,024.00	1	$8,024.00
AW-1000 AirWave license for 1000 devices (AW-1000)	$21,827.05	1	$21,827.05
ARUBACARE NBD SUPPORT FOR 7220-US (1 YEAR) (EN1-7220-US)	$2,040.00	1	$4,080.00
ARUBACARE SUPPORT FOR LIC-256-AP (1 YEAR) (EN1-LIC-256-AP)	$1,245.00	1	$1,245.00
ARUBACARE SUPPORT FOR LIC-PEFNG-256 (1 YEAR) (EN1-LIC-PEFNG-256)	$1,090.00	1	$1,090.00
ARUBACARE SUPPORT FOR AW-1000 (1 YEAR) (EN1-AW-1000)	$2,959.00	1	$2,959.00
32 hours of VANDIS Professional Services (Regular Time) (32-VAN-ENG)	$195.00	32	$6,240.00
Project Management Services (1-VAN-ENG-PM)	$1,716.00	1	$1,716.00
		Total:	**$172,107.65**

Rationale:

Phase 1 of the Middle Country Central School District's WiFi rollout was started approximately 4 years ago. In that time, we have covered 2 kindergarten centers, 8 elementary schools, and two middle schools with wireless connectivity. This was installed to support existing mobile carts of laptops and iPads, as well as limited bring your own device (BYOD) for staff members. Although our two high schools and New Lane Elementary currently have WiFi installed in important areas as deemed by the principals, this project would cover the three remaining District buildings with WiFi to support existing mobile carts and staff BYOD.

The future Phase 2 of this program will move from having approximately one access point for every two classrooms having an access point for every classroom. Phase 2 will be necessary prior to the implementation of any 1:1 program.

Classroom Technology

Network Storage

A Nimble Storage area network (SAN) to be provided and installed by Vandis.

Description	Price	Qty	Ext. Price
CS300 2X1 GIGE DUAL 10GBE OPTI CAL QTY 1 PAIR 12 X 6TB HDD 4 (CS300-2P-72T-2400F)	$64,320.00	1	$64,320.00
NBD PARTS DEL SW SUP & INFOSIGHT NEXTGEN ARRAYS (SLA-NBD)	$5,252.21	1	$5,252.21
INSTALLATION FOR NIMBLE ARRAY CS210/215 (PRO-INSTALL-ARRAY1)	$3,325.00	1	$3,325.00
		Total:	**$72,897.21**

Rationale

Middle Country Central School District's current storage area network (SAN) is a 48TB Dell Equallogic 6500E, purchased in 2009. It is responsible for District data storage and backups. Unfortunately, this SAN goes end of life this school year and the District will no longer be able to subscribe to service and support from Dell. In an era of multimedia learning environments and specialized content, data storage is instrumental for high quality instruction, continuous improvement, and effective communications. These multimedia learning environments include courses from Technology, Art and Music, as well as video clubs in each high school.

Smart Schools Investment Plan Summary

District Allocation	**$8,318,342.00**
School Connectivity Sub-Allocation	**$391,734.70**
Classroom Technology Sub-Allocation	**$72,897.21**
Unallocated Funds	**$7,853,710.09**