

# SOUTHEAST POLK MIDDLE SCHOOL

Altoona, Iowa



frk

architects + engineers

*Built on education*

## 1. EXECUTIVE SUMMARY

The Southeast Polk Community School District's new 6–7 Middle School is a student-centered, future-ready learning environment that reflects the district's long-standing commitment to academic excellence, innovation, and community connection. Located in Altoona, Iowa, within one of the fastest-growing regions of the Des Moines metropolitan area, the project responds to both the district's evolving educational needs and the transformation of surrounding communities from rural roots to dynamic suburban centers.

Guided by an educational philosophy grounded in collaboration, shared responsibility, and high expectations for all learners, the school was envisioned as a comprehensive learning ecosystem rather than a singular building. Instructional priorities emphasizing literacy, problem-solving, data-informed teaching, and inclusive practices directly shaped the organization and character of the facility. The result is a design that supports diverse learning styles, social-emotional development, and long-term adaptability while placing students at the center of the educational experience.

The project emerged from a robust, stakeholder-driven visioning process that engaged district leadership, educators, students, and community representatives. Conducted during the COVID-19 pandemic, the process successfully adapted to virtual and small-group formats without sacrificing participation or shared ownership. Across three structured sessions, participants explored research-based learning strategies, evaluated peer facilities, and collaboratively tested building organization, adjacencies, circulation, and spatial qualities. Clear themes consistently emerged: the importance of well-defined learning communities, intuitive circulation, flexible collaboration spaces, and environments that visibly celebrate learning and student achievement.

Architecturally, the building is organized around a welcoming main entry and a light-filled, centralized student commons that serves as the academic, social, and cultural heart of the school. Radiating from this hub, smaller grade-level learning communities integrate general classrooms, collaboration zones, project-based learning spaces, and embedded student support services, fostering belonging while improving supervision and safety. A clear "racetrack" circulation system enhances wayfinding, visibility, and student independence, ensuring efficient movement throughout a school designed for approximately 1,200 sixth- and seventh-grade students.

The site and campus planning further reinforce the school's civic role. Positioned on the highest point of a 60-acre site, the building establishes a strong visual identity and leverages topography for daylight, orientation, and expansive views of the Iowa landscape. Adjacent municipal athletic fields enable shared use and partnership with the City of Altoona, while phased planning accommodates future enrollment growth, including a planned neighborhood elementary school, without compromising campus coherence.

High-performance, sustainable design strategies underscore the district's commitment to responsible stewardship. Advanced building systems, daylighting, efficient lighting controls, and energy-conserving mechanical systems significantly reduce energy use while enhancing indoor environmental quality and occupant comfort.

Collectively, the Southeast Polk 6–7 Middle School exemplifies how collaborative planning, educational vision, and thoughtful design can align to create a flexible, inclusive, and enduring learning environment—one that supports academic achievement, strengthens community connection, and prepares students for continued success well into the future.



## 2. SCOPE OF WORK AND BUDGET

OWNER	SITE AREA	BUILDING AREA	GRADES SERVED	STUDENT CAPACITY	SF / STUDENT	CONST. COST	COST / SF	OCCUPANCY DATE
Southeast Polk Community School District	38 Acres	210,000 SF	6-7	1200	175 SF / STUDENT	\$60,000,000	\$286 / SF	July 2024

### 3. SCHOOL & COMMUNITY RESEARCH AND ENGAGEMENT

#### PLACE

The Southeast Polk Community School District is deeply rooted in the history of central Iowa, shaped by the traditions of small, close-knit communities that valued education as a foundation for opportunity. Originally serving rural and farming families southeast of Des Moines, the district grew alongside the development of Pleasant Hill, Altoona, Bondurant, and surrounding areas. As these communities evolved from agricultural roots into thriving suburban centers, the district adapted, expanding schools, programs, and facilities while preserving a strong sense of pride, connection, and excellence.

Today, Southeast Polk sits within one of the fastest-growing regions of the Des Moines metro, offering residents the best of both worlds: welcoming neighborhoods and community identity paired with access to a strong and diverse economy. Local growth is driven by retail, logistics, manufacturing, healthcare, and technology, offering families stability and opportunity while fueling continued residential and commercial development.

Education remains the heart of the community. Southeast Polk schools reflect a long-standing commitment to high expectations, innovation, and student success. Grounded in the Iowa Core curriculum and enriched by robust academics, athletics, fine arts, career pathways, and extracurricular opportunities, the district prepares students for college, career, and civic life. Supported by engaged families and community partners, the district continues its tradition of excellence while honoring its past while shaping a bright and dynamic future.

#### EDUCATIONAL PHILOSOPHY

The district's educational philosophy centers on collaboration, shared responsibility, and high expectations for all learners. Instruction is intentionally designed around clear learning targets aligned to rigorous curriculum standards and is continuously refined through ongoing assessment and reflection. Educators use data to guide instruction, provide timely interventions, and extend learning to ensure every student grows. Literacy and problem-solving skills are embedded across disciplines to support deep understanding. Professional collaboration, evidence-based practices, and continuous professional learning strengthen instruction, while partnerships with families and the community enhance student success. Through intentional preparation and exploration, students are equipped for meaningful college, career, and lifelong learning pathways.

**CORE VALUES**



- Students First
- High expectations
- Collaboration
- Integrity
- Stewardship
- Adaptability
- Respect



**SOUTHEAST POLK VISION & MISSION**

**SUCCESS FOR COLLEGE, CAREER AND CIVIC LIFE.**

ENGAGE ALL STUDENTS IN LEARNING A CHALLENGING CURRICULUM DELIVERED THROUGH QUALITY INSTRUCTION.



## PROJECT CONTEXT AND EDUCATIONAL VISION

The new 6–7 Middle School is envisioned as a student-centered, future-ready educational facility that supports the instructional mission of Southeast Polk Community School District and reflects the values of the broader community. The project prioritizes environments that enhance teaching and learning, foster social-emotional development, and support community engagement.

Consistent with the district's core values; high expectations, collaboration, integrity, adaptability, stewardship, and respect, the school is designed as a comprehensive learning environment rather than a singular building. The facility is intended to function as an integrated educational ecosystem that promotes academic achievement, supports diverse learning modalities, and encourages positive student behavior.

Architecturally, the building needs to balance operational efficiency with warmth and accessibility. Design priorities include a clearly defined and welcoming main entry, intuitive wayfinding and circulation systems, and well-organized learning communities that support supervision, safety, and student belonging. Flexibility and long-term adaptability are integral to the design, ensuring the facility can respond to evolving instructional practices, enrollment changes, and future educational needs.

## VISIONING AND PLANNING PROCESS

The vision for the new middle school was developed through a collaborative planning and visioning process conducted under the constraints of COVID-19 public health protocols. While the majority of stakeholder engagement occurred virtually, the process was adapted to maintain high levels of participation, creativity, and shared ownership. Virtual large-group sessions were supplemented with hands-on planning activities completed by smaller in-person groups when permitted under safety guidelines.

The structured, three-session process engaged district leadership, educators, students, and community representatives in partnership with the design team. The approach emphasized inclusive dialogue, shared understanding of educational best practices, and active participation to ensure alignment between educational goals and facility design.

- *Session One focused on identifying a range of student learning styles, reviewing research-based design strategies for contemporary learning environments, and establishing shared priorities. Participants also completed a visual consensus exercise to identify preferred architectural character, materiality, and spatial qualities for both interior and exterior environments.*
- *Session Two emphasized peer learning through review of relevant precedent projects and culminated in a collaborative design charrette. Small stakeholder groups organized the building program into conceptual diagrams, exploring adjacencies, circulation patterns, and spatial relationships that best support instructional delivery and the student experience.*
- *Session Three centered on refinement and validation. The design team translated stakeholder concepts into schematic design options, which participants evaluated relative to key functional components, including entry sequence, commons spaces, circulation systems, learning communities, and specialized program areas. Feedback collected during this session clarified priorities related to flexibility, accessibility, safety, and long-term durability.*



**Charrette Group One**



**Charrette Group Two**



**Charrette Group Three**



Across all sessions, stakeholders consistently reinforced the importance of clearly defined learning communities, integrated academic and student support services, legible circulation, purposeful collaboration spaces, and shared environments that celebrate student work and achievement.

## DESIGN EXHIBITS AND KEY PLANNING PRINCIPLES

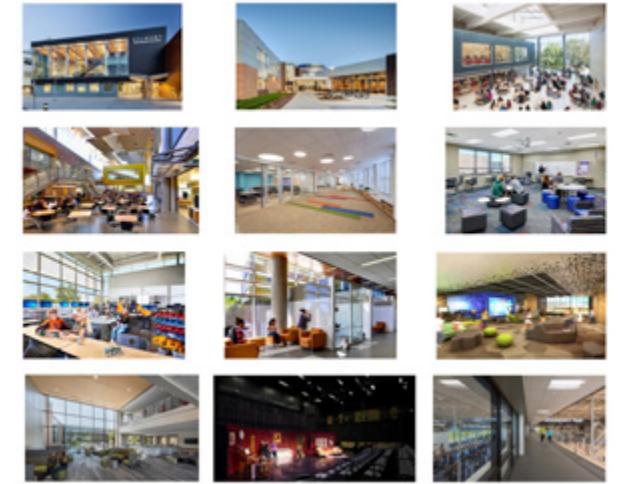
The exhibits produced through the visioning process serve as both conceptual and visual documentation of the agreed-upon educational and architectural direction. Visual consensus imagery reflects a strong preference for daylight-rich environments, visual connections between indoor and outdoor spaces, and a balanced approach to openness and security. Conceptual charrette diagrams illustrate multiple strategies for organizing learning communities around shared commons, emphasizing racetrack-style circulation to enhance visibility, supervision, and efficient movement.

Key planning and design principles demonstrated in the exhibits include:

- *A centralized student commons and signature “wow” space directly connected to the main entry, designed to serve as the social and organizational heart of the school*
- *Flexible, grade-level learning communities that integrate general classrooms, small-group collaboration rooms, maker and project-based learning spaces, teaching stairs, and student support services*
- *Clear, transparent, and accessible circulation systems that promote intuitive wayfinding, inclusivity, supervision, and effective crowd management*
- *Purposefully integrated arts, athletics, and performance spaces that support the curriculum and enable community use beyond the school day*

## THE STARTING LINE

Collectively, the collaborative planning process and resulting exhibits establish a clear, coherent, and actionable framework for the design of the new 6–7 Middle School. The vision supports current educational standards and instructional practices while providing the adaptability required to accommodate future pedagogical and programmatic change. The result is a learning environment that is academically rigorous, socially supportive, operationally efficient, and reflective of the Southeast Polk community for generations to come.



**VISUAL CONSENSUS RESULTS**



***“The state-of-the-art building represents unity, collaboration and our collective passion for our students, their education and our community,”***  
*Dr. Dirk Halupnik, Superintendent.*



## 4. PHYSICAL ENVIRONMENT

### THE COMMUNITY

Altoona, Iowa, is a growing suburban community east of Des Moines whose physical character is shaped by the intersection of small-scale neighborhoods, regional infrastructure, and expanding commercial development. Historically known as a destination for entertainment, retail, and horse racing, the city has matured into a balanced residential community while retaining a discernible small-town scale. A framework of parks, trail systems, and civic amenities supports both recreation and connectivity, reinforcing continuity between the built environment and open space.

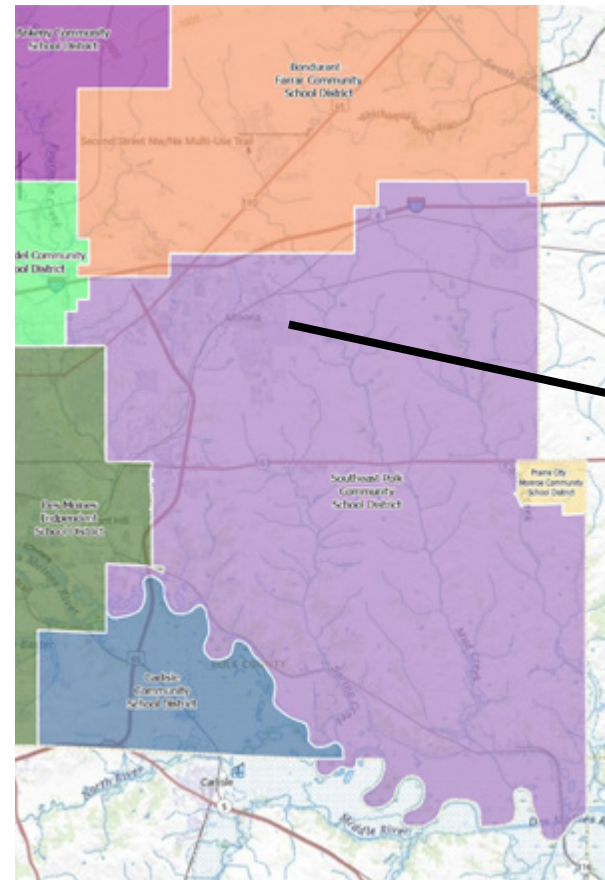
Situated between Iowa's agricultural landscape and the metropolitan core of Des Moines, Altoona occupies a transitional zone where rural and urban forms converge. The city's adjacency to Interstate 80, one of the nation's most heavily traveled east-west corridors, continues to influence development patterns, accelerating commercial growth and attracting large-scale facilities such as the META data center campus. This proximity to employment centers and regional infrastructure has positioned Altoona as an appealing residential setting for growing families while maintaining a distinctly Midwestern sense of place.

### THE SITE

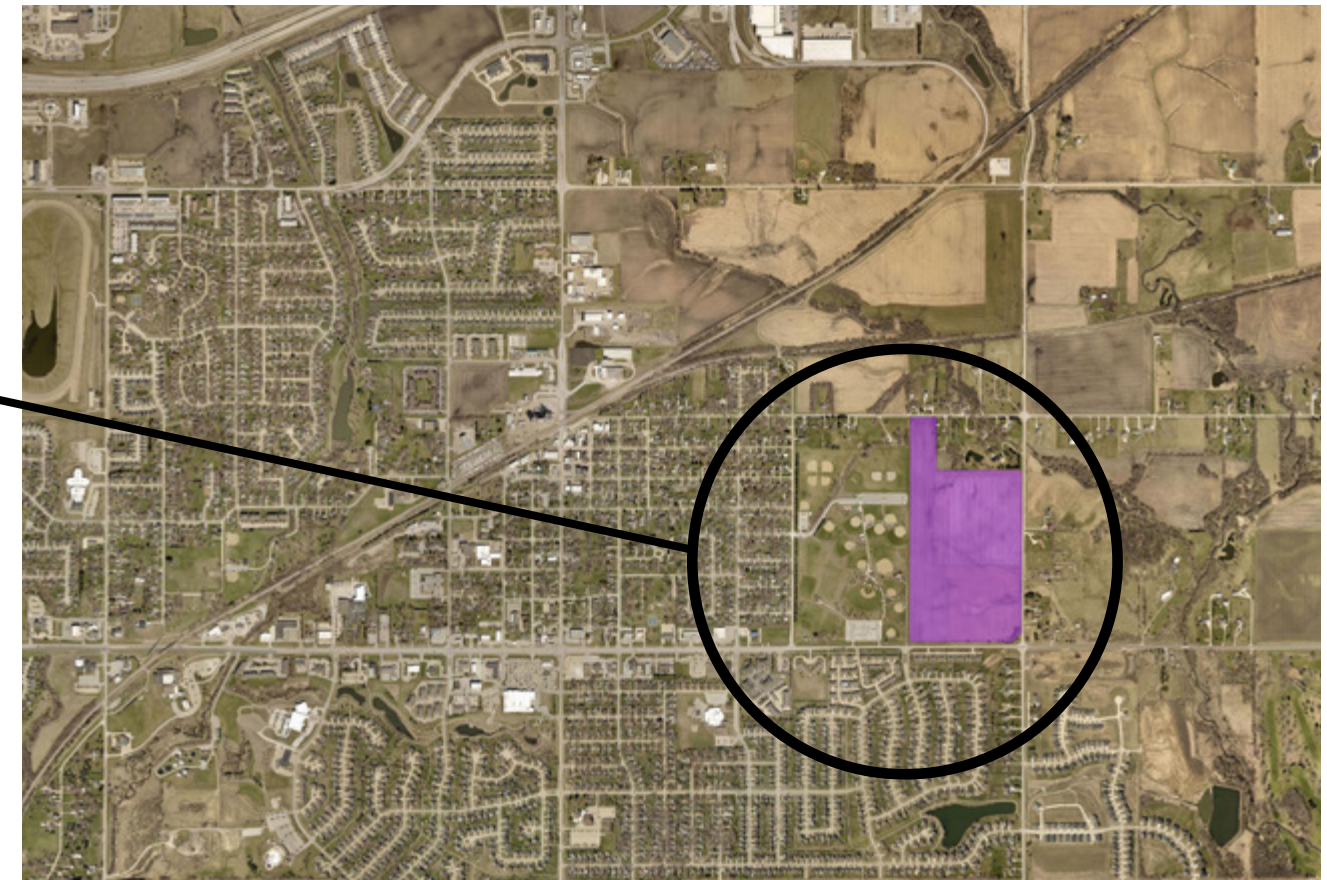
The selected site responds strategically to both district planning goals and emerging development patterns within the city. Its location allows direct physical and operational connection to the district's established rural campus to the south, which contains the high school, junior high, athletic amenities, and support facilities, while also engaging the expanding suburban fabric to the north.

Adjacent to existing municipal youth athletic fields, the site presented an opportunity for shared infrastructure and programmatic synergy between the school district and the city. This relationship supported annexation into the city limits and the extension of utilities necessary for development. Formerly agricultural land, the site had become increasingly enclosed by residential growth, forming an island of open farmland surrounded by organized suburban neighborhoods.

The site's elevated topography distinguishes it from surrounding areas. While the change in grade introduced challenges in accommodating a large institutional footprint, it also created opportunities for prominence, visual identity, and long-range views. This condition informed decisions regarding building placement, grading strategies, and campus organization.



DISTRICT PLAN



AREA PLAN



## THE SETTING

The planning of the school was guided by a broader vision of creating a cohesive school-park campus that could adapt to future growth while reinforcing community integration. Approximately 60 acres were available for development, enabling a master-planned approach that accommodates both a new middle school and a future neighborhood elementary school. This phased strategy allows the district to respond incrementally to enrollment demands while maintaining clear spatial relationships across the site.

The middle school was positioned on the highest portion of the site, establishing a civic presence and leveraging the natural elevation for orientation and views. Its placement reinforces the building's role as an anchor within the campus and aligns with long-range planning for shared outdoor spaces and circulation systems. The future elementary school was intentionally sited closer to the roadway, prioritizing walkability, neighborhood access, and age-appropriate scale.

Together, the arrangement establishes a layered campus condition, balancing institutional identity, site response, and community accessibility and preserving flexibility for future development. The result is an educational environment rooted in site, landscape, and long-term stewardship of place.

## THE RESPONSE

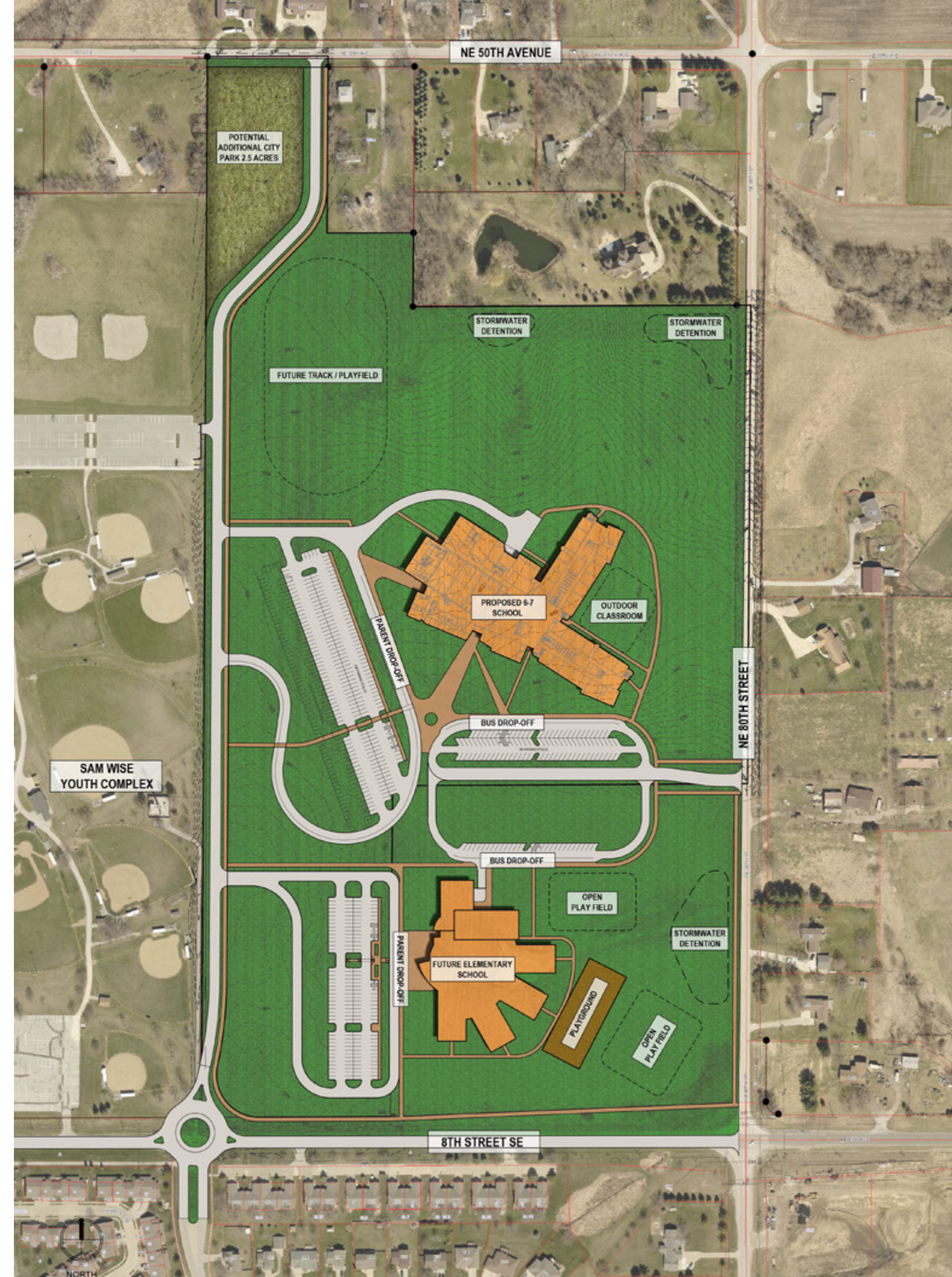
In coordination with the City, the campus is organized around a newly constructed roundabout at the southwest corner of the site, which serves as the primary point of arrival. This intersection connects directly to Altoona's main urban thoroughfare and establishes a clear, legible gateway for the school. The building is sited intentionally to engage this arrival sequence, positioning the main entrance at the highest point of the site. This elevated placement reinforces the school's civic presence and creates a clear visual identity, making the entry experience immediate and intuitive upon approach.

The building plan radiates outward from this central point, responding to the natural topography of the site. As the building fans across the ridgelines, learning spaces are oriented to capture expansive views of the surrounding Iowa landscape, reinforcing a connection between interior educational environments and the broader context. This arrangement supports daylighting, visual openness, and a sense of orientation throughout the facility.

Vehicular circulation and parking are deliberately organized to support safe and efficient school operations. Parent and student traffic is physically separated from bus circulation through a bifurcated access strategy, with a central plaza acting as both a buffer and a unifying civic space. While circulation paths are distinct, all visitors are directed toward a shared central arrival zone, reinforcing community and cohesion.

A secondary activities entrance is located on the west side of the building to accommodate after-hours and high-capacity events. This entry is designed for ease of access and crowd management while remaining visually and operationally distinct from the main academic entrance, allowing the school to function flexibly throughout the day and evening.

Outdoor learning and future growth are integral to the campus design. A generous green space is positioned between the two eastern academic wings, envisioned as an opportunity for outdoor classrooms and experiential learning environments that can evolve alongside the school's curriculum. Additional undeveloped green space to the north provides long-term flexibility for future athletic facilities, supporting the district's broader operational strategy without requiring immediate construction.





# FIRST FLOOR PLAN



- ADMINISTRATION
- CIRCULATION & GENERAL BUILDING FUNCTIONS
- COLLABORATION ZONE
- CORE ACADEMIC FUNCTIONS
- CTE/TECHNOLOGY
- PHYSICAL EDUCATION & SUPPORT AREAS
- SCIENCE
- SPECIAL EDUCATION
- VISUAL & PERFORMING ARTS

# SECOND FLOOR PLAN



#### WELCOMING ENTRY

Centrally located and clearly identifiable, the building's entry is both secure and inviting. Designed for transparency and early visibility, it provides a direct connection to the main office—creating a welcoming environment while helping to ensure student safety.



#### CLEAR, MONITORED CIRCULATION

Circulation within the learning communities is designed to connect students while supporting opportunities for social interaction and collaboration. These open, generous pathways promote visibility and ease of movement, helping students and staff feel comfortable, reduce stress, and foster a sense of safety and well-being.



#### NATURAL LIGHT AND VIEWS

The building is designed to maximize natural light and provide meaningful views in key student gathering areas. Carefully positioned connections to the outdoors enhance visibility and intuitive wayfinding, helping students easily orient themselves within the larger school complex while fostering a strong sense of place.



#### SCALE AND MATERIALS

The school's design uses materials, textures, and patterns to maintain a sense of scale that is approachable and comfortable for young adult learners. Through careful use of repetition, vertical elements, and human-scaled details, the design responds effectively to the building's large footprint while preserving a welcoming and manageable environment.



STUDENT COMMONS

## 5. EDUCATIONAL ENVIRONMENT

### CONTEXT

The school's educational vision centers on creating an inclusive, welcoming learning environment that fosters curiosity, collaboration, and student achievement. At the same time, the school maintains the flexibility needed to adapt to changing demands as a newly established grade center serving a growing district. Designed to function as both an academic and civic hub, the school supports interdisciplinary learning, celebrates student work, and remains responsive to evolving curriculum, instructional practices, and community growth.

### RESPONSE

#### Support of the Curriculum

The environment directly reinforces the curriculum through intentional organization and visibility of learning. Core academic spaces are paired with collaboration zones to promote interdisciplinary connections, particularly between science, math, and problem-based learning. Centrally located discovery, arts, and media spaces expand learning beyond traditional classrooms, ensuring academic, creative, and physical development are equally supported.

#### Support of Diverse Learning & Teaching Styles

A variety of learning settings, including classrooms, small-group areas, collaboration zones, hands-on discovery spaces, and large shared environments, supports multiple teaching approaches and learner needs. Special education spaces are embedded within academic wings, reinforcing inclusive practices while allowing individualized support. Clear circulation, visibility, and smaller learning communities enhance student comfort, independence, and engagement.

#### Adaptability and Flexibility

Flexibility is embedded throughout the school's design. Repeatable classroom layouts, reconfigurable shared spaces, and multi-use athletic and performance areas allow the building to adapt to shifts in enrollment, programs, and instructional methods. Reserved outdoor green spaces further extend learning opportunities and allow future curricular growth without disruption.

#### Innovative Qualities

The school is organized around a centrally located student commons that serves as the social, academic, and cultural heart of the building. This vibrant hub celebrates student achievement, supports informal learning, and reinforces education as an active, collaborative experience. Radiating from the commons, the building is structured into smaller learning communities that foster a sense of belonging, personalize instruction, and strengthen relationships among students and faculty.

An intuitive circulation "racetrack" connects these learning communities, improving safety, supervision, and accessibility while encouraging student independence and ease of movement. Strategically placed collaboration zones throughout the building support interdisciplinary work and meaningful student-faculty engagement beyond the traditional classroom.

Strong physical and visual connections to the surrounding community further position the school as a dynamic, forward-looking educational environment—one that is flexible, inclusive, and designed to support evolving instructional practices while placing students at the center of the experience..





**COLLABORATION ZONE**  
 The core of each floor within the academic wings is designed to promote collaboration and social interaction among students and staff. This enclosed central area primarily serves staff, providing a semi-private environment for focused work, collaboration, and informal social engagement. Adjacent to the core is the instructional coaches' office, which offers enhanced resources and support for professional staff. At the end of the core, the student collaboration zone provides a variety of learning spaces, including private areas for small-group work and a larger, flexible space that accommodates collaborative activities for larger groups.



**SPECIAL EDUCATION**  
 The vision promotes the integration of special education services within academic areas. Resource and support spaces are embedded throughout these areas, allowing students convenient access while also offering individualized breakout spaces to support targeted learning goals.



**LEARNING DISCOVERY**  
 Project-based learning areas sit at the building's core and are intentionally visible to spark student interest. These flexible spaces support drafting, digital design, 3D printing, robotics, and hands-on activities, ensuring adaptability to evolving technologies and future needs.



**SCIENCE AND MATH**  
 Science instruction played a central role in early planning and is purposefully designed to spark students' curiosity and sense of discovery. Positioned within each wing and directly across collaboration zones from the math instructional areas, students experience seamless connections between disciplines. This proximity encourages learners to make meaningful links between concepts, collaborate across subjects, and develop early enthusiasm for problem-solving, exploration, and hands-on learning.



**CORE INSTRUCTION**  
 Core instructional areas are intentionally designed with consistent layouts to maximize flexibility and adaptability for a changing student population. With the introduction of a new grade configuration within the building, the growing district required spaces that could accommodate future needs without excessive cost. This strategy supports ongoing adjustment and evolution while upholding the high instructional and facility standards expected by the district.

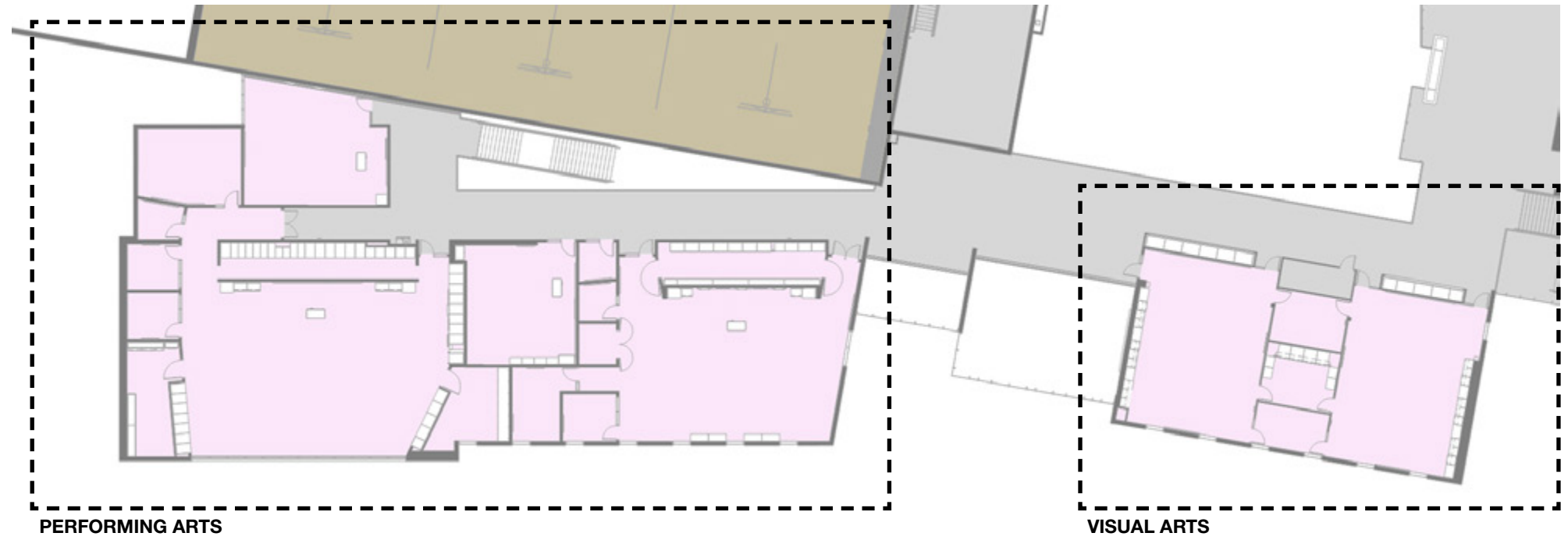


**CIRCULATION & INTERACTION**  
 Designed for 1,200 sixth and seventh-grade students, the building is organized into smaller, manageable spaces. Open circulation, compartmentalized storage, and highly visible areas promote safety, reduce anxiety, and help students feel connected within smaller learning communities.

**VISUAL AND PERFORMING ARTS**

Similar to the building's learning discovery areas, the visual and performing arts spaces are designed to be easily accessible to all students and highly visible, encouraging curiosity and engagement. The 2D and 3D art rooms are located at the front of the building and are likely to be passed by all students daily. Ample, dedicated display areas showcase student work, fostering pride and sparking interest among those not yet involved in the program.

Music spaces are strategically located at one end of the building to support sound control, while remaining well integrated into main circulation areas to maximize student exposure. Instructional spaces include large vocal music, instrumental music, general music, and a dedicated guitar classroom, providing students with multiple entry points to discover and develop a love of music. Generous storage, practice, and support spaces are provided throughout to effectively serve all visual and performing arts programs.

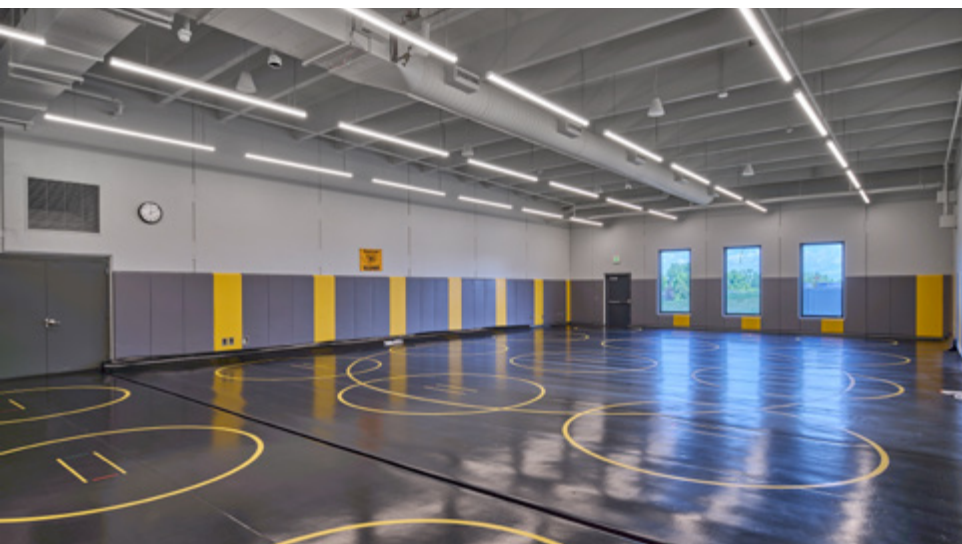


INSTRUMENTAL MUSIC

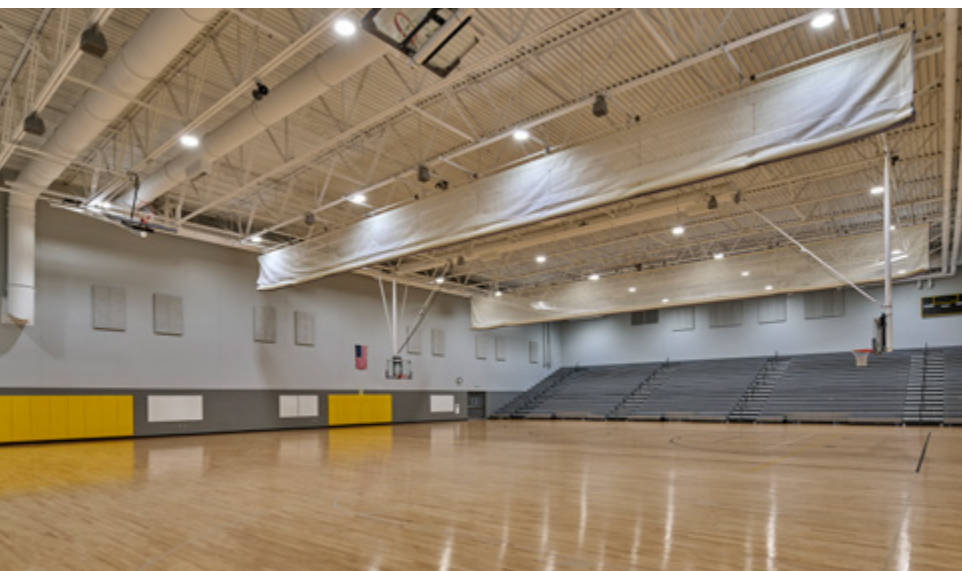
GUITAR CLASSROOM



**MULTI-PURPOSE AND WEIGHT TRAINING**



**WRESTLING ROOM**



**MAIN GYMNASIUM**



**PHYSICAL EDUCATION & WELLNESS**

Supporting all students and the broader community, the school is designed to provide generous physical education facilities that can be flexibly partitioned to accommodate a wide range of activities and after-school practices. Complementing the main activity space, a separate multipurpose room supports smaller functions and includes an adjacent weight training area. To serve a growing program, a new wrestling room has been incorporated and is designed for flexibility with storable floor mats to support additional uses. Physical education and team locker rooms are designed to meet both current demands and future growth as the program continues to evolve.

The locker areas, multi-purpose and weight training rooms, and the wrestling room in the facility are also built to ICC 500 tornado safe room standards and serve as a safe area of refuge for the entire school population in the event of a catastrophic storm.



*Strategic transparency was thoughtfully integrated throughout the building, carefully balanced with the district's safety protocols. Targeted visual connections into key spaces such as the Media Center and Project-Based Learning areas, create a sense of openness and curiosity, drawing students in and fostering excitement around these dynamic learning environments.*



# 6. RESULTS

## SERVING PROJECT GOALS

The project aligns building design with how students learn, connect, and grow. A single, welcoming main entrance creates equity, safety, and a shared identity from arrival. A central, light-filled student commons acts as the heart of school life, celebrating learning and encouraging collaboration. Intuitive circulation supports smooth movement, visibility, and independence. Adaptable learning communities break down disciplinary barriers and support diverse learners over time. Centrally located shared spaces for Specials, Athletics, and Media ensure flexibility, connection, and long-term relevance as educational needs evolve.






## SERVING THE DISTRICT AND COMMUNITY

Serving a newly established grade configuration within the district, the building must be inherently flexible to support ongoing programmatic change. A design based on uniform learning spaces, centralized collaboration and professional areas, and well-appointed support and activity spaces will enable efficient reconfiguration as instructional needs evolve. This approach allows the district to adjust room arrangements and curricula over time without incurring additional construction or capital costs in the future.

## SUSTAINABILITY

Southeast Polk Middle School exemplifies high-performance, energy-conscious design that significantly reduces environmental impact while enhancing occupant well-being. A high-performance building envelope, abundant daylighting, and LED lighting with smart controls lower energy demand and operating costs. Active chilled beams, high-efficiency boilers, CO2-based ventilation control, and heat recovery systems optimize comfort and indoor air quality with minimal energy use. Together, these integrated strategies create a durable, efficient learning environment that supports long-term sustainability goals, fiscal responsibility, and a healthy, inspiring place for students and staff.

## VERIFIED SAVINGS OVER CODE LEVEL DESIGN:

	<b>Annual Energy Savings</b>	<b>54%</b>
	<b>Annual Electrical Consumption</b>	<b>45%</b>
	<b>Annual Peak Electric Savings</b>	<b>36%</b>
	<b>Annual Gas Consumption</b>	<b>70%</b>
	<b>Total EUI Savings (Energy Use Intensity)</b>	<b>62%</b>





MEDIA CENTER

