



**SMART SCHOOLS INVESTMENT PLAN UPDATE**  
**MIDDLE COUNTRY CENTRAL SCHOOL DISTRICT**  
**DISTRICT ALLOCATION = \$8,318,342**  
**September 13, 2017 – “Chromebooks”**

## 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, and a student desktop replacement plan vs. desktop virtualization.

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.

## Classroom Learning Technology

### Fifth and Sixth Grade 1:1 Chromebook Rollout

Initial 1:1 Chromebook program with fifth and sixth grade students.

The purchase of 2100 Chromebooks will provide fifth and sixth grade students with Chromebooks in the 2017-18 school year, as well as provide for incoming fifth grade students in the 2018-19 school year.

Description	Quantity	Unit Price	Ext. Price
HP Chromebook 11 G5 - 11.6" Celeron N3060 - 4 GB RAM - 16 GB SSD	2100	252.36	529,956.00
Electronic HP Care Pack Pick-Up and Return Service - extended service agreement	2100	31.00	65,100.00
Google Chrome Management Console License	2100	30.00	63,000.00
GoGuardian License	2100	10.50	22,050.00
<b>Total</b>			590,646.00

## Rationale

As Middle Country starts its initial 1:1 program with students taking Chromebooks home, the technology purchased supports student learning both inside and outside the classroom. Students will use web-based software to enhance skills, both to accelerate and/or remediate learning. They can conduct research, collaborate with peers both in Middle Country and around the world, solve problems, and create projects without being limited to the physical boundaries of time and space. This initial Chromebook program is in direct alignment with the work of the Middle Country Commission for Educational Advancement and will help to support students as they work towards their capstone projects.

## School Connectivity

### Fifth and Sixth Grade 1:1 Chromebook Rollout

Initial 1:1 Chromebook program with fifth and sixth grade students. This also includes starting phase two of the district wireless network expansion, which amounts to increasing access point density in the required areas, i.e. an access point every other classroom to an access point in every classroom.

Description	Quantity	Unit Price	Ext. Price
Aruba - AoS8 Mobility Master			11,322.65
Aruba - 7220 Controller			16,495.65
Aruba - Alcatel License Migration			29,250.00
Aruba - Access Points and Licensing			265,860.00
Aruba - Mounting Kit Options			11,400.00
<b>Total</b>			334,328.30

## Rationale

The purchase of addition Aruba wireless controllers and access points will mark the beginning of phase two of Middle Country's wireless network build out. In short, phase one provided for a rough coverage in every instructional building. This equated to approximately an access point in every other classroom. With phase 2, access point density will be increased to an access point in every fifth grade classroom, as well as an access point in each middle school classroom.

### Districtwide MDF Switch Replacement:

Submitting to NYSED 9/14/17 pending BOE Approval on 9/13/17

Replacing all remaining MDF switches with current, manufacturer supported equipment.

With the exception of the Computer Center, each MDF installation will include one each of the following:

- OS6450-P48-US with US power cord, OS6450-XNI-U2 stacking module, OS6450-CBL-60 stacking cable and 1 Year SUPPORT Software
- OS6450-SW-PERF: Performance Software License allowing the 2 fixed SFP+ ports to Operate at 10Gig
- SFP-10G-C1M: 10 Gigabit direct attached copper cable (1m, SFP+)

And as many of the following as necessary to replace existing switches:

- Gigabit Ethernet chassis in a 1U form factor with 48 10/100/1000 Base T ports
- OS6450-XNI-U2: Optional 10 Gigabit SFP+ module
- OS6450 60 Centimeters long SFP+ direct stacking cable
- 1 Year Support Software for OS6450

All switches will include 24x7 Remote Telephone Support, 24x7 remote Problem Diagnosis.

Description	Ext. Price
Computer Center	10,956.00
Dawnwood Middle School	12,173.00
Centereach High School	7,003.00
Newfield High School	7,003.00
Newfield High School - Computer Center	6,388.00
Eugene Auer	8,868.00
Oxhead	10,733.00
Holbrook Road	10,733.00
Unity Drive	10,733.00
Stagecoach	8,868.00
Hawkins Path	8,868.00
New Lane	12,189.00
North Coleman	7,003.00
Selden Middle School	10,733.00
Jericho	8,868.00
Bicycle Path	7003.00
Transportation - Connection to Special Education, Buildings and Grounds, Central Registration and Data Services	96.00
<b>Total</b>	<b>\$ 148,218.00</b>

**Rationale:**

The current switches that are installed in each building’s MDF are at end-of-support as of March 2017. Building on the Middle Country Central School District Bond project where all district data closets were upgraded to switches capable of supporting 20 Gbps connections between data closets (Phase 1), this installation would replace the remaining switches in each MDF to equipment covered by support and capable of supporting higher-speed communication between switches (Phase 2).

The switches that are removed from the MDF closets will be used to support the remaining switches in the all of the district IDF closets, until they are replaced in the next phase (Phase 3).

## Districtwide Internal Building Fiber Optic Cable – Submitted to NYSED 9/23/16

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

## Rationale

The current fiber optic cable that is installed intra-building between main distribution frame (MDF) closets and intermediate distribution frame (IDF) closets 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.

## Smart Schools Investment Plan Summary

<b>District Allocation</b>	<b>\$8,318,342.00</b>
<b>School Connectivity Sub-Allocation</b>	<b>\$702,173.30</b>
<b>Classroom Learning Technology</b>	<b>\$600,564.00</b>
<b>Unallocated Funds</b>	<b>\$7,015,604.70</b>