

To: Dr. Charles Johns
Board of Education

From: Dr. Kim Ptak
Dr. R.J. Gravel

Date: Monday, February 28, 2022

Re: Award of Bids for the “Total Classroom” Initiative Capital Projects for Summer 2022

Recommendation

It is recommended that the Board of Education award the bids as presented in Table 1 for the “Total Classroom” initiative to be completed during the summer of 2022 in the total amount of \$3,923,712. After the \$62,500 rebate from ComEd the total cost of the project is \$3,861,212.

Table 1
Lowest Bids Received by Trade

Trade	Contractor	Bid Amount
Flooring	Johnson Floor, Co.	\$548,725
Lighting Material	Viking Electric	\$250,000*
Painting	Oosterbaan Painting	\$206,072
Demolition	Workplace Installation	\$24,000
Furniture Install	Workplace Installation	\$47,000
Furniture Student Items Package 1	Forward Space	\$1,577,602
Furniture Student Items Package 2	Frank Cooney	\$484,685
Furniture Teacher Items Package 1	Forward Space	\$217,992
Furniture - Teacher Items Package 2	Interior Investments	\$51,411
Vertical Writing Surfaces	Forward Space	\$516,225
	Subtotal	\$3,923,712
	(Less ComEd Rebate)*	(\$62,500)
	Total Cost	\$3,861,212

Background

At the Tuesday, October 19, 2021, Facility Committee meeting, the administration shared its intent to present a plan to complete the learning space initiative. In response to feedback from the committee, it was determined that the administration would bring the recommended project scope, timeline, and pricing to a February 2022 board meeting. This memo seeks to meet this request and outline a plan to enable the newly branded “Total Classroom” initiative to be completed by the start of the 2023-24 school year.

Due to the complexity of the Total Classroom initiative, this memo has been divided into the following parts:

- Goal of the Total Classroom (page 2);
- Scope of Work (pages 2-4);
- Description of Classroom Enhancements (pages 4-11);
- Sample Classroom Renderings (pages 12-114);
- Sequencing (page 14); and
- Financial Update (pages 15-16)..

Goal of the “Total Classroom”

The Total Classroom emphasizes enhancements to flooring, lighting, paint, vertical writing and projection surfaces, and active furniture in order to achieve two main goals:

1. To create an adaptable learning and teaching experience for our students and teachers by maximizing the space for comfort, engagement, and flexibility; and
2. To create a classroom environment focused on well-being by designing each new element with a lens on belonging, optimism, and vitality.

Scope of Work

Excluding single-purpose or specialty spaces such as the gymnasiums, performing arts spaces, and CTE lab environments, there are 227 regularly scheduled learning spaces at Glenbrook North and South. All 227 rooms are part of the Total Classroom initiative and generally fall into two categories:

1. Core academic learning spaces; or
2. Study halls, peer groups, and resource center spaces.

Core Academic Learning Spaces (196 Spaces)

Subjects taught in these spaces include career and technical education (CTE), english, math, physical education (e.g., health and driver education), science, social studies, and world languages.

As part of this initiative, these spaces will receive:

- LED lighting fixtures (with dimming and occupancy sensor capability);
- Upgraded flooring (carpet);
- Paint;
- Vertical surfaces (dry erase boards and projection surfaces); and
- Student and teacher furniture.

Table 2 offers a summary of the number of rooms that have received all or some of these enhancements over the last several years and the number of spaces yet to be completed.

Table 2
Core Academic Learning Spaces

	Glenbrook North		Glenbrook South		
Enhancement	Completed	Remaining	Completed	Remaining	Remaining
Lighting	6	80	43	67	147
Flooring	21	65	40	70	135
Paint	22	64	28	82	146
Vertical Spaces	22	64	28	82	146
Furniture	24	62	29	81	143
Total Spaces	86		110		

Other than 33 science classrooms included in the total space count in Table 2, it is recommended that all core academic learning spaces be completed before the start of the 2022-23 school year. The cost for these enhancements is included in Table 1 and described in detail in the proceeding sections of this memo.

Given the unique nature of science classrooms (e.g., classroom and lab sections in a single space), additional time is necessary to develop a modern plan for these spaces. Our instructional supervisors, Mrs. Mary Rockrohr and Mr. Jeff Rylander, and a team of teacher leaders recently started a design process with Mr. Ryan Bretag. The team has designed a prototype classroom for both schools through this process, which will be installed this summer and evaluated during the 2022-23 school year.

Based on our preliminary evaluation timeline, we anticipate that the science classroom design will be finalized by January 2023. This date will enable all science rooms to be completed during the summer of 2023. While the cost of these rooms is not included within the expenses presented in Table 1, conservative projections estimate that the science room phase of the project will cost approximately \$975,000.

Study Halls, Peer Group, Resource Center Spaces (33 Spaces)

These spaces are scheduled throughout the school day and will be receiving new lighting and flooring in the summer of 2022. The furniture and vertical spaces in each room meet the current needs or will be replaced with repurposed furniture from the core academic rooms. The touch-up painting will be done on an as-needed basis.

Table 3 offers a summary of the number of rooms that have received all or some of these enhancements over the last several years and the number of spaces yet to be completed.

Table 3

Study Hall, Peer Group, Resource Centers

	Glenbrook North		Glenbrook South		
Enhancement	Completed	Remaining	Completed	Remaining	Remaining
Lighting	0	16	0	17	33
Flooring	0	16	2	15	31
Total Spaces	16		17		

It is recommended that all study halls, peer group rooms, and resource centers be completed before the start of the 2022-23 school year. The cost for these enhancements is included in Table 1 and described in detail in the proceeding sections of this memo.

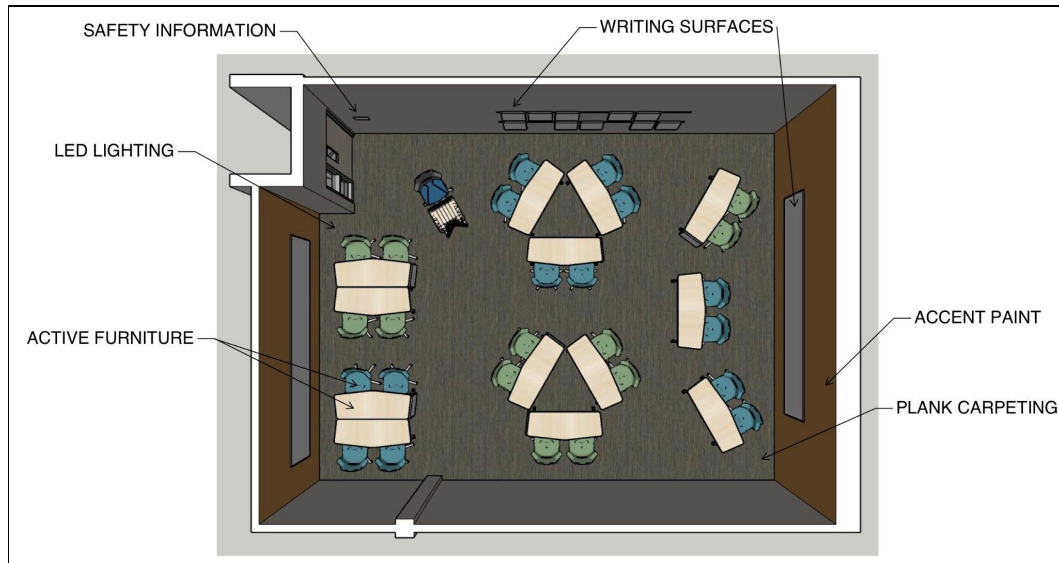
Description of Classroom Enhancements

By completing the proposed modernization projects, we will be able to offer our students and teachers a consistent learning experience across our two comprehensive high school buildings. This consistency will offer benefits from both a teaching and learning and operational perspective. Through a holistic approach to classroom design, stakeholders from across the district came together to address each detail of the modernization. This included:

- Students that have experienced recently completed classrooms;
- Teacher leaders and instructional supervisors from each department;
- Buildings and grounds managers, custodians, and maintenance personnel responsible for designing and implementing cleaning and maintenance protocols;
- Safety and security personnel, including first responders responsible for ensuring that rooms are designed in accordance with local security standards, and equipped with all necessary equipment and resources; and
- Technology services managers and technicians responsible for designing and maintaining sophisticated audiovisual, communications, and network systems to support teaching and learning.

These efforts resulted in what the team has named the “Total Classroom”. Figure 1 illustrates the different elements that make up the “Total Classroom”. Each of these elements is then described in detail.

Figure 1
“Total Classroom” Elements



Lighting

Currently, each classroom has T-8 fluorescent lighting with switching and dimming capabilities that vary by classroom and by building. The majority of classrooms at GBS have old occupancy sensors that inconsistently work. The classrooms at GBN have lighting controlled by the Building Automation System, limiting the teachers' ability to use the classrooms outside of regularly scheduled hours.

The fluorescent light fixtures will be replaced with a standard 2x4 LED fixture. Wiring in every classroom will be modified to support consistent, two-zone dimming and occupancy sensors, contributing to the overall energy savings.

LED lighting has many benefits, including:

- **Energy Efficiencies**

The standard LED fixture selected by the leadership team uses 62.5% less energy than the current classroom fixture (33 watts vs. 88 watts). The estimated annual savings is \$38,500 a year, based on the classroom being used for ten hours a day, 180 days a year. The project has an approximate 5-year payback.

- **More Direct Light**

LED lighting aims light in a specific direction, unlike conventional bulbs, which emit light in all directions. The directional lighting of LED reduces wasted energy and light.

- **Extended Life**

Unlike fluorescent lighting, LEDs don't “burn out” or fail. They also maintain a consistent light color over time. The LED selected has an expected lifespan of 30,000-50,000 hours compared to 8,000-10,000 of current fixtures.

- **Improved Student Performance**

Numerous studies are showing that students perform best in a learning environment where natural light is available or simulated. LED lighting has white and blue light, which have been

found to improve concentration, boost productivity and enhance moods.

Our school district's maintenance staff will complete the physical installation of the LED fixtures and associated switching revisions. By completing this work in-house, it is estimated that the school district will save approximately \$300,000. (It should also be noted that building maintenance staff will replace ceiling tiles in each classroom as needed when the fixtures are installed.)

As part of ComEd's energy efficiency program, the Buildings and Grounds team applied for a rebate on the fixture cost. The school district has been notified that the rebate has been approved, resulting in a rebate and savings of \$62,500.

Flooring

After evaluating carpet and vinyl tile flooring options, both schools decided to move forward with a modular, low-profile carpet made primarily from recycled fibers for all classrooms. This option was selected as it requires lower maintenance because damaged pieces can easily be removed and replaced as needed. The carpet planks selected for both schools are from the same durable and environmentally friendly line of carpeting and only differ slightly in the color pallet. The construction and rubber backing provides necessary acoustical benefits and an orthopedic benefit for teachers and staff who are typically standing in the classrooms for most of the day.

Paint

Over the last eighteen months, the schools have selected a standardized palette of paint colors to be used in all classrooms. These colors include both accent and standard wall colors. In addition to the colors being selected due to preference, color theory suggests that yellow tones may increase student attention and creativity while blue and green tones help students feel calmer and more peaceful.

The accent wall colors are displayed below:



The field wall color will be “wish” at both Glenbrook North and Glenbrook South:



Vertical Writing and Projection Surfaces

All departments heavily use vertical writing and projection surfaces (e.g., dry erase boards) which are an integral component of the Total Classroom environment. The vertical writing spaces will be 192” wide by 60” high and placed on 2-3 walls per classroom. The number of walls varies based on subject area and

other classroom physical components, such as windows. The placement and height of the vertical spaces will also be ADA compliant, unlike the current whiteboards in the classrooms.

Figure 2 illustrates the size and placement of the vertical surfaces

Figure 2

Vertical Writing and Projection Surface Example



Furniture

Associate Principals for Administrative Services, Ms. Lauren Bonner and Mr. Casey Wright, led a process of meeting with a team of teacher leaders and the instructional supervisor from each department, to gather feedback on the various classroom pilots conducted over the last couple of years. Through this process, each department selected the furniture pieces and classroom design that best met their subject-matter needs.






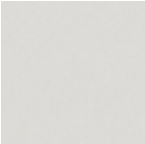
While departments drew from the same pieces which were identified through the pilot process, each department has identified a slightly different classroom model. There are certain pieces of classroom furniture that will be standard in every classroom and include the teacher items (storage, desk, and stool) and the student seating. The student table and desk selections are what vary by department.

All furniture items have been grouped into two (2) categories:

1. Teachers items; and
2. Student items.



Teacher Items

Every classroom will have consistent and standard pieces of furniture for the teachers, including a mobile storage unit, teacher stool, and mobile teacher desk/podium.

<p>Teacher Storage All built-in casework is being removed from the classrooms, and teachers will use a mobile storage system. The system will have three shelves and eight bins. The unit is counter height which allows the top surface to be used for teacher and/or student material. The back of the unit is a writable surface.</p> <p>Standard cabinet color: clementine.</p>	 
<p>Teacher Stool The stool selected for the teacher is the same as the student stool and chair, except it has a cushioned seat.</p> <p>Standardized frame color: dark gray. Standardized fabric color: blue or green.</p>	 
<p>Teacher Podium/Desk The teacher podium/desk serves as a spot for teachers to set their laptop and move throughout the classroom.</p> <p>Standardized base color: platinum. Standardized top color: folkstone gray.</p>	 

Student Items

Student seating has been standardized across all classrooms with a balanced focus of engagement and ergonomics. Student table and desk selections vary by department.

<p>Student Chair or Stool</p> <p>The shortcut chair and stool with a 5-star base were selected as the standard student seating option based on its overall footprint, comfort for students of all sizes, mobility, price and ability to enhance student sight lines due to the 360 degree movement.</p> <p>The student chair and stool are the same as the teacher stool, except it does not have a cushioned seat simply due to the higher maintenance associated with a fabric seat.</p> <p>The student seating will come in three colors to facilitate student groupings in each classroom.</p> <p>Standardized frame colors: dark gray, lagoon (blue) and olivine (green).</p>	
<p>Flexible Student Seating</p> <p>Each classroom will have two Hokki seats (18” and 20”). The Hokki is an ergonomic stool that allows for a more active sitting option. Also, its size makes it an easy seating solution for a student or teacher wanting to quickly join another student group.</p> <p>Standardized color: black</p>	

Chevron Two Person Table

The two-person table has a slight chevron shape allowing for an easy division between classmates while maximizing the opportunity for collaboration. The chevron also provides for the greatest individual width closest to the student.

The table has hooks on the side for personal whiteboards, which can also hang on a wall track within the space for display. The whiteboard also serves as a divider between the two students to assist with testing.



Standing Height Two Person Table

The two-person standing tables allow students to sit with a stool or to stand. They are also slightly deeper, allowing a group of students to comfortably work collaboratively.



Two Person Tables with a Writable Surface

These tables have a slight curve to maximize the individual space for each student. The tops are a whiteboard, writable surface.



Round Tables - Sit/Stand with Writable Surface

These tables are suitable for group work and for a teacher to work with a student one-on-one or with a small group. The tops of these tables have a writable surface, and they rise to standing height.



Individual Desks

There are a few individual desk options, including desks with the ability to use a personal whiteboard, smaller stacking, and standing height. These allow students to have individual space for testing and pair easily with another student or create a pod. Some can be stacked to allow for more space within the room.



Sample Classroom Renderings

Figures 3-7 are classroom renderings that illustrate the different furniture pieces selected and how they can be used in various configurations. The student seating, teacher stool, teacher storage unit, and teacher desk will be the same in every classroom, although it is not reflected that way in every rendering.

Please note: Renderings are intended to be used as spatial illustrations, and not exact representations of the Total Classroom.

Figure 3



Figure 4



Figure 5

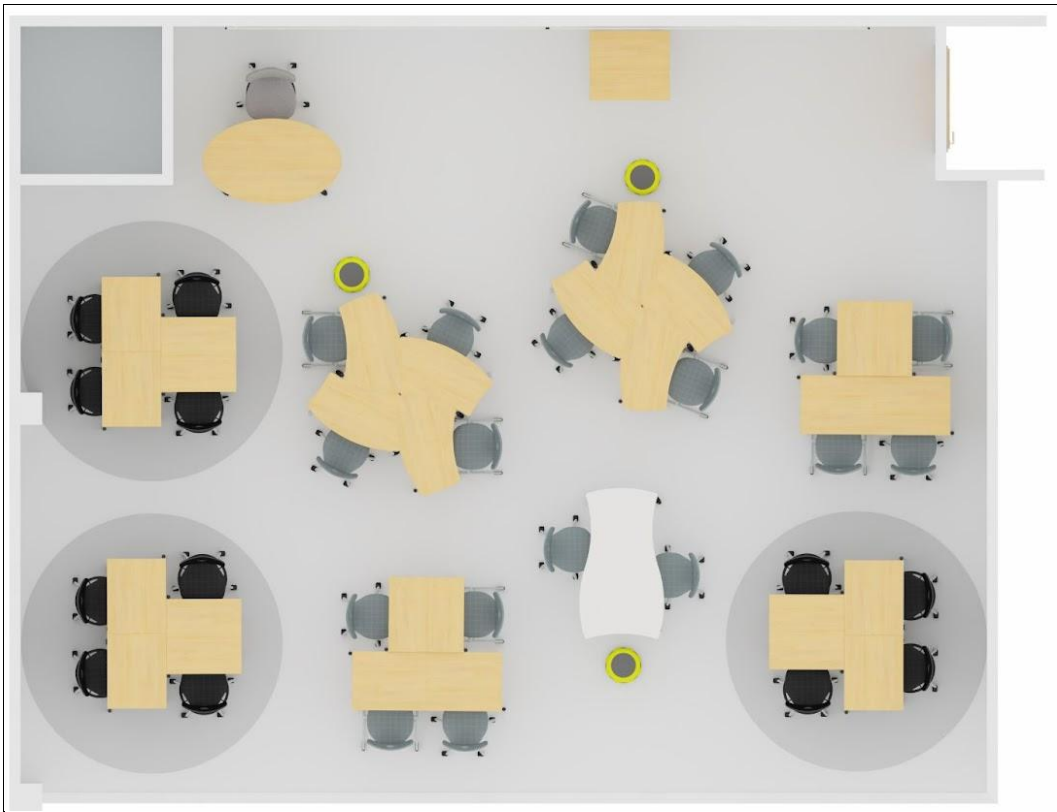


Figure 6

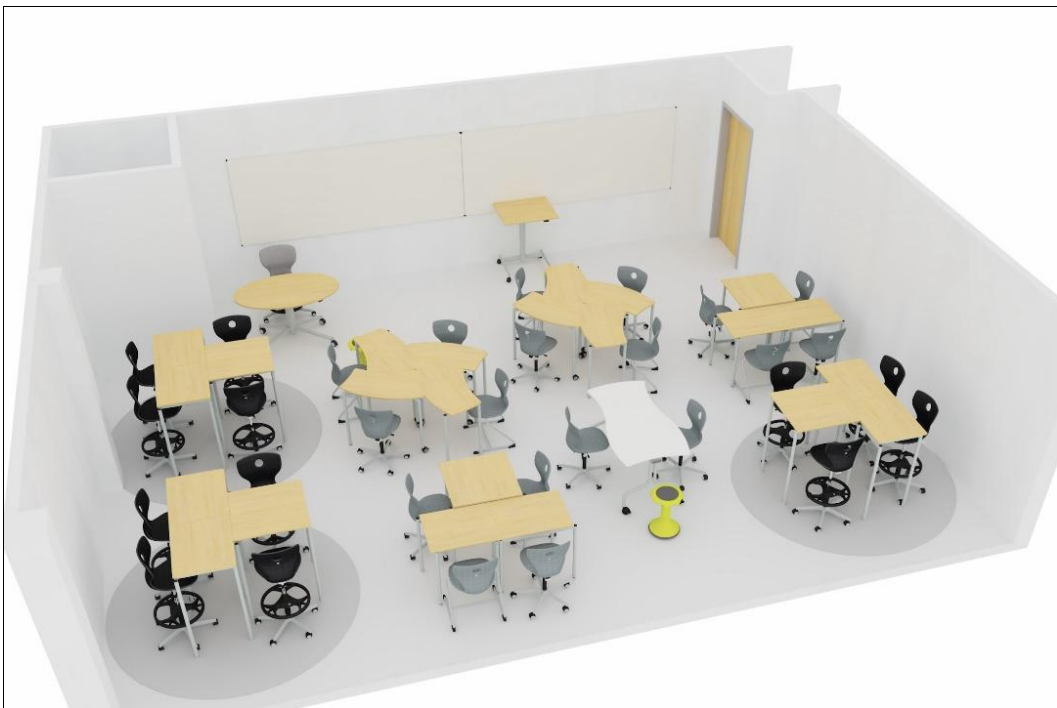


Figure 7**Sequencing**

The work is being coordinated with all trades involved, and will be closely monitored throughout the summer. There is a very tight sequencing of work that must occur in order for all classrooms to be ready for the start of the 2022-23 school year.

Work is scheduled to begin on Thursday, June 2, 2022, as soon as students leave the classrooms. The goal is to have the construction components substantially completed and rooms cleaned by Monday, August 1, 2022. This approach allows the furniture to be placed into the rooms on that Monday, and for the rooms to be ready for the first day of school on Wednesday, August 17, 2022. The preliminary project sequence is as follows:

1. Furniture removal
2. Demolition of casework, carpeting and old whiteboards and tackboards;
3. Abatement (2 classrooms are needing abatement - one at gbn and one at gbs);
4. Painting and patching
5. New carpeting installed;
6. Vertical spaces installed;
7. Rooms are cleaned
8. Furniture - new is placed in the rooms; old is repurposed or donated

The school district will work with The Reuse Network (IRN) to donate the old, surplus furniture. IRN works with charitable organizations to donate furniture to schools in need. There is an estimated cost to the district of \$14,500.

Since LED lighting is being installed using internal maintenance staff this work can happen during the remainder of this school year and into the summer.

Financial Update

On May 25, 2018, the Board of Education approved a resolution authorizing a \$5M permanent inter-fund transfer into Fund 60 for capital project purposes. The actual use of funds was to be dependent on subsequent project approvals and the awarding of bids by the Board of Education. There is a current fund balance in Fund 60 in the amount of \$2,209,516. At the time of the transfer the following projects were identified as needs of the district and possible future capital projects:

- Safety and security enhancements;
- Learning spaces initiative (approximately 200 classrooms);
- Routine concrete repairs, paving and asphalt services;
- Routine roofing repairs and replacement as needed;
- Replacement of existing parking lots based on needs and cycle; and
- Electrical and mechanical upgrades.

The “Total Classroom” initiative began during the 2017-18 year with the design and implementation of eight pilot classrooms, four at Glenbrook North and four at Glenbrook South. Upon completion of the pilot phase, several prototype classrooms emerged and the Board approved using capital funds of \$950,863 to furnish 32 classrooms, 16 at Glenbrook North and 16 at Glenbrook South. Over the last several years building leadership allocated building budget funds to furnish additional classrooms. Table 4 summarizes the historical expenditures for this initiative.

Table 4
Historical Expenditures for Learning Spaces

				Expenditures by Type		Cost Per Classroom
	GBN	GBS	Total	Capital Projects Fund	Building Budget Fund	
2017-18 Original Pilot Rooms	4	4	8	\$218,000		\$27,250
2018-19 “First 32” Initiative	16	16	32	\$950,863		\$29,715
2018-19 through 2021-22 Building Budgets	4	9	11		\$357,500	\$32,500 (average)
			Total	\$1,168,863	\$357,500	

Table 5 illustrates the per-classroom furniture cost comparison of spaces completed in 2018 as part of the “First 32” initiative and the 110 classrooms which are included in the “Total Classroom” initiative. The total per classroom cost has decreased by \$3,399 per room while the following components have been added:

- Standardized teacher desk and stool; and
- 60% of classrooms will have vertical spaces on three walls and 40% on two walls, compared to all 2018 classrooms receiving only two walls of vertical space.

Cost savings were achieved by removing student soft seating options, separating furniture install from the furniture purchase and reducing the vertical space height by 12 inches which opened the market and allowed for a more competitive purchasing process.

Table 5
Comparison of “First 32” Initiative to the “Total Classroom” Initiative Costs

	2018 32 classrooms		2022 110 classrooms		Difference	What Changed?
	Total Cost	Cost per Room	Total Cost	Cost per CR		
Student Items	\$724,570	\$22,643	\$2,109,287	\$19,175	(\$3,468)	Removal of soft seating; reduced install cost per room.
Teacher Items	\$26,073	\$815	\$269,403	\$2,449	\$1,634	Teacher desk and stool included in 2022 not in 2018.
Vertical Space	\$200,220	\$6,257	\$516,225	\$4,692	(\$1,565)	Vertical space different product line and reduced by 12” in height. In 2018 only 2 walls per CR were included, in 2022 60% of rooms will have 3 walls.
Total	\$950,863	\$29,715	\$2,894,915	\$26,316	(\$3,399)	

Should the Board of Education approve the award of bids as presented, the project would be supported through the use of existing capital projects fund balance, and unanticipated revenue for the 2021-22 fiscal year. This included delayed reimbursements from FEMA for previously purchased COVID-19 supplies and services (\$994,367), and unanticipated property tax revenue from the early termination of The Glen’s TIF status.