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BLIND BROOK TECHNOLOGY PLAN

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INTRODUCTION

Description of District

The Blind Brook School District is located in central Westchester County, New York, about 25 miles north of New York City. Like many school districts in Westchester, Blind Brook is small (approximately 1,510 students) and proud of the quality of its schools, its faculty and its students. The Bruno M. Ponterio/Ridge Street School (K-5) and Blind Brook Middle/High School (6-12) are nationally recognized Schools of Excellence and both are accredited by the Middle States Association. The residents of the district have consistently supported its schools by passing virtually every budget and bond issue presented to them. Almost all graduates of Blind Brook High School matriculate at four-year colleges and universities, many of which are among the nation's most selective.

- The ***Blind Brook School District*** has state of the art computer technology to serve the students, administration, faculty, and community. Over \$5 million has been spent on this program in recent years. The high-speed fiber-optic network is multi-platform, providing students with state-of-the-art equipment and Internet access in both the Macintosh and the PC environments. A wireless networking environment has also been added to enable quicker access to online resources. The ratio of students to computers is 2.5, the lowest in Westchester County and among the lowest in the state.
- The ***Blind Brook School District*** is proud of the achievement of its students on both the state and national levels. Students consistently outperform their peers in similar public school districts and independent schools on a variety of measures, including tests administered by the State of New York, the College Board, and the Educational Records Bureau.
- The ***Blind Brook School District*** is also proud of the close and cooperative relationship that exists among the Board of Education, the Administrative Union, the Teachers' Federation, the School Related Personnel Union and the Parent-Teachers' Association. Educational planning in Blind Brook is frequently collaborative, as all constituencies share a strong interest in maintaining and enhancing Blind Brook's excellence. The keys to Blind Brook's continuing success are its small size, the quality of its teaching and administrative staff, its motivated students, and its supportive Board of Education, parents and community.

Blind Brook Vision Statement

To promote the continuous growth of all Blind Brook students intellectually, socially and emotionally in all schools.

Blind Brook Mission Statement

The Blind Brook Schools are the cornerstone of our community. Our mission is to prepare our students to be active, life-long learners who have the skills and confidence necessary to achieve their highest potential. We encourage our students to be curious, compassionate and strong in their ability to face challenges. We are committed to preparing our students to be reflective, adaptable citizens with an open world view. We aspire to instill integrity as a core value and to influence our students to be ethical and responsible members of society.

District Technology Vision Statement

The Blind Brook School District has always striven to provide an excellent education for all students. The mission of the school is to develop students who are lifelong learners who have the skills and confidence to reach their highest potential. The District employs technology to both enhance the learning experience in the classroom and to expose students to skills that will be needed for success in their lives beyond Blind Brook.

In today's world, the effective use of technology has become an essential skill for individuals to succeed. It is incumbent on all schools to ensure that students are given access to equipment as well as the proper training in technology usage so as to meet the needs of the current and future workplace. This training includes skills such as online research, effective digital communications and data management

It is also necessary to provide technology within the District that will aid and enhance the educational experience. Rather than being a showpiece, the technology in the District is, and always will be, a tool to support the educational initiatives and goals of the District. As the District moves towards a student-centered learning experience, technology will play a key role in changing the dynamic of the classroom.

A key factor in maintaining the effective usage of technology in the District is providing the proper training for faculty and staff. With the rapid change in technology, it is necessary to regularly provide teachers with professional development in areas related to District goals. Educational practices must be current in order to provide the best learning opportunities for our students. There also needs to be a mechanism where the newest educational and technological ideas are explored and evaluated for use in the District. Teachers and administrators must have the chance to review trends and technologies and assess what valuable additions can be made to our classrooms. The District will adopt an encouraging and supportive attitude towards teacher exploration.

As the District progresses through the next five years, the following concepts will be the guiding principles in implementing technology in the Blind Brook School District:

- Ensuring students are learning the appropriate technology skills for college and beyond.
- Assisting in the move from teacher-centered to student-centered classrooms.
- Leveraging of new technologies and Web-based resources to enhance student learning.
- Providing professional development opportunities for faculty and administration on technology usage.
- Establishing an educational exploratory organization within the community.

TECHNOLOGY PLANNING

Technology Professional Development Expectations

- Ongoing professional development opportunities will be provided to professional staff, parents, and community in order for them to develop the understandings and skills necessary to be technologically informed and included as partners dedicated to the process of improving teaching and learning.
- The professional development opportunities will include using technology to acquire data on student performance, designing performance and Standards-based instructional modules for increasing interactive student engagement and achievement.
- Professional development in the use of technology will consistently forward teachers' ability to use student performance data to evaluate the effectiveness of software currently in use or under consideration for adoption with regard to the software's potential to enhance, modify or elevate the quality of curriculum and instruction and forward student achievement.
- Ongoing professional development will be provided to all staff on all technologies, both hardware and software, that staff members are expected to use in the course of instruction, professional work, curriculum development and assessment design.
- Scheduling and format of professional development will be flexible to include workday, after school and summer opportunities.
- Professional development offerings will respond to needs determined from the identified gaps between each staff member's current knowledge base and the district's technology and instructional goals. Technology user surveys will be developed, distributed and analyzed by the Technology Planning Advisory Committee to determine the professional development needs of network users.
- Professional development courses will include access to follow-up support.
- All staff will be trained to do basic troubleshooting and equipment maintenance in order to maintain instructional efficiency. This training will include identification of critical problems and the procedures for determining whether to self-solve a technological problem using a diagnostic protocol seek immediate assistance or submit tasks to the Help Desk.

Technology Planning Advisory Committee

Statement of Purpose

The District Technology Planning Advisory Committee serves as an advisory group to District Administration. Its charges include:

1. To annually develop, review and revise the district's long-term technology plan, vision and goals;
2. To evaluate the district's progress in meeting its goals by
 - reviewing inventory and monthly reports;
 - reviewing student performance data;
 - reviewing the technology budget to ensure sufficient resources to support future initiatives and sustain current ones;
 - conducting and reviewing annual surveys to evaluate data concerning technology use, implementation, professional development and support;
3. To explore innovative instructional technology initiatives which anticipate the future needs of the district.

Membership

Committee members shall meet as is appropriate and may form subcommittee groups for purposes of discussing subtopics in greater depth. Membership may include:

- Board of Education representatives
- Director of Technology
- Members of the Technology department
- Administrative representatives
- Faculty representatives
- Student representatives
- Support staff representatives
- Parent/community representatives

The superintendent shall be in receipt of all communications from the Technology Planning Advisory Committee including copies of email communications, meeting agendas, minutes and reports.

Meetings

Meetings shall be held as needed. Subcommittee meetings will be held as is appropriate for the subcommittee's project. Although all topics may not be covered in all meetings, a rolling agenda for meetings shall include the following topics and timeframes, for such discussions as established:

- Tech Plan Updates
 - Progress reports on current initiatives
 - Inventory (hardware and software) and "Help Desk" reports
 - Annual plan revisions
- Technology use surveys and evaluations
- Instructional technology integration initiatives
- Infrastructure upgrades
- Annual technology budget

Because the Technology Planning Advisory Committee members represent diverse stakeholders, it is unlikely and unnecessary that the committee comes to consensus on every issue. Collaboration and cooperation of all members is expected, however, on all matters before the committee.

Any number of technology initiatives may be in progress in different stages at any given moment and may originate from within the committee or from stakeholders within district or beyond. It is not the duty of the committee to control initiatives or their progress but to review the relevance of the initiatives to the overall technology plan and district goals, and to provide input at various stages of project development as the timing of district deadlines and resources may permit.

When the committee comes to consensus, it may, as a committee, forward a recommendation to administration.

Where consensus does not occur, the minutes should reflect the discussion and suggestions of various members so that administration may consider alternatives with regard to technology planning, purchases and acquisition.

Because all accountability for decision-making ultimately falls to administration, all final decisions with regard to the district's technology and budget rest with the Superintendent and the Board of Education.

Technology Planning Advisory Committee 2015-16

Formal Appointees

Wendy Adler, Member of the Board of Education
Colin Byrne, Director of Technology
Jean Follansbee, Instructional Media Specialist
Nancy Knabl, Teacher MS
Marko Markolovic, Teacher HS
Robin Willig, Teacher BMP RSS
Richard Donoghue, Teacher MS
Andre Soto, Teacher MS
Charles Von Hollen, Technology Staff Developer
Adam Fleishaker, Student
Jacob Zeitlin, Student
Justin John, Student
Alain Oberrotman, Community Member
Giorgio Rietti, Community Member
Brian Berk, Community Member
Mark Weingarten, Community Member/Parent
Kevin O'Neil, Community Member/Parent
Andrew Stevens, Community Member/Parent
Seema Dayal, Community Member/Parent
Abbe Fleishaker, Community Member/Parent
Nancy Barr, Community Member/Parent

OVERVIEW OF BLIND BROOK TECHNOLOGY PLAN 2015-2020

Technology Status Update 2014-15

This Technology Plan is predicated on anticipated community support for school-year budgets of 2015 through 2020. Budgetary changes and advances in technology not anticipated in this plan will necessitate revision of the Technology Plan. This Technology Plan is also based on the assumption that the Board of Education and the community will continue to philosophically and financially support the development and integration of technology into instruction to promote a learner-centered education for all students. This five-year plan reflects the school district's extensive and on-going commitment to technology integration and serves as an assurance for the quality and integrity of the decisions made about technology acquisition and educational implementation.

Due to a downturn in the economy, the 2008-2009 through 2013-2014 budgets saw a restriction in the amount of technology that the district purchased. This included little to no purchasing of desktop computers, laptops or any computer-related equipment. As a result, the district has had to operate with equipment that is outdated. The 2014-2015 attempted to rectify this to an extent but was still limited in the computers that could be purchased. However, the replacement cycle for projectors and Smart Boards was re-established.

At the beginning of the twenty first century, the school district installed a fiber optic computer network. This included all required networking components such as a firewall, routers, switches and servers. The fiber optic cabling not only connected major network components, which is common practice in networking, but also connected individual computers to the network. This method of networking computers requires costly components to run and is difficult to repair. More recent network connections for computers have used CAT5 or CAT6 copper wiring. Combining the move from fiber optics to copper wiring for computers with the age of the original equipment highlights a need to replace the networking equipment. New network storage devices were purchased in 2013-2014 and new switches were purchased in 2014-2015 to begin the replacement process.

The reduction in available funds for technology caused the district to explore low cost and free resources. The district set up a Google Apps for Education account in 2012-2013. Use of Google tools has grown over the past two years. In 2014-2015, the district switched its email to Gmail. Network accounts are synched to Google accounts.

In 2014-2015, the district began a one-to-one pilot project by distributing Chromebooks to all 7th grade students. Students and teachers were trained in their use with teachers receiving training in integrating Chromebooks into classrooms during the previous school year. Eighth grade teachers also received training in Chromebooks use with the expectation that the Chromebook initiative would move up a grade for the following year.

Prior to 2013-2014, the frequency of professional development in technology was limited by the availability of the Director of Technology's time and by the reduction of funds in the technology budget. Professional development opportunities expanded in the 2013-2014 school year with the hiring of a technology staff developer. This position expanded the use of technology in the classroom by offering a resource that was available to work with teachers in and out of the classroom. The staff developer ran training sessions on a variety of technology topics. In the summer of 2015, the staff developer, in conjunction with a high school teacher, offered the first summer technology academy.

The 2015-2020 Technology Plan will focus on following goals that were developed based on the needs as well as the general overall goals of the school district.

Current Resources/Equipment

- 255 faculty and non-custodial professional staff (incl. 2 instructional media specialists, 3 technology teachers, 1 technology staff developer and 1 automated systems clerk for data management);
- 10 administrators;
- 2 building sites w/air-conditioned environments;
- 12 Windows servers (district website, web/email filtering, library database, financial program, domain controllers for each building, printer management, application and file servers), Back-ups are stored on network attached storage devices and online storage sites;
- Fiber-optic connections between buildings and to Internet;
- Hardware Equipment: 1380 computers (comprising PC and Mac desktops, laptops and Chromebooks), printers and scanners, digital cameras, digital video cameras, graphing calculators, PASCO Science Probes, networked copiers, document cameras, Smart Boards (interactive white boards in 100% of all classrooms district-wide) and projectors.

**BLIND BROOK TECHNOLOGY PLAN 2015-2020
GOALS & OBJECTIVES**

Statement of Goals

- I. Update the network infrastructure to support the demands of current and future use.
- II. Establish and maintain a one-to-one device program to support student learning initiatives.
- III. Set up a centralized database to simplify and improve the use of data in educational decisions.
- IV. Initiate technology training programs that link to district initiatives.
- V. Review new technologies that will assist in the move to student-centered learning.
- VI. Support the K-12 STEAM (science, technology, engineering, arts, and mathematics) initiative.
- VII. Evaluate opportunities to introduce students to virtual or online learning experiences.

Performance Indicators for Professional Staff

The following outline of outcomes frames the parameters for establishing performance indicators for professional staff for each of the strategic objectives detailing the six goals of the Technology Plan. As a result of the successful implementation of the district's Technology Plan, each professional staff member will

1. Use productivity tools for a wide variety of instructional and organizational tasks, demonstrating the ability to manage files, adjust settings and produce documents;
2. Comfortably operate a variety of hardware for instructional and administrative purposes;
3. Identify, request and use web-based programs and software applications in instruction;
4. Utilize data from district databases to analyze student performance and inform instructional decision-making;
5. Integrate technology into the curriculum (specifically, identifies technological competencies and develops performance indicators for students within units of study);
6. Participate in district culture of electronic communication through email as a viable venue for expediting work-related issues and attend online meetings with colleagues;
7. Take part in professional development opportunities, both in person and online.

Summary of Needs Assessment 2014-2015

- Update network cabling and core components;
- Replace outdated computer resources;
- Reinstate replacement cycles for computers and presentation equipment;
- Assess data usage needs;
- Find a centralized database that meets district needs;
- Train teachers and administrators in use of data;
- Set up alternative training opportunities for technology;
- Revise and innovate technology instruction curriculum for students, with particular focus on STEAM;
- Integrate STEAM throughout curriculum;
- Explore the possibility of using alternative technologies for classroom presentations and lectures.

Elaboration of Goals: Strategic Objectives

Goal I

Update the network infrastructure to support the demands of current use

Strategic Objectives

- 1.1 Replace outdated networking equipment including the firewall, routers, and switches;
- 1.2 Replace fiber optic cabling to individual computers with CAT6 cabling;
- 1.3 Monitor activity on wireless network and add or upgrade access points as needed;
- 1.4 Review functionality of current servers and set up a replacement schedule;
- 1.5 Replace any desktop or laptop that is five years old or older;
- 1.6 Reinstate five year replacement cycle for desktops, laptops, tablets and projectors;
- 1.7 Monitor internet bandwidth usage and increase as necessary;
- 1.8 Evaluate the effectiveness of the district web filter and set up a replacement or update schedule;
- 1.9 Review new technologies for network security and implement as appropriate.

Goal II

Establish and maintain a one-to-one device program to support student learning initiatives

Strategic Objectives

- 2.1 Review devices to identify the most appropriate device for the program. This review will be ongoing as technology is constantly changing and newer devices are being developed;
- 2.2 Establish a multiple year deployment plan for the distribution of Chromebooks to students. The current deployment plan is as follows:
2014-2015 - 7th grade (150 new Chromebooks for 7th grade students and teachers)
2015-2016 - 7th and 8th grade (140 new Chromebooks for 7th grade students and teachers)
2016-2017 - 7th through 10th grade (240 new Chromebooks for 7th and 10th grade students and teachers)
2017-2018 – 7th through 12th grade (263 new Chromebooks for 7th and 12th students and teachers – 12th grade student Chromebooks could be redeployed the following year)
Deployment will continue in the following years so that all students from grades 7 to 12 have a Chromebook. Each year the incoming 7th grade students will receive new Chromebooks;
- 2.3 Develop appropriate usage guidelines for student use of devices;

- 2.4 Train teachers in the integration of devices in their classroom as per rollout schedule;
- 2.5 Train students in the use of devices as per rollout schedule;
- 2.6 Identify programs and online resources that would assist with the management and usage of the one-to-one devices;

Goal III

Set up a centralized database to simplify and improve the use of data in educational decisions.

Strategic Objectives

- 3.1 Perform a needs analysis to see what data is needed for decision making by teachers and administrators;
- 3.2 Review capabilities of current databases, including eSchoolData and optimize usage of these databases;
- 3.3 Identify and acquire a database that will meet the identified needs;
- 3.4 Train employees on database usage;
- 3.5 Train teachers and administrators in data usage techniques.

Goal IV

Initiate technology training programs that link to district initiatives.

Strategic Objectives

- 4.1 Implement Chromebook training sessions for students and teachers as appropriate for the Chromebook rollout;
- 4.2 Set up training sessions for teachers on using the Microsoft Surface Pro tablet as a presentation device;
- 4.3 Create interdisciplinary training sessions to assist with the integration of STEAM initiatives into various curricula;
- 4.4 Establish a centralized repository of training resources including videos, documents and links to online training sites;
- 4.5 Ensure through planning that network and equipment are in constant optimal condition for permitting uninterrupted school/community communications within and beyond the boundaries of the district.

Goal V

Review new technologies that will assist in the move to student-centered learning.

Strategic Objectives

- 5.1 Create a replacement plan for all equipment including desktops, laptops, projectors and Smart Boards based on student need and budgetary resources.
- 5.2 Set up a pilot group to evaluate the use of Surface Pro 3 tablets as presentation devices for the middle school and high school;

- 5.3 Purchase test devices for Ridge Street School to determine the need for devices at the elementary school level. Teachers at all levels and departments will take part in the review;
- 5.4 Develop a rollout plan for replacing Smart Boards with Surface Pro 3 tablets for the middle school and high school;
- 5.5 Develop a purchase/deployment plan for devices at Ridge Street School based on pilot results;
- 5.6 Research screen sharing and collaboration technologies to allow students to work together on projects;
- 5.7 Create training sessions for teachers on presenting with tablets as well as use of collaboration software in the classroom.

Goal VI

Develop and implement a K-12 STEAM (science, technology, engineering, arts, and mathematics) initiative.

Strategic Objectives

- 6.1 Review and evaluate current STEAM-based projects and classes;
- 6.2 Equip Fab Lab at Middle School/High School and maker space at Ridge Street School;
- 6.3 Train faculty in use of Fab Lab and maker space;
- 6.4 Develop a plan for connecting and expanding STEAM projects throughout all grade levels;
- 6.5 Articulate the K-12 STEAM initiative plan;
- 6.6 Assist faculty in identifying and integrating interdisciplinary STEAM-based projects;
- 6.7 Review STEAM plan as well as usage of STEAM lab spaces;
- 6.8 Identify and create professional development opportunities for teachers to learn about integrating STEAM into their curricula.

Goal VII

Evaluate opportunities to introduce students to virtual or online learning.

Strategic Objectives

- 7.1 Optimize use of online learning systems currently in use in the district such as Edline, Google Classroom and iTunesU;
- 7.2 Research models for integrating online learning into K – 12 education focusing on the high school grades.
- 7.3 Engage faculty and administration in discussions on incorporating online learning.

TECHNOLOGY BUDGET

Budget History

In 2009-2010 the Blind Brook Technology Department budget was approximately \$730,344.00 throughout the organization on technology expenses. This represented a 17% decrease in the budget partially driven by economic concerns but also by the high level of technology that resided in the district.

In 2010-2011 the Blind Brook Technology Department budget was approximately \$640,477.00 throughout the organization on technology expenses. This represented a 12.3% decrease in the budget partially driven by economic concerns but also by the high level of technology that resided in the district. This was the second consecutive year with a reduction in the technology budget.

In 2011-2012 the Blind Brook Technology Department budget was approximately \$714,155.00 throughout the organization on technology expenses. This represented an 11.5% increase in the budget partially driven by the installation of a wireless networking environment.

In 2012-2013 the Blind Brook Technology Department budget was approximately \$645,331.00 throughout the organization on technology expenses. This represented a 9.6% decrease in the budget driven by the limitations in spending imposed by the New York State tax cap.

In 2013-2014 the Blind Brook Technology Department budget was approximately \$653,439.00 throughout the organization on technology expenses. This represented a 1.3% increase in the budget. This was driven by the limitations in spending imposed by the New York State tax cap.

In 2014-2015 the Blind Brook Technology Department budget was approximately \$726,748.00 throughout the organization on technology expenses. This represented an 11.2% increase in the budget. This was driven by the implementation of the one-to-one Chromebook program. These funds were apportioned as follows:

- \$ 135,000.00 for hardware
- \$ 121,830.00 for software
- \$ 68,677.00 for BOCES software and services
- \$199,841.00 for salaries and related expenses
- \$200,400.00 for contractual expenses as well as supplies and materials

Adopted Technology Budget 2015-16

In 2015-2016 the Blind Brook Technology Department budget allows for approximately \$755,048.00 throughout the organization on technology expenses. This represents a 3.9% increase in the budget. The budgetary increase was limited due to the need for the district to remain under the New York State tax cap. These funds are apportioned as follows:

- \$ 142,500.00 for hardware
- \$ 134,015.00 for software
- \$ 74,728.00 for BOCES software and services
- \$210,805.00 for salaries and related expenses
- \$193,000.00 for contractual expenses as well as supplies and materials

Projected Budget Expectations

Due to the multiple years of restricted spending in the technology budget, there will be a need to increase spending on the replacement of networking equipment as well as desktops and laptops. Some of the replacement will be offset by the use of Chromebooks and tablets in place of desktops. Continued funding will be needed to support the one-to-one program at the middle school/high school and to procure devices for the Ridge Street School. Additional funding will be needed to support training initiatives and to develop a centralized database. Anticipated areas of additional cost are:

- Network equipment;
- Replacements for desktops and laptops;
- Professional development courses and resources;
- Devices for students and teachers;
- Resources for STEAM labs (FAB LAB and maker spaces);
- Development of a centralized database.

MAINTENANCE OF TECHNOLOGY

The district employs a consulting firm, EduTek Ltd., to install and maintain all computer equipment. This includes networking equipment, desktops, laptops, tablets, projectors, Smart Boards, printers, document cameras and other peripherals. EduTek provides individuals who are trained in the repair and management of all devices that the district currently uses and will use in the future. This includes:

- Windows-based desktops and laptops
- Mac desktops and laptops
- Chromebooks
- Windows-based servers
- Ruckus wireless system
- Cisco switches, routers and firewalls
- Microsoft SQL server and MYSQL databases

As stated in the district goals, regular replacement cycles will be established for equipment such as desktops, laptops, tablets and projectors. This will ensure that there is functional equipment on hand to support the goals stated above.

Additionally, support contracts for network equipment will be purchased to facilitate the upkeep of this equipment. Insurance will be purchased for student devices to allow for quick repair and replacement. Extra devices will also be purchased so that students with devices that are out for repair have a device to work on.

A review of the scope of work being done in regards to technical support is being performed. This review will be combined with a cost/benefit analysis of outsourcing the district's technical support needs versus retaining in-house staff. Depending upon the results of these analyses, an RFI or RFP may be developed by the district to explore technical support options.