

# KNOX COUNTY SCHOOLS

ANDREW JOHNSON BUILDING

*Bob Thomas, Superintendent*



## MEMORANDUM

TO: Chair and Members  
Knox County Board of Education

FROM: Bob Thomas *B.T.*  
Superintendent

DATE: April 23, 2021

RE: Fiscal Year 2022 Capital Budget and Capital Improvement Plan (CIP)  
Recommendation

Attached, please find the capital budget recommendation for Fiscal Years 2022 (FY22) through 2026 (FY26). The worksheet that is Attachment A outlines an FY22 capital appropriation proposal with a framework for the subsequent four years of capital investment. We are proposing an appropriation of \$58.325 million for FY22 to allow us to continue the elementary construction projects identified and approved in FY20 as well as implement the \$26 million Board approved LED lighting upgrade on all our campuses over the next two years.

We have also gained some flexibility in our capital budget from the use of Elementary and Secondary School Emergency Relief Funds (ESSER 2.0). The state has approved the use of these funds for the entirety of the \$3 million Brickey- McCloud Elementary addition as well as \$726K for six additional classrooms at the new Adrian Burnett which were bid as alternates. An additional amount of approximately \$1.275 million was also approved for planned HVAC work at three schools. This gives use some funds that we can reallocate within the planned FY22 capital budget. In the case of the Brickey-McCloud projects, it allows us to carry some funds forward from FY21 to apply to FY22 needs.

### *Physical Plant Upgrades*

Last year we discussed beginning to include a level of funding for Physical Plant Upgrades (PPUs) in our general-purpose budget to address projects that are more related to maintenance of facilities rather than capital upgrades or capital expansion. Unfortunately, the fiscal projections and constraints brought on by the Covid-19 pandemic did not allow for this action. Including PPU funding in the general purpose budget remains a priority. However, this year we seek to include \$1 million in funds reallocated from the Brickey-McCloud project that are available based on approved ESSER 2.0 funding for that project.

For FY22, we are requesting \$1 million for PPUs in our capital plan and the additional \$1 million reallocation from the FY21 budget for a total of \$2 million.

Our proposed list of PPU projects is Attachment B, and it includes funding for some smaller projects such as new intercom systems at two schools, and hardwood floor replacement/maintenance as well as Phase II of our carpet replacement project at West Hills Elementary School. We are also planning some larger projects such as beginning window replacement at Gap Creek Elementary and Richard Yoakley Schools, sidewalk replacement in front of A.L. Lotts Elementary School and resurfacing the track at Powell High School.

### *Roofing and Heating, Ventilation and Air Conditioning*

For FY22, we are proposing a total of \$4.52 million as shown in the worksheet that is Attachment C. This request is an increase of \$2.02 million over what was projected for FY22 in the previous year's CIP, but it is necessary to allow us to complete the needed projects for FY22, and about \$1.275 million of this total is for HVAC projects that have received funding approval from the state under the ESSER 2.0 funds.

We propose to continue our effort to provide air conditioning in all our gymnasiums with the installation of systems at Holston, South -Doyle and Whittles Springs Middle Schools. We also have significant work that must be performed to upgrade HVAC and electrical systems at Ridgedale School and South Knoxville Elementary Schools.

While we have not projected it in this capital plan, we do expect to need to do significant HVAC work in the out years at Cedar Bluff Middle School, A.L. Lotts Elementary School, Karns Elementary School, Fountain City Elementary School, and South Doyle High School (Young Campus). We expect each of these projects to run between \$3 and \$5 million.

With respect to roofing, we are planning a complete roof replacement at Carter High School which is estimated to cost \$1.8 million.

#### *BEP Growth (Modular Classrooms)*

In addition to the proposed expenditures cited above and detailed in the attached worksheets, we have also proposed \$300,000 for modular classrooms. This level of funding will allow for the purchase and installation of one, two room structures. This increases our budget estimate for portable classrooms from \$250,000 to \$300,000 per unit. This is necessary as the building code now requires new units to be fully sprinklered. Based on current pricing for classrooms in our Lonsdale, Adrian Burnett, and Northwest Elementary projects, we have reached the point where modular classrooms are now more expensive than bricks and mortar. The only advantage is that it takes less time to put one in place.

#### *Systemwide Drives, Parking and Paving*

Three years ago, we began the process of systematically addressing the poor condition of the asphalt on our school parking lots and drives. In FY21, we made a significant investment in the drives and parking at South-Doyle Middle School. Much of the asphalt at this site was significantly deteriorated and has not been fully addressed since the school was built in the mid-1970s. That project is complete, and the parking should be in good shape for many years to come.

For FY22 we have proposed an investment of \$500,000 in this area. We firmly believe we must make a regular and continuing annual investment to help us address the work that has been deferred over time and to avoid creating additional backlog. Our next schools for paving priority need to be Carter High Schools, Green Magnet Elementary School, and the drives at Karns Elementary, South Doyle High (Young Campus) and Richard Yoakley Schools.

### *Environmental Testing and Remediation*

We have a very active environmental testing and remediation program that includes asbestos monitoring and remediation as well as radon and water testing and remediation. We are seeking \$250,000 in FY22 to continue this very important work.

Our asbestos management program was established to comply with federal mandates and guidelines about 30 years ago and is an ongoing program. We also recently began water testing in accordance with state statute and BOE policy. We have completed testing in all our schools built before 1998. Under Board policy and state statute, this will be an ongoing biennial commitment at all our schools built in this period. All our school built in 1998 and later will be tested every five years as is required in Board policy. We started radon testing and mitigation at our schools about four years ago and have completed testing and required remediation at about 89% of our sites. Of the 81 sites that we have tested to date, only 25 required us to install some level of radon mitigation. We still have 10 sites that need to be tested and possibly mitigated, and we expect to complete these over the next two years.

### *Technology Upgrades*

While we have recently completed the transition of all our aging telephone systems to new Voice Over Internet protocol system (VOIP), we propose a continued investment of \$300,000 for technology upgrades for FY21. This level of funding will allow us to address issues that may arise with maintenance of our wireless connectivity as well as replace aging servers and switching hardware.

### *Security Upgrades*

The \$2,000,000 proposed in security upgrades will be used to continue the multi-year process of replacing and upgrading the locks in all our schools to a more capable system that will both replace older and worn locksets as well as allow us to reduce the dependence on traditional building and district master keys.

Additionally, we have completed a third-party assessment of the need for distributed antenna systems at our school sites to enhance the effectiveness of the digital E-911 radio system. This assessment found that we have some signal strength degradation in about 75% of our facilities. We have started the process to install antennae systems to enhance communication at these sites. This will be a multi-year, multi-million-dollar process, and we are working with our contractor to develop a priority list and schedule for this work.

We are generally in a maintenance posture with our video systems using upgrade funds to keep our over 6000 video cameras functioning appropriately. With respect to fencing, we will be using these funds to address deteriorated fencing and any newly identified access control needs at our schools.

We have a contract in place to replace our outdated proximity card system and the current estimate for that project is about \$850,000. We have started the replacement process and expect to complete the project prior to the start of school in August of this year.

#### *School Accessibility*

We have established a practice of biennially providing contingency funding for school accessibility projects. Generally, these are smaller projects such as adding chairlifts or improving sidewalks to support specific students who may have mobility challenges with respect to their zoned school. We address these issues throughout the year as they present themselves and as school administrators identify them. In this plan we are seeking to add \$100,000 to the project account for this purpose.

#### *Lonsdale Construction*

As we discussed when the Board approved the schematic design for the new Lonsdale Elementary School, the Board's action to include six additional classrooms in this project and increase the capacity of the school to about 800 students expanded the original scope of this project. Additionally, building code changes that require storm shelters in schools and increased seismic requirements as well as site-specific storm water requirements that were not envisioned

in the original project budget have increased the cost of this project beyond what was originally contemplated.

The construction cost for this project is now determined to be slightly more than the original total projected budget of \$19 million. To meet this obligation, we need to increase the funding for the final year of the project to ensure we have sufficient resources to procure the furniture, fixtures and equipment (FF&E), information technology and security equipment to complete this project. Therefore, we are requesting \$4 million beyond the originally projected \$2 million appropriation be added to the FY22 appropriation for this project bringing the final year appropriation to \$6 million.

#### *Northwest Elementary School Construction*

The protest of the procurement process and subsequent delay in awarding a construction contract of the Northwest Elementary School project has pushed this project beyond our projected completion date of August 2022. While the actual completion of the project may only be delayed by several months, it is not prudent to attempt to open a new school in the middle of a school year. Therefore, we are now targeting August of 2023 as the opening date for the new school.

We will work with the Knox County Law Department and the Knox County Procurement Department to get an appropriate construction contract developed for the Board to consider as soon as possible. While we do not have a contract, we do have enough pricing information to let us know that we must adjust the budgeting for this project to reflect the higher construction costs that we are currently experiencing as well as to share expenses for the improvement of Coward Mill Road with Knox County. Therefore, we are projecting this as a \$29 million project, and we have adjusted the budget recommendation accordingly.

#### *North Central Elementary Solution*

The North Central Elementary Solution consists of multiple projects; a Brickly McCloud addition; a replacement school for Adrian Burnett Elementary and an addition to Sterchi Elementary School.

Construction on the new Adrian Burnett will begin early this spring, and it is expected to be complete in the late summer or early fall of 2022. Bids for the construction of this project came in higher than we had budgeted at \$19.9 million. This was due primarily to changes in the storm shelter and seismic requirements in the 2018 International Building Code recently adopted by Knox County. We also recommended and the BOE approved the addition of six additional classrooms to the project to take the school's capacity to 800 students. While adding to the cost of the project, this action makes financial sense since these classrooms are significantly less expensive than our current cost of portable or modular classrooms.

Therefore, we are estimating that we need to increase the total budget on this project to \$23 million to ensure that we have funds available for FF&E, technology and security. This is similar to what we have requested for the Lonsdale Elementary project. This would add \$2 million to both the FY22 and FY23 appropriations for the project.

We are bidding the Brickey-McCloud project this spring, and we will begin construction on the 10- classroom addition as soon as we have a contract in place.

#### *Farragut Elementary Grades Solution*

As approved in the FY 21 CIP, Barber-McMurray Associates (BMA) has completed a feasibility analysis of the accommodation options for the elementary student population in the Farragut Primary and Intermediate School zone. The BMA report is Attachment D to this proposal.

In short, the BMA analysis finds that classroom additions allowing support of up to 1500 students at each of the two schools may be possible. However, completing improvements to the cafeteria, library and other core amenities to support an expanded population are more problematic. BMA also looked at traffic patterns at the schools and whether it is possible to better accommodate current and future traffic. While they identified some options in this regard, the options only mitigate traffic issues and do not alleviate them. Additionally, we have cost opinions of as much as \$28.06 million to complete the additions at both schools. These projections place us in the range of the cost to building a new school, while not fully addressing

all of the needs of the existing facilities including traffic management and the size of the core amenities such as libraries and cafeterias.

Operationally, I believe the best solution to the challenges we face is to build a new school to serve a significant portion of the K-5 population in the Farragut area. This will be challenging given the limited availability of affordable, buildable property in a geographically acceptable area. Nonetheless, I think we need to pursue building a new school in the Farragut area that will allow us to accommodate at least 600 students in the current population and provide for growth of 300-400 additional students over the coming years. We have proposed a \$5 million fund balance designation for FY22 to help us jump start this process and purchase suitable property in the Farragut area. We are also reflecting an estimated construction cost similar to the bids we received on the northwest elementary school project.

#### *Title IX Solutions*

As we discussed in the FY 2021 Capital Improvement Plan, The Board of Education has had a long-standing practice of working with athletic booster organizations to allow these groups to invest in athletic programs and facilities at high schools across the county. This practice has led to the creation of disparities between some male and female athletic facilities at some schools. Last year we budgeted \$1.5 million in FY 2021 to begin to address these concerns and we have applied those funds to upgrading the softball facility at Farragut High School. While the total amount needed in out years remains to be determined, I think we need to move forward with the construction of a softball facility at West High School to address the disparities that have evolved between the baseball and softball programs. Therefore, it is prudent to appropriate \$3 million in the FY22 CIP to address this need. This will be a much larger project than the Farragut High School softball project as no softball field currently exists. Our intent is to construct a facility adjacent to the baseball facility on the West High School campus.

Additionally, we need to complete a comprehensive review of our various athletic facilities to identify specific areas where we may have issues with equitable facilities. I have charged our newly hired Title IX coordinator to undertake this work, and once this process is complete, we can request appropriate funding and begin to systematically address the shortcomings. We are



currently projecting \$1 million a year in out years for this work, but we will need to annually reassess this level of resourcing.

#### *Fire Alarm Upgrades*

Last year, we began the multi-year process of adding carbon monoxide alarms to our fire alarm systems in areas where we use natural gas fired appliances. We currently have 14 schools that fire alarms with this capability, and we are continuing our upgrade commitment in the current budget. However, we have also been contacted by the Knox County Fire Marshal about the need to upgrade all our fire alarm systems to meet the specifications of the recently adopted 2018 International Building Code. This action is made necessary by the significant upgrade that is required to our current fire alarm systems to add carbon monoxide detection. Based on current pricing, this is an \$11.5 million dollar project that we propose to move out of PPU's and set up as a separate multiyear project. Our intent is to dedicate about \$1 million a year until we complete upgrades at all facilities.

#### *Bearden Middle School Renovation*

The design of Bearden Middle School is such that its physical student capacity is much less than the actual space would calculate to be. Therefore, there is unused and underused space that needs to be redesigned to allow the building to function at its true capacity. We proposed to allocate \$4.5 million in the FY25 Capital plan to begin to address this need.

#### *Knoxville Adaptive Education Center (KAEC) Renovation*

KAEC is a critical facility for the Knox County Schools that serves some of our most severely challenged students. We need to look closely at the condition of this facility and plan for a significant refresh in the coming years. Therefore, we are proposing \$2.5 million for this purpose with the project to be implemented in FY24.

#### *Lincoln Park Renovation/Upgrade*

The Lincoln Park Center is one of our most versatile and well used facilities. It currently houses the Paul Kelley Volunteer Academy, the Knox County Schools Welcome Center and hosts some

evening classes for adults seeking certification in various skills associated with the construction trades. The facility was built in 1930 with additions and renovation completed in 1947 and 1955.

If we are to continue to use this valuable facility, we need to invest some resources in updates to improve accessibility, electrical systems and HVAC systems as well as the finishes and fixtures currently in use. Therefore, we are proposing allocating \$2.75 million in FY25 to address the shortcomings of Lincoln Park Center.

#### *Halls High School Facade and Windows*

We have previously proposed in FY21, and the Board approved, \$1 million to fund a facelift for the aging exterior of Halls High school as well as some upgrades to enhance the interior space in this facility that has been in use since the early 1970s. We had originally envisioned cleaning and pressure washing the exterior of the building brighten the brick, concrete and stucco finishes. As we got into the design of this project, we became concerned that some of the current finish would not stand up to the cleaning and it was already deteriorating. It was recommended that we do a complete window replacement as well as replace the applied concrete and stucco finished on the exterior of the building. We concur with this recommendation, and we have engaged an architectural firm to complete design work for this level of project. However, the expanded scope of this project will come with an expanded cost. Therefore we are recommending transferring \$1 million of the local funds previously designated for the Brickey-McCloud expansion to the Halls High Project since the Bricky-McCloud project has been approved for federal funding.

#### *LED Lighting Upgrade*

In, February, the Board and Commission approved an initiative to upgrade all of our campus lighting across the county. This initiative will change all our interior and exterior lighting to LED. This project includes upgrades to parking area lighting as well as stadiums and athletic fields. The \$26.1 million cost of this project will be paid through guaranteed saving in our electrical power expenses over the next 20 years.

## **Conclusion**

This proposed capital improvement plan for FY 2022 continues the commitment and investments identified in the FY 2021 plan, and it also identifies some needs that will have to be addressed in the longer term at some of our older or more heavily used facilities. The plan also proposes a solution to the needs associated with student population growth in the elementary grades at the Farragut Primary and Intermediate Schools and makes a commitment to further investment in areas of the county where we may have had disparities develop between male and female athletic facilities.

With the advent of ESSER 3.0 Funding, we will undoubtedly recognize some opportunities in the coming months that will allow us to adjust how we meet our capital needs and speed up the timeline on some of our future projects. As we receive additional information, I fully expect that we will need to bring modifications of our spending and construction plans to the Board.

I believe our current proposal is a reasonable capital improvement plan that builds on the Board's capital priorities and identifies a number of needed longer term investments. Therefore, I respectfully request the Board of Education adopt this plan as proposed.

### Attachments:

- A- FY21-25 Capital Plan Worksheet
- B- Physical Plant Upgrade Recommendations
- C- Roof/HVAC Recommendations
- D- Feasibility Assessment for Farragut Primary and Intermediate Additions

Attachment A to the FY2022 Capital Plan Recommendation

	B	C	D	E	F	G	H	I
1	<b>FY22 Capital Improvement Plan Proposal</b>							
2								
3								
4								
5	<b>Project Name</b>							<b>Total</b>
6								<b>Five-Year</b>
7			<b>FY 22</b>	<b>FY23</b>	<b>FY24</b>	<b>FY 25</b>	<b>FY26</b>	<b>Project Cost</b>
8	<b>Approved Projects:</b>							
9	Physical Plant Upgrades (See Note 2)		\$2,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,000,000
10	HVAC Upgrades		\$2,975,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$8,975,000
11	Roof Upgrades		\$1,800,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$7,800,000
12	Foundation Stabilization			\$250,000		\$250,000		\$500,000
13	BEP Growth (Modular Classroom Purchase/Relocation)		\$300,000	\$600,000	\$600,000	\$600,000	\$600,000	\$2,100,000
14	Systemwide Drives, Parking and Paving		\$500,000	\$500,000	\$1,500,000	\$1,500,000	\$1,500,000	\$4,000,000
15	Environmental Testing and Remediation		\$250,000	\$100,000	\$100,000	\$100,000	\$100,000	\$550,000
16	Technology Upgrades		\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,200,000
17	Security Upgrades (See Note 2)		\$2,000,000	\$750,000	\$750,000	\$750,000	\$750,000	\$4,250,000
18	School Accessibility		\$100,000		\$100,000		\$100,000	\$200,000
19	Lonsdale Construction		\$6,000,000					\$6,000,000
20	Northwest Elementary School Construction		\$20,500,000	\$5,500,000				\$26,000,000
21	North-Central Elementary Solution							
22		Sterchi Addition student addition	250		\$10,000,000	\$4,000,000		\$14,000,000
23		Adrian Burnett Construction		\$14,600,000	\$4,600,000			\$19,200,000
24	Farragut Elementary Grades Solution							
25		Property Acquisition		\$5,000,000				
26		School Construction			\$7,000,000	\$17,000,000	\$5,000,000	\$29,000,000
27	Title IX Solutions/Upgrades to Athletic Facilities			\$3,000,000	\$1,000,000	\$1,000,000	\$1,000,000	TBD
28	Fire Alarm Systemwide Upgrades to add Carbon Monoxide Detection			\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,000,000
29	Bearden Middle School Space Upgrade/Addition					\$4,500,000		\$4,500,000
30	KAEC General Renovation				\$2,500,000			\$2,500,000
31	Lincoln Park Update/Upgrade					\$2,750,000		\$2,750,000
32	Halls High School Windows and Facsade (See Note 2)			\$1,000,000				
33	LED Upgrade (See Note 1)			\$26,123,600				
34	<b>Grand Total - School Projects</b>			<b>\$58,325,000</b>	<b>\$36,600,000</b>	<b>\$33,850,000</b>	<b>\$22,750,000</b>	<b>\$10,350,000</b>
35								
36								
37	<b>Note 1: This is a project that is self funded through savings to the utility budget and savings are guaranteed through TRANE U.S. Inc.</b>							
38	<b>Note 2: This includes a \$1 million reallocation from previously approved funding due to the approval to use ESSER 2.0 funds for the Brickey-McCloud addition</b>							

## Knox County Schools 2022 PPU / DRAFT

Electrical	Project	Request Description (791302XX-570600)	
Systemwide	EU-22-01-XX	Correct fire alarm and sprinkler deficiencies	30,000.00
Systemwide	EU-22-02-XX	Procurement & repair of electronic signs	60,000.00
Bonny Kate Elementary	EU-22-03-19	Replace electrical switchgear	35,000.00
Carter High	EU-22-04-83	Upgrade theater lighting and dimming system	165,000.00
Dogwood	EU-22-04-27	Install new intercom system	34,000.00
Mooreland Heights	EU-22-05-41	Install new intercom system	26,000.00
South Doyle Middle (See Note 1)		Replace electrical switchgear /\$280,000.00	
			\$ 350,000.00

Flooring	Project	Request Description (791302XX-570600)	
Systemwide	FL-22-01-XX	Hardwood floor repairs and refinishing at various sites	50,000.00
Blue Grass	FL-22-02-18	Replace gym flooring	60,000.00
Chilhowee Intermediate	FL-22-03-23	Replace sub-flooring and hardwood / Phase 1	80,000.00
West Hills Elementary	FL-22-04-58	Remove the carpet and replace with VCT / Phase 2	100,000.00
			\$ 290,000.00

FFE	Project	Request Description (791302XX-570600)	
Systemwide	FFE-22-01-XX	Systemwide F.F.E	200,000.00
			\$ 200,000.00

Attachment B to FY 2022 CIP Proposal

General Construction	Project	Request Description (791302XX-570600)	
Systemwide	GC-22-01-XX	Replace the whiteboards at various sites	40,000.00
Systemwide	GC-22-02-XX	Portable repairs at various sites	40,000.00
Systemwide	GC-22-03-XX	Replace bathroom partitions and upgrade restrooms at various sites	50,000.00
A.L. Lotts Elementary	GC-22-04-12	Replace damage sidewalks in front of building	80,000.00
Beaumont Magnet	GC-22-05-16	Replace the lockers	120,000.00
Gap Creek Elementary	GC-22-06-32	Replace windows / Phase 1	130,000.00
Halls High	GC-22-07-88	Renovate office, break room and add two conference rooms	250,000.00
K.A.E.C.	GC-22-08-97	Replace entrance doors and hardware into the auditorium	40,000.00
Powell High	GC-22-09-91	Resurface the running track	110,000.00
Richard Yoakley	GC-22-10-94	Replace windows / Phase 2	140,000.00
South Doyle Middle	GC-22-11-71	Fabricate and install risers on the home side stadium bleachers	50,000.00
Carter High (See Note 1)		Resurface the running track / \$110,000.00	
Farragut High (See Note 1)		Modify and resurface the pole vault runway / \$12,000.00	
			<b>\$ 1,050,000.00</b>

<b>Plumbing</b>	<b>Project</b>	<b>Request Description (791302XX-570600)</b>	
Systemwide	PU-22-01-XX	Replace plumbing fixtures at various sites	<b>60,000.00</b>
Austin East High	PU-22-02-81	Replace domestic water lines in the boiler room	<b>50,000.00</b>
Christenberry Elementary (See Note 1)	PU-22-03-24	Replace fire sprinkler piping in zones 1 & 2 in dry system / \$140,000.00	
			<b>\$ 110,000.00</b>
<b>Grand Total</b>			<b>\$ 2,000,000.00</b>
<b>BUDGET TOTAL</b>			<b>\$ 2,000,000.00</b>

**Note 1:** This project will be added if funds remain after other projects are completed.

# Knox County Schools 2022 HVAC / ROOFING / DRAFT

<b>HVAC</b>	<b>Project</b>	<b>Request Description (791330XX-571200)</b>	<b>Budgeted</b>
Systemwide	AC-22-01-XX	Cooling tower, chiller and boiler repairs at various sites	<b>50,000.00</b>
Systemwide	AC-22-02-XX	Install ductless split units at various sites	<b>60,000.00</b>
Austin East High	AC-22-03-81	Replace rooftop unit serving the cafeteria (ESSER 2.0)	<b>65,000.00</b>
Fulton High	AC-22-04-86	Replace HVAC unit serving the radio broadcast area	<b>25,000.00</b>
Holston Middle	AC-22-05-67	Install HVAC in gym	<b>280,000.00</b>
Norwood Elementary	AC-22-06-44	Replace HVAC unit serving the gym area	<b>50,000.00</b>
Powell High	AC-22-07-91	Replace 11 HVAC classroom rooftop units, cafeteria unit and kitchen unit (ESSER 2.0)	<b>260,000.00</b>
Ridgedale Alternative	AC-22-08-95	HVAC and electrical upgrades / Phase 2 (ESSER 2.0)	<b>950,000.00</b>
South Doyle Middle	AC-22-09-71	Install HVAC in the gym	<b>440,000.00</b>
South Knox Elementary	AC-22-10-53	Install building automation system for HVAC	<b>280,000.00</b>
Whittle Springs Middle	AC-22-11-74	Install HVAC in the gym	<b>260,000.00</b>
			<b>\$2,720,000.00</b>



Attachment C to FY 2022 CIP Proposal

Roofing	Project	Request Description (791331XX-570600)	Budgeted
Carter High	RU-22-01-83	Full roof replacement (modified) approx. 156,200 sq.ft.	1,800,000.00
West Hills Elementary (See Note 1)		Partial roof replacement (older modified section) approx. 42,000 sq.ft. / \$500,000.00	
Chilhowee Intermediate (See Note 1)		Partial roof replacement (all the shingle areas) approx. 30,500 sq.ft. and one section (EPDM) approx. 800 sq. ft. / \$240,000.00	
			<b>\$1,800,000.00</b>
		<b>GRAND TOTAL</b>	<b>\$4,520,000.00</b>

Note 1: This project will be added if funds remain after other projects are completed.



## KCS FARRAGUT PRIMARY & INTERMEDIATE FEASIBILITY ASSESSMENT

**BARBERMcMURRY**  
architects since 1915



# 01 EXECUTIVE SUMMARY

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BarberMcMurry Architects was asked to assist KCS identify the growing needs and concerns of Farragut Primary and Farragut Intermediate Schools prior to completing a feasibility assessment on the expansion and improvement of the schools. Under the guidance of the Farragut School principal Gina Byrd and the Farragut Intermediate School principal Debbie Adorante items pertaining both schools were discussed and addressed as follows:

## Existing Site Conditions and Site Analysis

This phase consisted in the analysis of the site through toured visits provided by the schools' principals. Site/Land conditions including existing water bodies, hydrographic lines, and existing greenways paths were considered to help identify the possible expansion areas.

Collection and analysis of existing data acquired through KCS staff and Knoxville Utilities Board Geographic Information System (KGIS) including existing topography, property lines, vegetation, soils land uses, zoning information, FEMA flood maps and watersheds was performed.

## Existing Schools' Problem Areas and Logistics

Withing the visits, information pertaining the schools' existing facilities were provided, including existing classroom quantities/capacity, immediate expansion needs, and future growth projections.

Issues with the schools' visitors/staff parking and buses/parents traffic routes as part of the existing queuing conflict present in the schools around drop-off / pick-up hours.

## Feasibility Master Plans and Expansion Proposals

This phase was used to incorporate the available opportunities offered by the site elements with the new facilities and additions. The adaptation of the land to accommodate new parking areas and circulation routes was proposed as a response to the existing conflict in the schools.

The proposed building additions show the required expansion and continuity of the schools' programs while adapting to the existing land and topography.



## 02 FARRAGUT PRIMARY SCHOOL

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Farragut Primary School is a kindergarten through second grade school situated in the Farragut Community in West Knox County, Tennessee. The school building opened in 1988, and today serves approximately 975 students. Currently Farragut Primary School has thirty-eight (38) classrooms distributed in 2 stories, with an approximate square footage of 107,000 SF. In addition, 8 classrooms are placed in 4 temporary units to the north-west of the main building. The Main building also has a physical education, music education, and art education facilities, a computer lab, English as a Second Language (ELL) services, a full range of library services, and special education services. Gina Byrd, the current school principal voiced her concerns during the site visit.

### **Existing conditions and problem areas:**

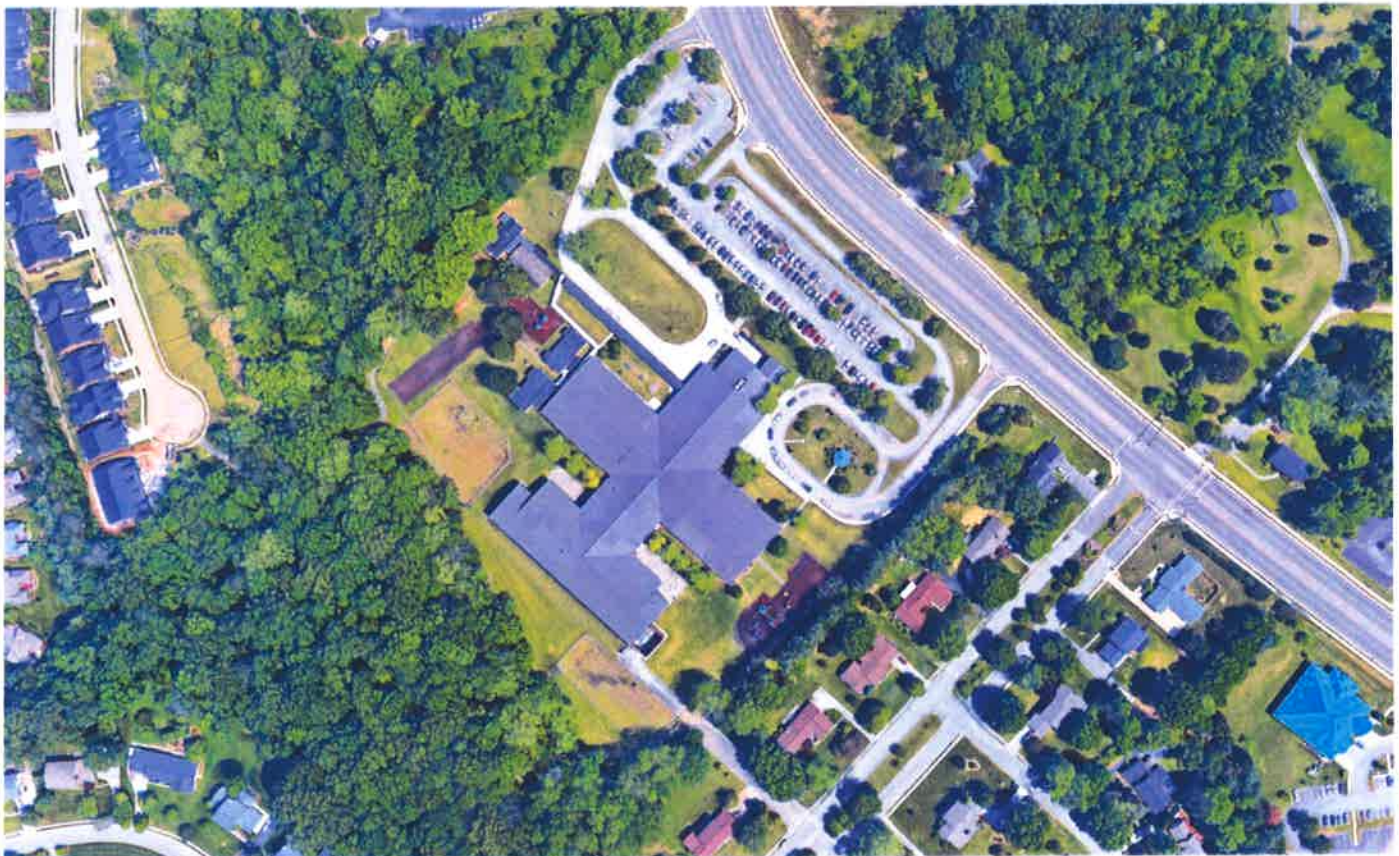
- a. With approximately 110 staff members and a growing student population, immediate concerns about traffic were voiced about the current organization and layout of parking and drop off zones.
  - i. Parking stretches across the front, including ten (10) spaces for visitors in the north west portion. There is a shortage of spaces for staff and interns and the lot is typically used mornings and afternoons as the queue for drop off / pick up to accommodate the volume of students.
  - ii. On the east, the drop-off area is for visitors and for car riders.
  - iii. On the west, the drop-off area is intended for buses and for food services. The bus lane opens up for student drop offs at 7:25 am.
  - iv. Twenty-one (21) buses are shared between the Primary and Intermediate Schools, in which 295 of 1,000+ students from the Primary School ride.
  - v. Currently, parents park at Farragut Branch Library and walk their children to the school along N. Campbell Station Road. They estimate about 100 students arrive to school this way.
- b. Byrd explained how there is close proximity to the road to the north and how the school is surrounded by a neighborhood on the east, nature trail to the south, and a lot recently purchased by another landholder to the west, creating limited opportunities for expansion.
- c. Currently, there are five (5) portable classroom buildings, typically housing ELL (for 80-100 students) and Music. Four (4) are on the west and one (1) on the east. Two classrooms are typically in one portable.
- d. When introducing the idea of an addition to replace the portables, Byrd recommended at least sixteen (16) classrooms to occupy the current location of the portables along the west – possibly an L-shaped form with two stories. The actual number of classrooms need to be evaluated based on classroom space and number of incoming students.

*Existing Site Master Plan: pages 3-4*

FARRAGUT PRIMARY SCHOOL

**Existing conditions and problem areas (cont.)**

- e. A septic tank is located near the portables and playground on the west. It was noted by Byrd that it bubbles up and has unpleasant odors some days.
- f. The cafeteria is another area of concern when the student enrollment continues to grow. Brunch/lunch is currently served from 10:30 am – 1:30 pm, in which 12 classes are in a cafeteria at a time.
  - i. Note: during a previous discussion with KCS, it was determined the maximum capacity of the cafeteria is 360 students.
- g. Toured the school with Byrd, focusing on areas that could be viable options for the addition and parking.
  - i. In the southwest corner behind the playground, the possibility of additional parking for staff was discussed along with adding a lane to reroute / lengthen drop off traffic.
  - ii. The existence of buried utilities that possibly run through this area and needs to be confirmed.





### Primary School Classrooms

38 Classrooms in existing building  
 10 Portable classrooms  
 48 Total existing classrooms

### Primary School Student Enrollment

1,025 current students  
 1,250 projected future student enrollment  
 225 Additional students

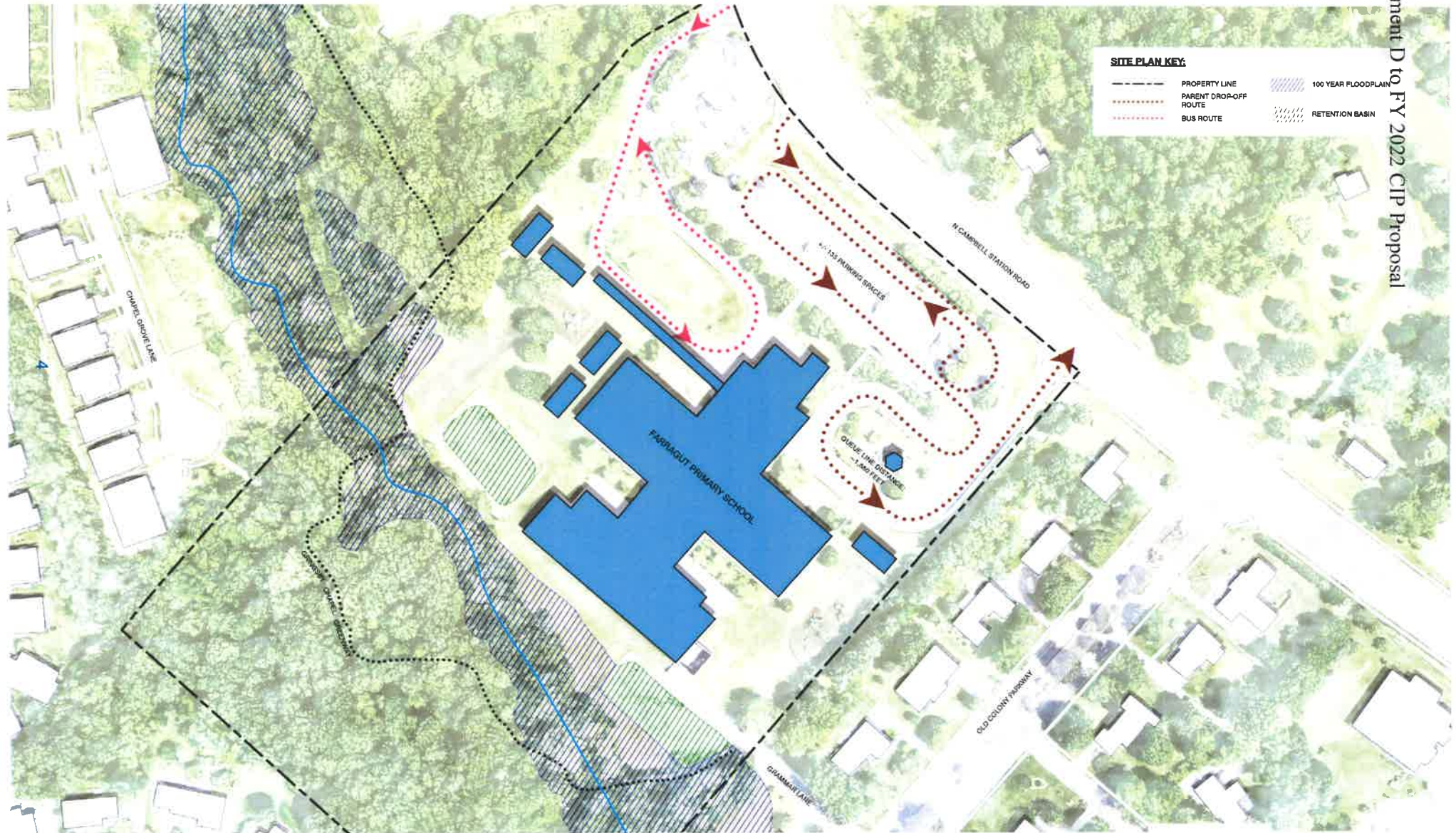
### Primary School Square Footage

107,000 SF Existing building area  
 5,794 SF Existing portables area  
 112,794 SF Total square footage

### Primary School Parking & Queueing

1,880 ft Bus queue line distance  
 640 ft Parent drop-off queue line distance  
 138 Overall parking spaces

Attachment D to FY 2022 CIP Proposal



FARRAGUT PRIMARY SCHOOL

**Farragut Primary School Proposed Addition**

The proposal consists of two construction phases. First, the two portables allocating four classrooms and the playground adjacent to the existing northwestern wing of the building will need to be relocated to allow the new construction. Although the site topography and existing infrastructure create a challenge on the portables' relocation, they can be transferred to the south-eastern part of the site.

During this first phase, the existing retention basin at the southwestern side of the site will have to be replaced with an underground drainage system to allow for the future playground location. The new wing addition will consist of a L-shape building hosting 19 classrooms, 2 restrooms, and several service areas. The building will have the main level as a continuation of the existing school layout, and as the site slopes downhill, a lower level will emerge hosting storage space and other dependencies, which will be accessed from the outside. With portables vacated and demolished, phase 2 follows.

Phase 2 consists in the demolition and removal of the existing portables and the relocation of the playground on previously filled retention basin. The site work will have to be accommodated to introduce the new route layout to increase the parent drop-off queuing and buses re-route.

One of the issues affecting the new parents' route, is that it borders the 100-year floodplain. Soil retention and water diversion measures will have to be implemented in the south part of the site to avoid floods across the new route. New parking will be added in the south-eastern side of the site. New landscape and site beautification will be implemented at the end of this phase.

*Proposed Site Master Plan and Pricing Projections: pages 6-8*



### Primary School Classrooms

38 Total existing classrooms  
 19 New classrooms  
 57 Total classrooms

### Primary School Student Enrollment

1,250 projected future student enrollment  
 22.5 Staffing ratio student:teacher  
 55.5 Classrooms needed

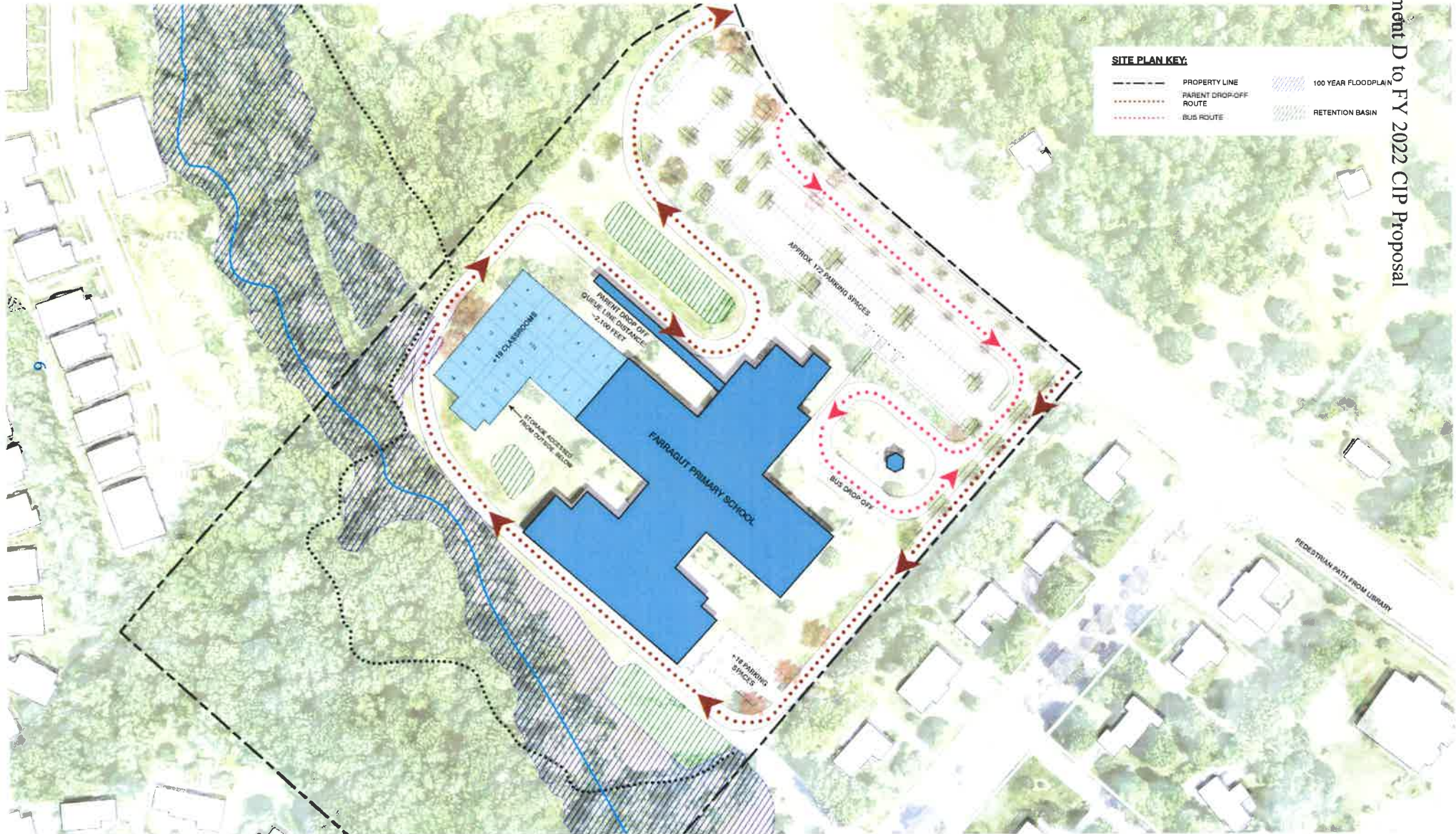
### Primary School Square Footage

107,000 SF Existing building area  
 29,546 SF Building addition  
 136,546 SF Total square footage

### Primary School Parking & Queuing

1,056 ft Bus queue line distance  
 2,100 ft Parent drop-off queue line distance  
 190 Overall parking spaces

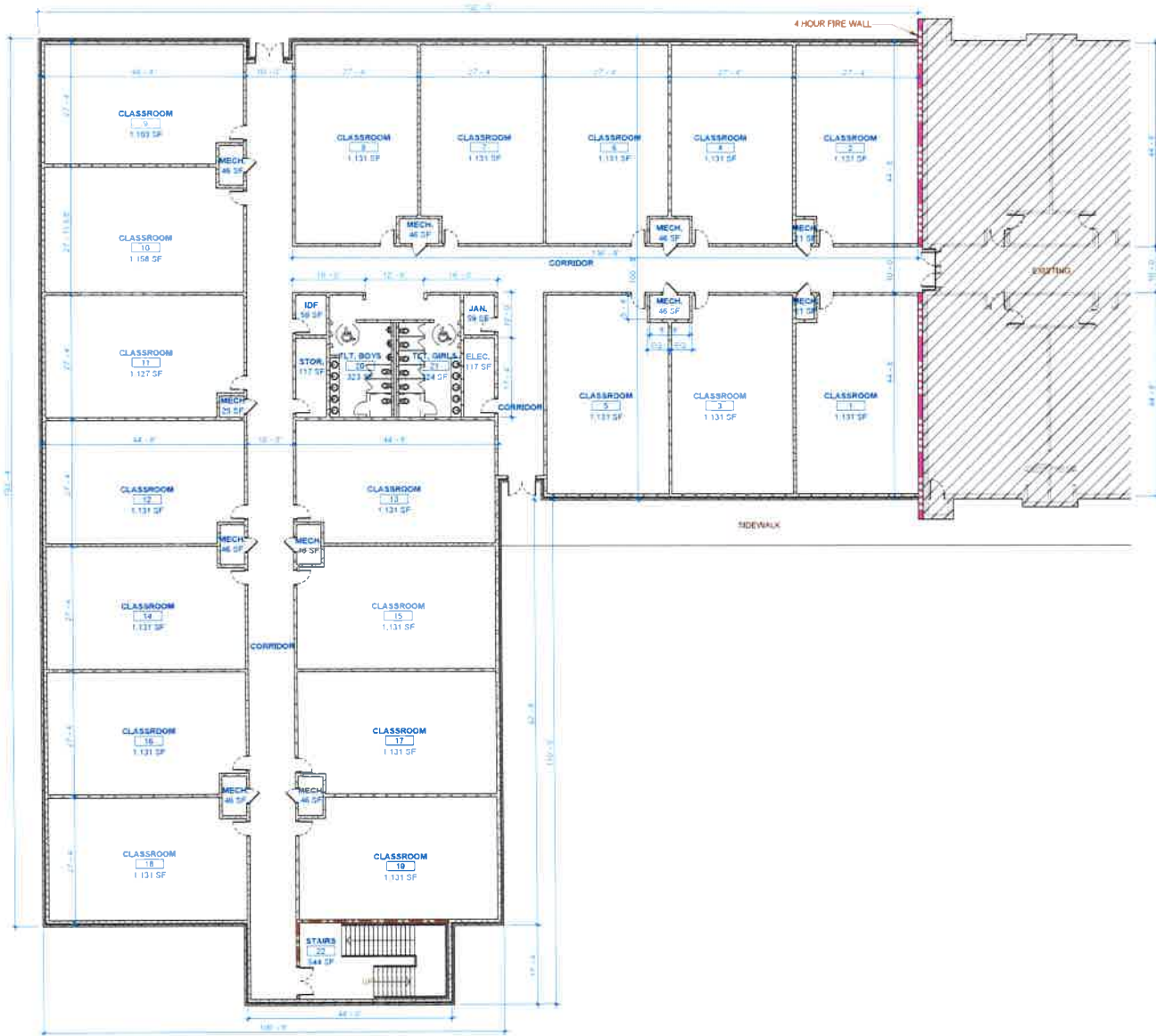
Attachment D to FY 2022 CIP Proposal





Farragut Primary School - New Wing

Gross square footage: 29,546 SF  
 Net square footage: 21,482 SF  
 Efficiency: 73%



Attachment D to FY 2022 CIP Proposal

FARRAGUT PRIMARY SCHOOL

**Opinion of Construction Cost**  
Building Addition & Site Development

		BUDGET	REMARKS
1	<b>Site Work</b>		
2	Demolition and Earthworks	\$ 296,500.00	
3	Erosion and Sediment Control	\$ 150,000.00	
4	Pavings (Flexible, Rigid, & Specialties)	\$ 315,800.00	Includes curbs, Gutters & Sidewalks
5	Site Improvements	\$ 270,500.00	Includes Turf and Grasses
6	Storm Drainage Utilities	\$ 676,500.00	
7	Site Work Construction	\$ 1,709,300.00	
8	Contingency (20%)	\$ 341,860.00	
9	<b>Subtotal Site Construction</b>	<b>\$ 2,051,160.00</b>	
10	<b>New Addition</b>		
11	Net SF	21,482	
12	Net/Gross Efficiency	73%	
13	Gross SF	29,546	
14	Cost/SF	\$ 300.00	
15	Construction Cost	\$ 8,863,800.00	
16	Contingency (5%)	\$ 443,190.00	
17	<b>Building Construction</b>	<b>\$ 9,306,990.00</b>	
18	Bid Target	\$ 11,358,150.00	
19	<b>Estimated Construction Cost</b>	<b>\$ 11,358,150.00</b>	
20	Architectural/Engineering Fees (6.5%)	\$ 738,279.75	Includes MEP & Civil Engineering
21	FFE	\$ 66,500.00	
24	<b>Total Project Cost</b>	<b>\$ 12,162,929.75</b>	

## 03 FARRAGUT INTERMEDIATE SCHOOL

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Farragut Intermediate School is School (FIS) was founded in August 1984. Located at 208 West End Avenue in the Farragut community. The Main building hosts 35 classrooms for Third, Fourth and Fifth grades. Several portables buildings have been added as more students have enrolled in the last years. The schools also offers physical education, music education, and art education facilities, a computer lab, English as a Second Language (ELL) services and others. Debbie Adorante, the current school principal voiced her concerns during the site visit.

### **Existing conditions and problem areas:**

- a. Prior to meeting with Adorante, BMA toured the school and surrounding grounds for potential opportunities.
- b. Adorante iterated how drop-offs in the morning create several issues with traffic. With a small interval to transition between the two, the middle and intermediate school share the same drop-off area. Often, families with children who attend both schools drop them off at the same time. Buses drop off students by the rear doors next to the basketball court.
- c. Limited parking has also emerged due to the proximity of the middle school. Adorante describes approximately 102 spaces in the closest parking lot stall.
- d. With approximately 1,060 students enrolled, the school has outgrown the initial building footprint. Adorante explains how the computer room has overtaken the space in the cafeteria originally intended for parents to eat with their children. Additionally, there is a concern for the size of the gym and cafeteria with the continual growth of students.
  - i. Note: during a previous discussion with Knox County Schools, it was determined the maximum capacity in the cafeteria is 325.
- e. Since no more rooms are available, portables tried to temporarily resolve the issue in the past. It was explained eleven (11) portables are currently on the property, housing third grade classrooms (there are nineteen total third grade classrooms). And the county has purchased two (2) more portables for Art. In the existing portables, a few need restrooms, in which students in these portables must use an access card to get into the primary building to use one.

*Existing Site Master Plan: pages 10-11*

FARRAGUT INTERMEDIATE SCHOOL

**Existing conditions and problem areas:**

f. When asked the ideal number of additional classrooms needed if the portables were to be removed, Adorante replied with twenty (20) to twenty-five (25). The actual number of classrooms need to be evaluated based on classroom space and amount of incoming students.





### Intermediate School Classrooms

35 Classrooms in existing building  
10 Portable classrooms  
44 Total existing classrooms

### Student Enrollment

1,195 Current students  
1,345 Projected future student enrollment  
150 Additional students

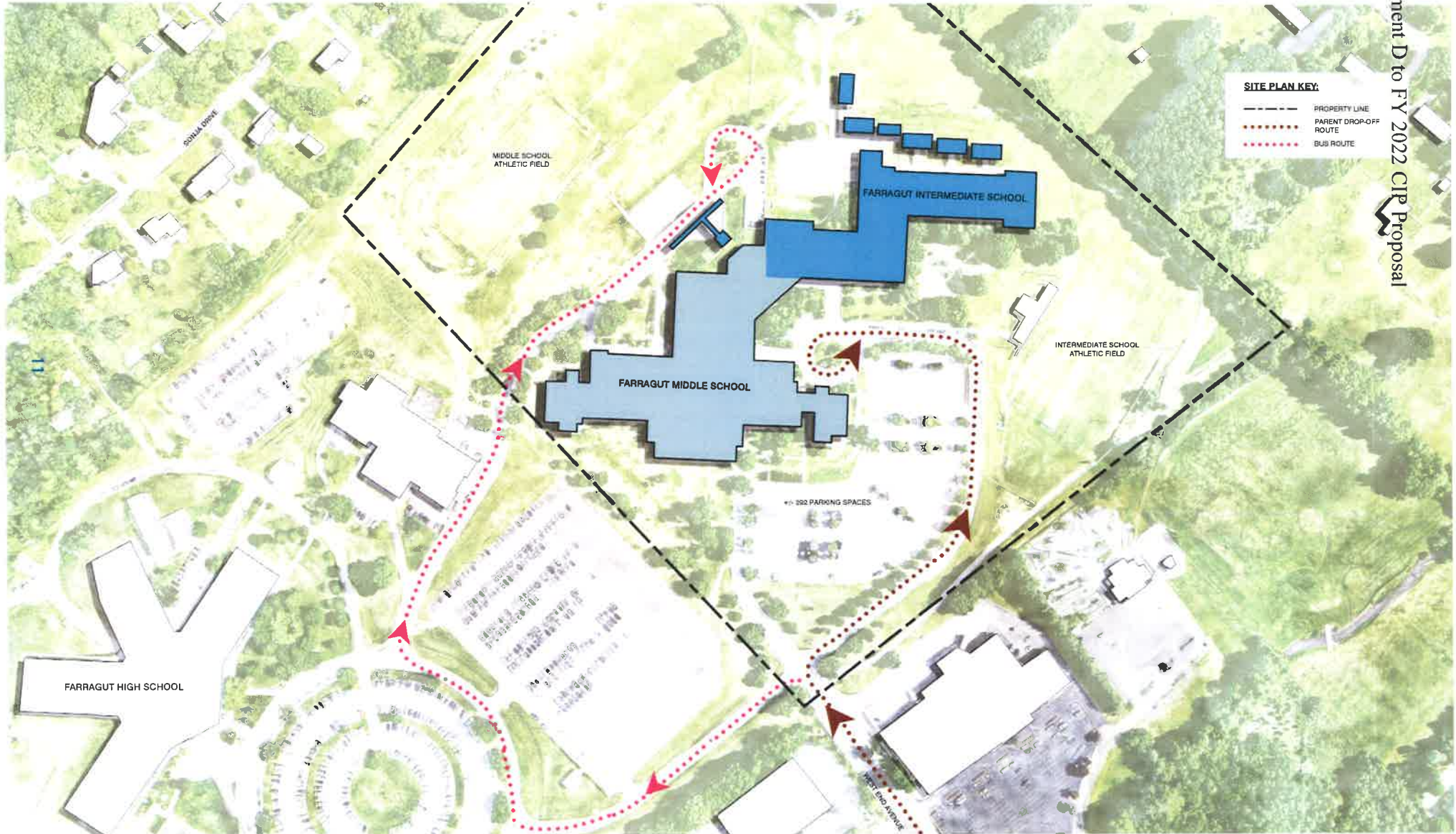
### Square Footage

94,000 SF Existing building area  
7,110 SF Existing portables area  
101,110 SF Total square footage

### Parking & Queueing

+/- 2,380 ft Bus queue line distance  
+/- 1,130 ft Parent drop-off queue line distance  
292 Overall parking spaces

Attachment D to FY 2022 CIP Proposal



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FARRAGUT INTERMEDIATE SCHOOL

**Farragut Intermediate School Proposed Addition**

The proposal for the intermediate school will consist of two construction phases:

Phase 1 consists in the extension to the south of the eastmost wing in the existing building. This first building construction will comprise of 12 classrooms allocated in 2 levels. In addition, mechanical, electrical, and other support areas are included. Partial storage space can be incorporated below the lower floor due to the existing sloping site. The new addition will have access to both main and lower levels, and direct access to the existing playground.

The phasing of the building will allow the transfer of the student body from the existing portables in the north side of the site, to the new addition once Phase 1 is completed alleviating student disruption. Phase two follows.

Phase 2 initiates with the relocation of the student body currently utilizing the portable classrooms to the north of the site to the new addition completed on Phase 1. Demolition and removal of such portables follows. The addition on phase 2 consist of the extension of the same building to the north with an L-shaped wing, occupying the area where the portables were located. This layout provides a continuation of the main level with 12 classrooms, restrooms, and service/ janitorial spaces. The lower level will be occupied partially due to current site topography making some areas unusable. The proposal provides storage space and enough area for future expansion.

To solve the main issues related to parking and queuing at drop-off/pick up, we proposed eliminating the on-street parking for visitors during the drop-off/pick up hours. This will create a longer and more efficient drop-off area. To alleviate the need for additional parking we propose the creation of a new parking slot on the north-west side of the site, where the existence of an athletic field will eliminate the need of mayor site work. The creation of a new route for the parking and bus drop-off will eliminate the need to take a longer route that merges the middle/intermediate traffic with the high school traffic. The new route increases the bus route efficiency.

*Proposed Site Master Plan and Pricing Projections: pages 13-15*



### Intermediate School Classrooms

35 Total existing classrooms  
24 New classrooms  
59 Total Classrooms

### Student Enrollment

1,345 Projected future student enrollment  
22.5 Staffing ratio student:teacher  
59.7 Classrooms needed

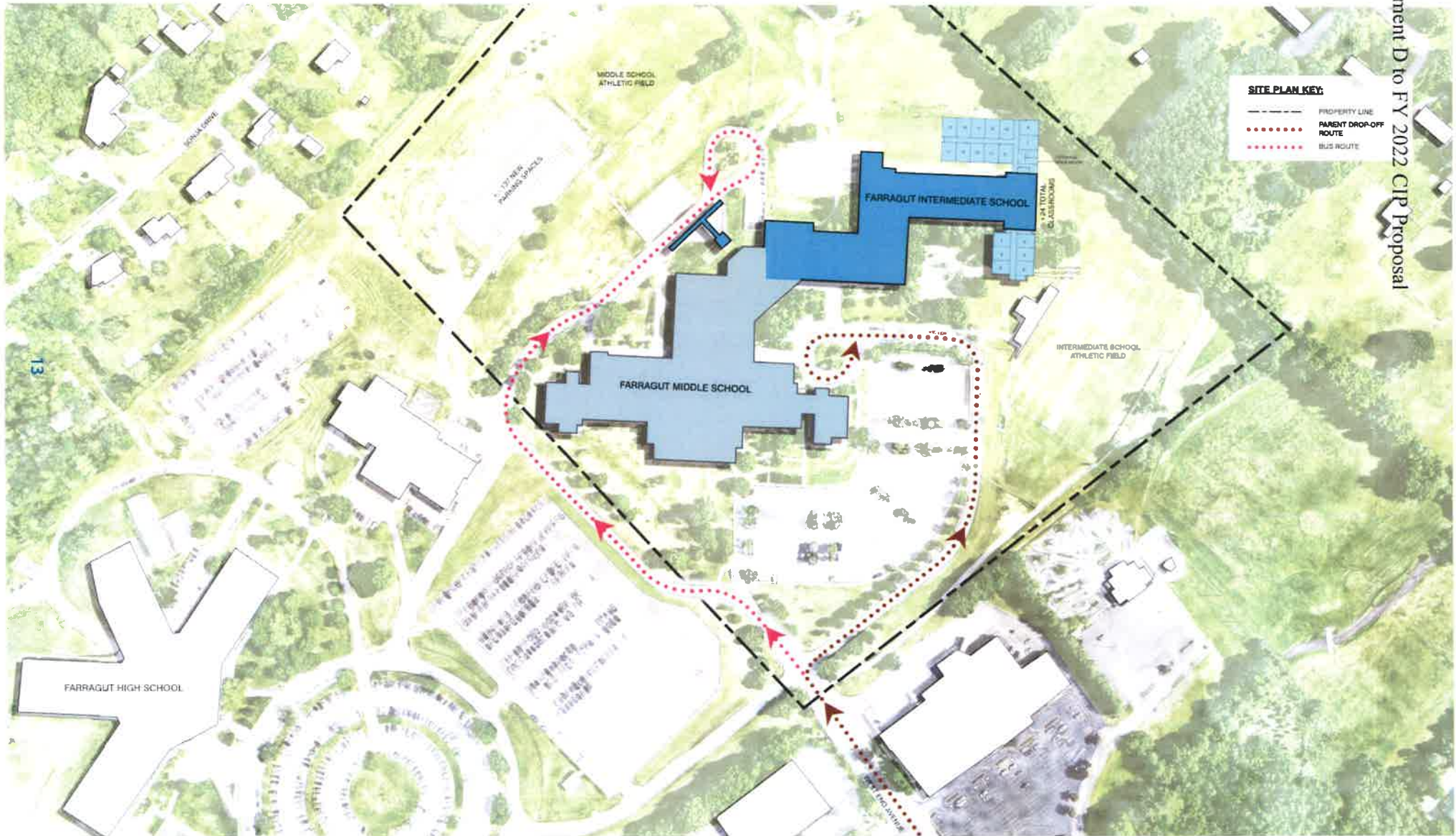
### Square Footage

94,000 SF Existing building area  
38,927 SF Building addition  
132,927 SF Total square footage

### Parking & Queueing

+/- 1,481 ft Bus queue line distance  
+/- 1,130 ft Parent drop-off queue line distance  
429 Overall parking spaces

Attachment D to FY 2022 CIP Proposal



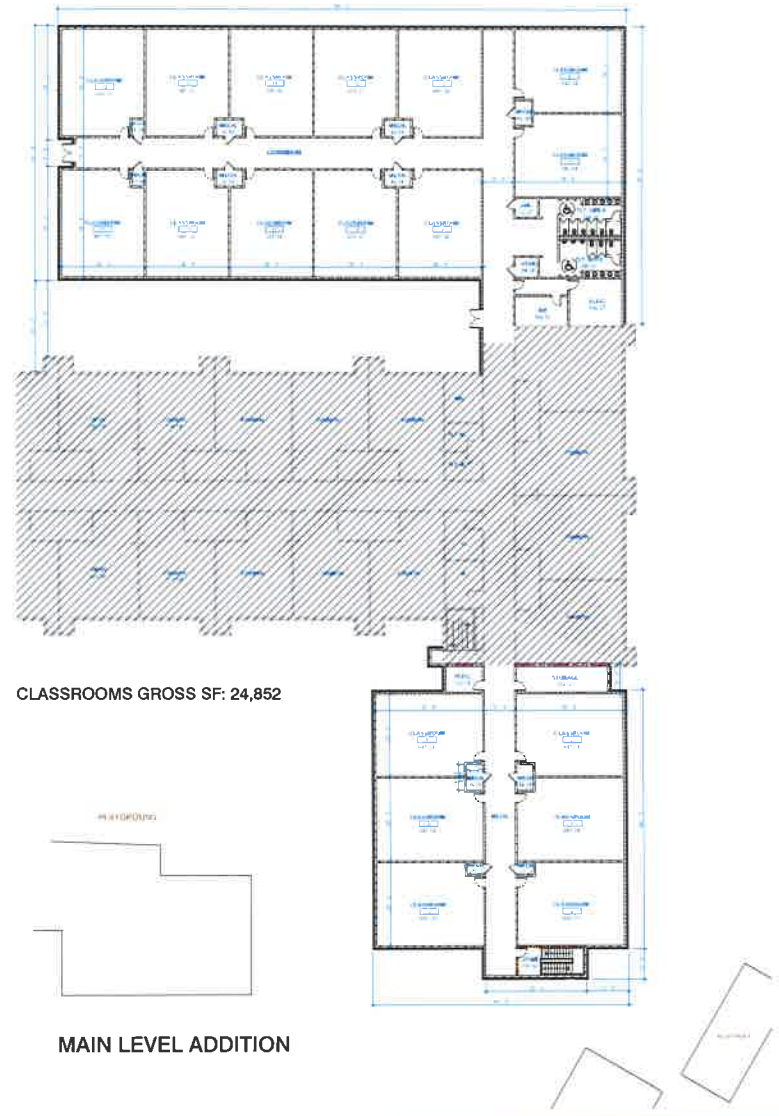
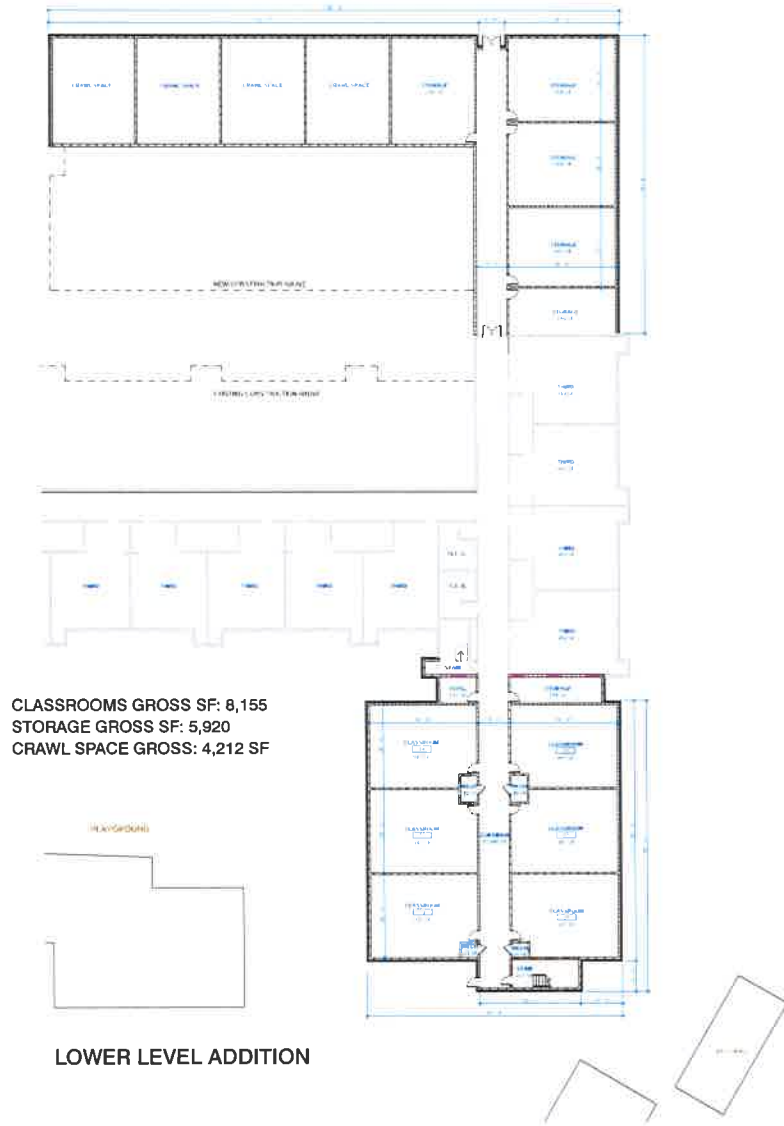
# Farragut Intermediate School - Addition

Gross square footage: 38,927 SF

Net square footage: 22,584 SF

Efficiency: 58%

14



Attachment D to FY 2022 CIP Proposal



FARRAGUT INTERMEDIATE SCHOOL

**Opinion of Construction Cost**  
Building Addition & Site Development

		BUDGET	REMARKS
1	<b>Site Work</b>		
2	Demolition and Earthworks	\$ 499,500.00	
3	Erosion and Sediment Control	\$ 150,000.00	
4	Pavings (Flexible, Rigid, & Specialties)	\$ 667,500.00	Includes curbs, Gutters & Sidewalks
5	Turf and Grasses	\$ 24,000.00	
6	Storm Drainage Utilities	\$ 826,500.00	
7	Site Work Construction	\$ 2,167,500.00	
8	Contingency (20%)	\$ 433,500.00	
9	<b>Site Construction</b>	<b>\$ 2,601,000.00</b>	
10	<b>New Addition</b>		
11	Net SF	22,584	Includes classroom space only
12	Net/Gross Efficiency	58%	
13	Gross SF	38,927	Includes classrooms, storage space, etc.
14	Cost/SF	\$ 300.00	
15	Construction (5%)	\$ 11,678,100.00	
16	Contingency	\$ 583,905.00	
17	<b>Building Construction</b>	<b>\$ 12,262,005.00</b>	
18	Bid Target	\$ 14,863,005.00	
19	<b>Estimated Construction Cost</b>	<b>\$ 14,863,005.00</b>	
20	Architectural/Engineering Fees (6.5%)	\$ 966,095.33	Includes MEP & Civil Engineering
21	FFE	\$ 84,000.00	
24	<b>Total Project Cost</b>	<b>\$ 15,913,100.33</b>	

## 04 FARRAGUT SCHOOLS SUMMARY

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### Farragut Primary School

Based on our findings, the existing school property and its existing natural conditions present considerable challenges to the expansion and development of the primary school:

- The presence of the North Fork of Turkey Creek, and the property being located a short distance from the 100-year floodplain restricts land available for school expansion. To achieve the proposed design, considerable sitework is necessary for site grading, rework of utilities, including a new underground storm water storage system, and additional road work to help improve vehicular circulation.
- The phasing of the project presents challenges, as students will have to be relocated to remove the existing portable classrooms during Phase 1. The construction phasing also will extend the duration of the project, further disrupting the current traffic issues.
- The topography of the site demands that the proposed new classroom addition sits above basement/unoccupied space which increases the construction cost and reduces the project's efficiency.
- Due to the current site restrictions, this proposal does not address the need for cafeteria expansion with increased enrollment.
- Construction square footage and site costs associated with these renovations will be higher than cost for new building construction.

### Farragut Intermediate School

Both Farragut Intermediate and Middle Schools share the same building and are separated by the common cafeteria and gymnasium spaces. Based on our findings, there are several challenges concerning expansion:

- The original school footprint was designed without future growth in mind. Existing topography will require that the proposed new additions be on elevated slabs to align with the main floor of the existing intermediate school.
- The phasing of the project presents challenges, as the proposed 2-story addition on the front of the school will need to be completed first before students in the portable classrooms can be relocated and these buildings removed prior to Phase 2. The construction phasing also will extend the duration of the project, further disrupting the current traffic issues.
- The topography of the site demands that the proposed new classroom addition sits above basement space which increases the construction cost and reduces the project's efficiency.

## FARRAGUT SCHOOLS SUMMARY

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- Due to the current site restrictions, this proposal does not address the need for cafeteria expansion with increased enrollment.
- Construction square footage and site costs associated with these renovations will be higher than costs for new building construction.
- The proposed road extension will eliminate some existing parking area and require site retaining walls which will increase the cost.

### Conclusion

The proposed additions for the Farragut Primary and Intermediate Schools will help alleviate classroom shortage issues and provide some relief for vehicular traffic. However, both school campuses have challenges due to limited site area for expansion.

Both projects will require construction to occur in multiple phases which increases the overall construction duration and will inconvenience students, parents, and staff over a longer time period.

Compared to building new on another site, the construction costs for the required multi-phase approach and necessary construction methods will be higher due to complexity and construction duration.

Based on the design options presented and opinions of construction cost, Knox County Schools may want to continue analyzing other options that can satisfy the desired program in a more efficient and cost-effective way.