Garrett County Southern PK-6 ES + Southern 7-12 HS

Garrett County Public Schools
Oakland, Maryland

Schematic Design Submission to Board
September 2022

Barbara Baker
Superintendent of Schools

effectiveness • innovation • community • excellence

G+P
GRIMM + PARKER
ARCHITECTS

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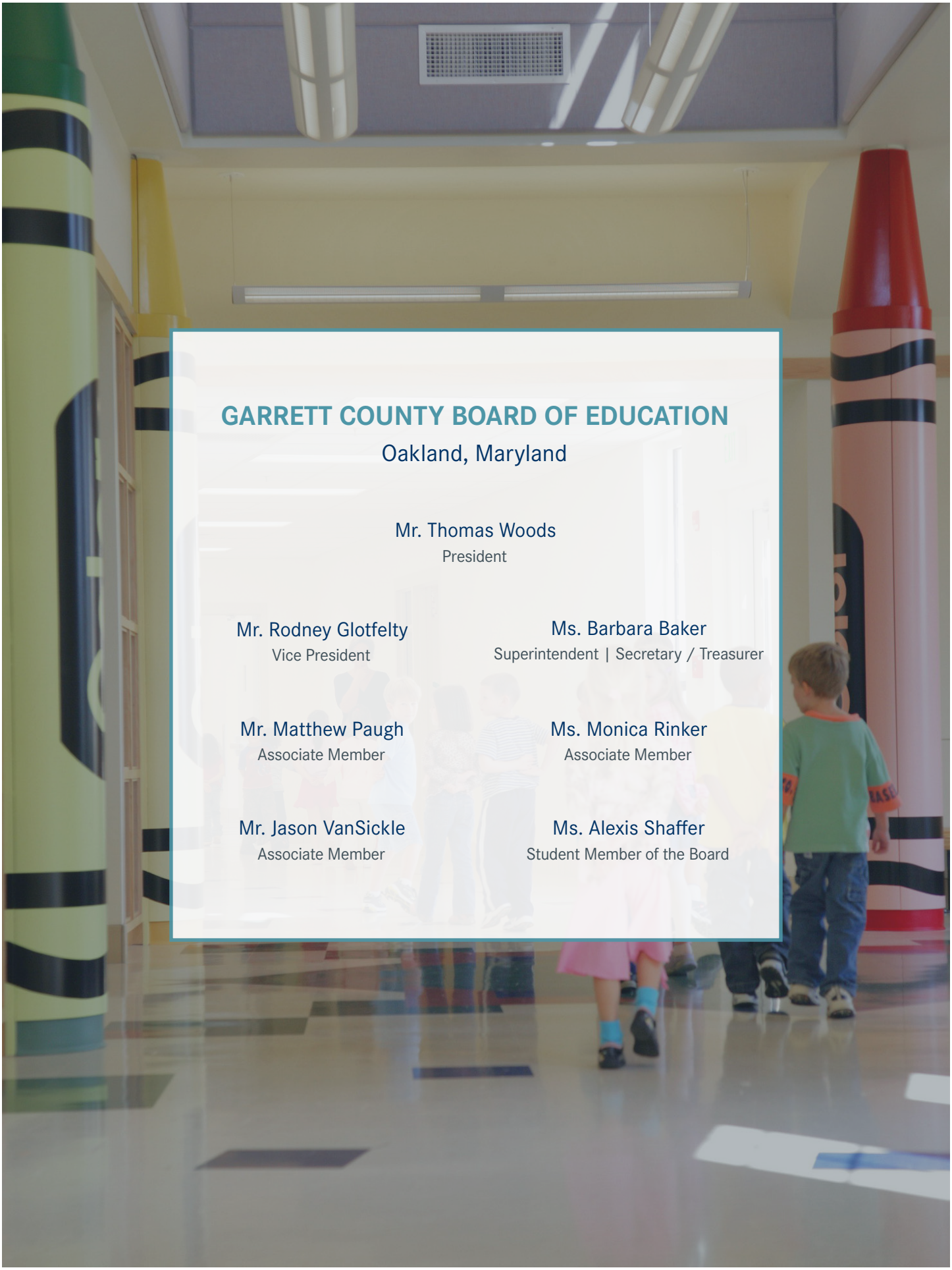
Creative Collaboration
Sustainable Solutions
Engaging Environments



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contents

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participants
design committee / design team

Southern Garrett Middle School
Stephanie Wesolowski — Principal

Southern Garrett High School
Ryan Wolf — Principal

Maryland State Department of Education
Fred D. Mason III, R.A. — Maryland State Department of Education

Design Team

Architects
David Wolf — Grimm + Parker Architects
Laura Smyles — Grimm + Parker Architects

Civil Engineers
Ray Rase — SPECS

Structural Engineers
Ron Wolfman — Wolman and Associates
Steve Jiau — Wolfman and Associates

Mechanical, Plumbing, Electrical, Fire Protection Engineers, AV, Date
Benjie Linkous — Ascent Engineering
David Roller — Ascent Engineering

Construction Manager
TBD

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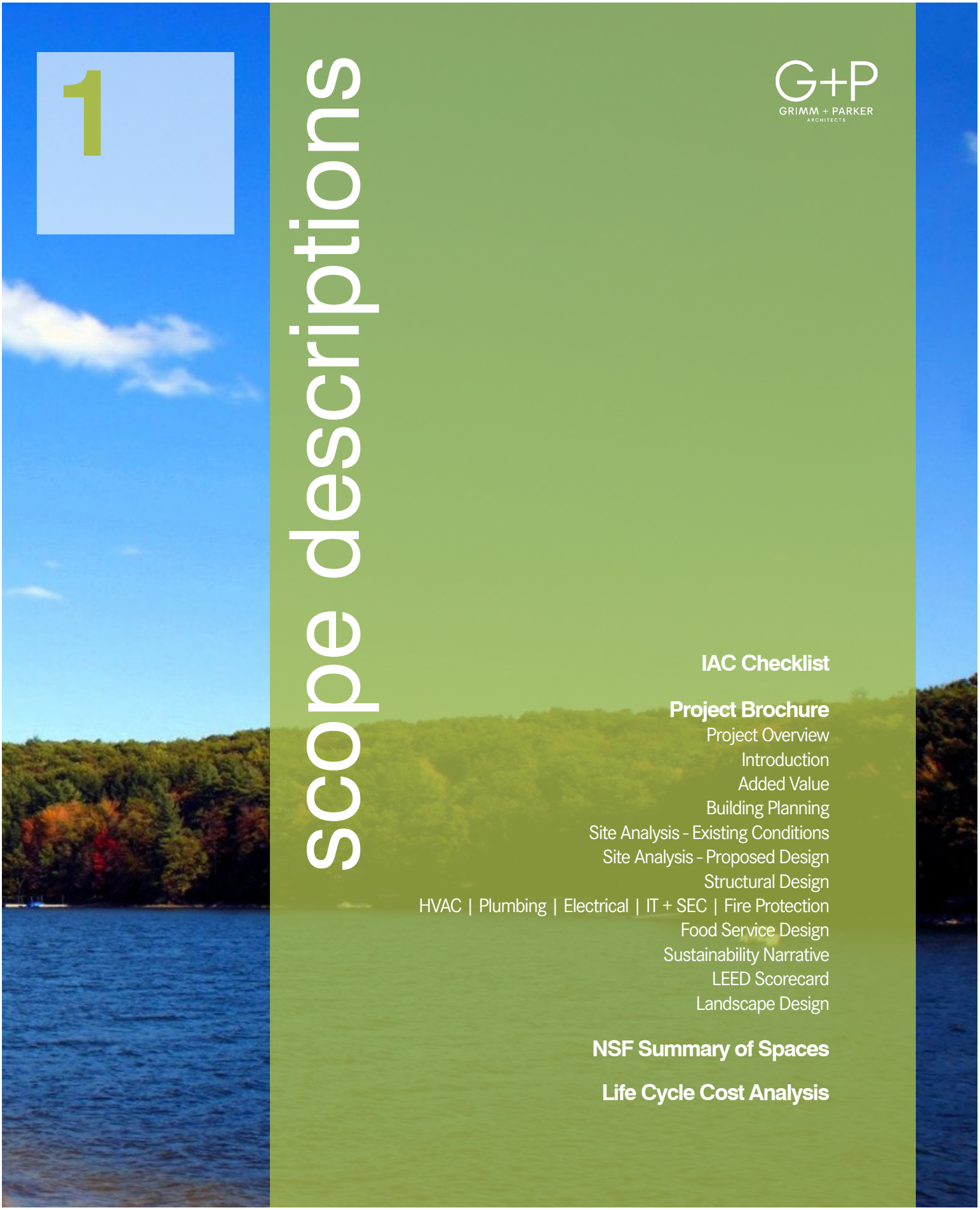

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scope descriptions

GRIMM + PARKER ARCHITECTS

IAC Checklist

Project Brochure
Project Overview
Introduction
Added Value
Building Planning
Site Analysis - Existing Conditions
Site Analysis - Proposed Design
Structural Design
HVAC | Plumbing | Electrical | IT + SEC | Fire Protection
Food Service Design
Sustainability Narrative
LEED Scorecard
Landscape Design

NSF Summary of Spaces

Life Cycle Cost Analysis

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Checklist for State-Supported or Forward-Funded Projects

SCHEMATIC DESIGN (SD) SUBMISSION TO MSDE/IAC

TABS: DEFINITION: TAB refers to a multi-page PDF file and shall be named per the File name convention. ***File name convention example: ParksideES-repl-SD-Tab1-Scope Descriptions-2020.10.07.***
Each document listed below should have a bookmark identifying it in the pdf document. ***For example, Tab#1 should have applicable bookmarks like: Transmittal checklist, LEA response, IAC form 202.1, NSF Summary, and so on.***

TAB #1 - Scope Descriptions (in PDF Form):

☐ Transmittal includes checklist

☐ LEA Response to MSDE Ed Spec Review Letter (if applicable & not provided previously)

☐ IAC Form 202.1 for Schematic Design Submissions (which includes Type Project, Date of site approval by the IAC, date of Educational Specifications review, State approved capacity, Name of Architect)

☐ Project Brochure includes:

1. Narrative Descriptions (All Design Disciplines)
2. Intended capacity and core capacity if master planning addition(s) in the future. Clarification how many teaching station to bring building up to core and where will be located on site
3. High Performance narrative, LEED scorecard, or Green Building Plan, if applicable • Project schedule
4. Estimated cost of construction
5. List of applicable codes

☐ NSF Summary of Spaces with comparison to the Ed Spec program requirements. Include GSF Total, and NSF/GSF efficiency %.

☐ Educational specifications amendments, if any

☐ Total Cost Of Ownership (TCO)-PDF

TAB #2 – Support Material:

☐ If have Regional Special Education program that is new, has increased in size, or has a change in program delivery alter, provide approval letter from MSDE Division of Special Education/Early Intervention Services (DSE/EIS) or letter asking support of DSE/EIS

☐ If a high school with new or changed CTE programs, provide approval letter from MSDE Division of Career and College Readiness (DCCR) and *Attachment 1 - Facilities Utilization Table* from the application request or letter asking support of DCCR.

☐ If facility built before 1960 or is listed as Category I or II in Attachment A of the Programmatic Agreement between the Maryland Historical Trust (MHT) and the IAC, provide a copy of

the MHT's determination if the project effects an historic property. The project review process and submission form are provided at: https://mht.maryland.gov/projectreview.shtml

TAB #3 - SD Drawings:

☐ Colored Key Floor Plans with Stipulated Legend distinguishing Cooperative Use Spaces, Type and Number of Teaching Stations

☐ Site Drawings and architectural drawings are required at SDs

☐ Drawings: Existing & Proposed Site Plan (40th scale min.), if applicable.

☐ For renovation projects include existing site and floor plans as well as GSF totals for renovation and demolition areas.

☐ Drawings: SD drawings should be scaled drawings (⅛" minimum). Properly bookmarked and labelled. In case the file size is big, drawings can be divided by volumes for DD and CD drawings.

Excel Documents: Please provide the following documents also in an Excel format.

☐ NSF Summary of Spaces with comparison to the Ed Spec program requirements. Include GSF Total, and NSF/GSF efficiency %.

☐ Total Cost Of Ownership (TCO)

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PROJECT OVERVIEW

SOUTHERN PK-6 ELEMENTARY SCHOOL & 7-12 HIGH SCHOOL

PROJECT DATA

- Capacity (SRC) of Existing Southern Garrett MS 828
- Capacity (SRC) of Existing Southern Garrett HS 1,450
- Current Enrollment Broad Ford ES 539
- Current Enrollment Southern MS 458
- Current Enrollment Southern HS 626
- Capacity (SRC) of Proposed Renovated MS 813
- Capacity (SRC) of Proposed Renovated HS 1,450

- Area of Existing Southern MS 92,000 sf
- Area of Existing Southern HS 177,000 sf
- Area of Proposed Renovated MS 101,820 sf
- Area of Proposed Renovated HS Unchanged

PROJECT BUDGET

- Building + Site Construction both projects $50,162,115

PROJECT SCHEDULE

- Schematic Design to GCPS September 2022
- Ed Spec to GCPS September 2022
- Submission to IAC October 2022
- RFP for Design Services through CA TBD
- Construction TBD
- Final Completion TBD

COST ESTIMATE

COST ESTIMATE SUMMARY ESCALATED TO 2025

Broad Ford ES (PK-6) Hard Costs

- Building – $41,384,094
- Site - $4,326,757
- Current ES Demolition – $1,390,356

Total – $47,101,207

Southern High (7-12) Hard Costs

- Building – $2,458,161.71
- Site - $602,746.38

Total – $3,060,908

TOTAL PROJECT COST – PK-6 and 7-12 – $50,162,115

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INTRODUCTION

LOCATION

Southern Garrett Middle school and Broad Ford Elementary School are located at 607 Harvey Winters Drive, Oakland, MD, 21550. Southern Garrett High School is located at 345 Oakland Dr, Oakland, MD, 21550. The proposed project is for the demolition of Broad Ford Elementary School and the renovations of the Southern Middle and Southern High School projects. Garrett County Public schools has conducted in depth research to determine a solution to the declining enrollment at all three schools. The new grade band alignment shall consist of the Southern Middle School being renovated into a PK-6 facility. The 7th and 8th grade students shall move to newly renovated spaces at the currently under-enrolled Southern High School for a 7-12 facility. This grade band alignment shall reduce the number of required transitions for students.

Southern Middle School (SMS) and Broad Ford Elementary School (BFES) share a site located in Mountain Lake Park on a thirty-two-acre parcel of ground bounded in the north by Harvey Winters Drive and to the east by Broad Ford Road. Wetlands and developed single family homes border on the southern and western boundaries. The site is a hub of community activity. The play fields are used year-round for various school and community-based sports.

Southern High School (SHS) is located in Oakland on a forty-three-acre parcel of ground bounded in the north by Dennett Road to the west by South 11th Street, and to the south by Oakland Drive. Single family homes border on the eastern boundaries. The high school shares the parcel with the former Dennett Road Elementary School which currently houses GCPS Facilities, and a head-start center. The site is a hub of community activity. The play fields are used year-round for various school and community-based sports.

Both the existing middle and high schools are experiencing under enrollment issues. The schools' spatial organization, type and number of spaces do not meet the educational needs of their current and future students. The existing facilities systems are also approaching the end of their useful lives.

The newly renovated Broad Ford Elementary School (current Southern Middle) shall provide an opportunity to resolve the under enrollment issues and provide the students with a facility capable of next generation learning. The new facility shall resolve current functional issues such as, HVAC and systems, daylighting, collaborative learning, security and student well-being.

The newly renovated Southern High School shall provide the 7th and 8th students the spaces they need to excel as next generation learners. The development and strategy of the High School plan has been to take advantage of under utilized and or vacant spaces with the existing High school to provide the 7th and 8th grade students with their own communities. Careful attention has been taken to provide the 7th and 8th grade students separate spaces from the 9th - 12th grade students, while encouraging some opportunity for excelling 8th grade students to take advanced courses.

The new school design will provide a school for next generation learners. It will be based on the educational specifications accompanying this Schematic Design Booklet. The new building will also meet USGBC LEEDv4 Silver certification requirements and current

building codes, energy codes, and accessibility standards.

The program for the Broad Ford Elementary school will provide 42 elementary school teaching stations,, dining PE and Performing arts spaces, CTE and supporting spaces to accommodate a state rated capacity of 813 PK-6 students.

General objectives identified by the school system for this project include:

- Design a facility to meet today's educational standards.
- Create a school environment which promotes learning and collaborative study.
- Create an attractive facility, properly oriented on its site, which is aesthetically in harmony with the surrounding community and the natural environment.
- Create a facility that honors the history and culture of Garrett County and its community.
- Provide community use for recreation and the performing arts.
- Create a technologically advanced and energy efficient facility.

OVERVIEW

Garrett County is the western most county of the state of Maryland. Garrett County Public Schools is home to approximately 3500 students in grades PK -12. The mission of the school system, in partnership with the community, is to:

"inspire and foster student growth by providing rigorous instruction and learning opportunities, sustaining a culture of excellence, and preparing our students for life in an ever-changing world. "

The vision of Garrett County Public Schools is as follows:

"Education is the key to the vitality and sustainability of our community. The Garrett County Public School System maintains an environment in which staff, students, parents, and the community work collectively for a brighter tomorrow. While celebrating the culture and traditions of Garrett County, the schools create an environment where students are nurtured to become productive, enthusiastic, and successful members of society.

Students will be active and engaged learners who enjoy school. They will meet the challenges of robust curricula in a climate that is open, fair, honest, and respectful to all people. Schools, as learning communities, will offer opportunities for students to achieve excellence in their academics and compassion in their interactions and relationships with others.

Partnerships are integral to building a culture of rigorous, high-quality instruction in which excellence in student achievement is normative and ensures learning and success for all students. Community contributions are encouraged and valued. Partnerships support tangibly the innovation and creativity embedded in the school system and will energize the achievement of all students.

Highly-qualified employees will be recruited and hired who –

- Value students, parents, and the larger community
- Create and sustain learning environments in which students can realize their dreams
- Seek continuous improvement through staff development and curriculum implementation
- Immerse themselves within the schools to produce vibrant learning communities
- Demonstrate stewardship of the school system's resources

Parents and families are critical to the success of students. Their involvement, participation, and engagement in the school system will benefit teaching and learning for all students. In cooperation with school staff, parents and family are important in building their children's self-confidence and assisting them in acquiring the skills necessary for lifelong success and public engagement."

DESIGN CRITERIA

In a PK-6 and 7-12 grade school program, the following considerations should be given to the organizational structure of the building:

The different developmental/emotional needs, autonomy and sense of safety of elementary school and high school students should be part of the spatial organization and development of the building.

Spatial location and organization should take into account the particular transitional needs of 7th graders.

Paths of travel throughout the building should create separate circulation between the various grade levels. This separation should allow the high school students to reach shared spaces or common areas without passing through the classroom areas for the 7th and 8th grade students.

Performing Arts, Media and Physical Education spaces that can be shared between the middle and the high schools should be located outside of the classroom clusters

Administration shall be located near the main entry for increased security.

The auditorium is considered a county wide resource. Spatial organization, location and design of this space should consider its use as a community resource.

More prominence for the Elementary school along Harvey Winters Rd.

Strategies, materials and systems that promote energy use reduction and environmental stewardship are a project goal.

Design of the building should feel comfortable and inviting to the youngest of students while accommodating the needs of adult staff, parents, visitors, and community users.

SITE SPECIFIC DESIGN CRITERIA

- Administration and security vestibule re-located to front entrance for increased security of site and building entry
- Strategic locations of additions enhance the Harvey Winters site elevation in a fiscally responsible way
- Transform site presence through minimal interventions to provide a brand new character for Broad Ford Elementary School
- More prominent entry provides way-finding and an inviting student experience
- Canopy for students to load and unload from buses and cars protected from harsh weather
- Loop road, and enhanced parking areas to vastly improve site circulation, parking, and community access
- Outdoor secure courtyard and play area
- Outdoor learning and environmental curriculum integration opportunities

narrative descriptions

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SOUTHERN PK-6 ELEMENTARY SCHOOL

ADDED VALUE

Safety and security

- Administration and security vestibule re-located to front entrance for increased security of site and building entry
- Sro office directly supervising the main entry
- Health suite direct access to outside, proximity to main entrance for emergencies and discretion
- Freezer addition to remove outbuildings and provide interior access to all storage

Academic + instructional

- Grades are grouped in four learning communities to increase collaboration and maintain grade separation where required:
    - Head start, pre-k, and k
    - Grades 1 and 2
    - Grades 3 to 5
    - Grade 6
- Special education classrooms co-located with support suite with additional inclusion rooms dispersed in academic areas
- Instructional support has direct access to special education spaces
- Related arts spaces located at the heart of the building
- Science classrooms proximate to grades 3 to 6
- Open collaboration areas serve academic use and allow for more daylight into building spaces
- Outdoor learning + environmental curriculum opportunities
- Secure courtyard + play area
    - Minimal grading required
    - Ada accessible play area
    - Increased natural + borrowed light for classrooms
    - Natural light further into the building through open collaborative area
    - Direct access for special education and grades hs/ pk-2
    - Easily supervised and fenced for added security

- Relocate stage to the gymnasium
  - Added accessibility (ramp)
  - Increased seating capacity for gatherings and events
  - After-hours use
  - Potential for outdoor stage
  - Proximity to music classes and technology education space

Community benefits

- Community access to school spaces without hindering security
- Outdoor toilet rooms for after-hours access
- Additional community parking spaces
- Outdoor storage for after-hours access
- Extend south auxiliary gym for additional functioning court space as part of the new addition

Site opportunities

- Administration and security vestibule re-located to front entrance for increased security of site and building entry
- Strategic locations of additions enhance the harvey winters site elevation in a fiscally responsible way
- Transformation of site presence through minimal interventions provides a brand new character for broad ford es
- More prominent entry provides wayfinding and an inviting student experience
- Canopy for students to load and unload from busses and cars protects them from harsh weather

SOUTHERN 7-12 HIGH SCHOOL

ADDED VALUE

Operational opportunities

- Sro office relocated to front door to directly supervise the main entry
- Nurse's office increased in size and functionality
- Renovated locker rooms provide distinction between locker rooms for grades 7 - 8 and grades 9 - 12

Educational opportunities

- Grade 7 is located in separate learning communities to increase collaboration and maintain student separation. It includes:
    - Multi-functional fine arts lab
    - Grade level classrooms
    - Collaboration space
    - Resource rooms
    - Separate toilet rooms
    - An assistant principal office for added supervision
- 8th grade technology education lab adjacent to existing technical education lab to increase learning opportunities and maximize resources
- Separate oversized, underutilized computer science room into two smaller computer science rooms for student use
- Alo + stars classrooms are co-located in areas of building with office support suite

Possible Educational Opportunities

Based on stakeholder feedback through the Grade Band Alignment Committees and Educational Specification Committees, GCPS has identified the following as potential areas of added educational value for students should the elected board complete the proposed renovation and grade band alignment for the southern end of the county.

Elementary

- Early childhood center offering space for Head Start/collaborative 3 year old programs that meet rigorous standards aligned to the Blueprint
- Judy center space for early childhood initiatives to support kindergarten readiness
- Computer science resource for upper elementary
- Media specialist resource to support student research
- Maker's space and science lab for elementary students
- Student council and leadership opportunities for 5th graders
- Junior National Honors Society
- Behavior suite with concentrated mental health support
- Environmental enhancement for special education center (kitchenette, shower etc.)
- Outdoor learning opportunities
- Nursing suite enhancements to support students
- Space for intervention services for small groups and collaborative learning.
- Increased stability in class size

Secondary

- Opportunity for 8th graders to earn high school credit
  - Technology Education
  - Physical Education
  - Fine Arts including Dance
  - Foreign language
- Accelerated path for English
- Therapeutic support classroom
- Behavior suite w/ concentrated mental health services
- Increased opportunity for support pathways for students who are not on track to meet College and Career Readiness
- Add an additional foreign language
- Sustain current electives and programming

SOUTHERN PK-6 ELEMENTARY SCHOOL

BUILDING PLANNING

CONCEPT

Southern PK-6 Elementary School is being designed to achieve the planning criteria listed. It will be designed to emphasize safety, security, and accessibility. Sustainable design principles such as natural daylight in classrooms, improved acoustics, and a focus on providing a high level of indoor air quality through careful building material selection and proper HVAC system design will help create an environment that promotes learning and focus.

Recognizing the different age ranges, maturity levels, safety and security needs of Pk-6th grade students, the building will be designed to provide clear separation while creating observable zones of interaction where users can take advantage of shared resources and create opportunities for positive engagement between PK-6th grade school students.

The project is being designed to facilitate recreational use of the building and grounds by the community. In addition to the existing to remain stadium, softball and soccer fields, new fields and courts will be developed for regulation baseball, middle school use and tennis to further support community recreation. With the demolition of the current elementary school the community has expressed concern for the loss of a community use indoor basketball court. The proposed addition to the south west of the current Southern middle school shall expand the current auxiliary gymnasium to be roughly the same size as the indoor court to be demolished.

The school is organized to allow the public-use spaces of the school to be separated into easily secured zones with independent entrances. The stage is being relocated from the dining to the gymnasium to free up the space at the main entrance to the school for administration and to locate the community use of the stage to the community section of the school. The new stage will allow more seating capacity in the gymnasium, an opportunity for an outdoor stage facing the paved play area, and an enhanced experience for handi-capped individuals. The current stage does not have a handi-capped ramp and does not provide an opportunity to easily add one. The PE wing will have its own exterior entry, entry plaza and lobby space. This organization allows for public use of these spaces while they are securely separated from the academic areas of the school. Entries and circulation will be designed to be easily identifiable bright, warm spaces that welcomes students and visitors and celebrates community identity.

BUILDING DESIGN

The ES building design provides a safe and secure state of the art learning facility in keeping with the goals and values expressed in the Educational Specification Standards and the Site-Specific Educational Specifications for Southern PK-6 Elementary School.

The ES building plan is based on organizing the school to provide various communities for different grade levels with classrooms and support areas in cohesive clusters of related spaces. Collaborative areas provide opportunities for individualized, pull out and small group learning. Faculty support spaces are distributed throughout the building to best facilitate professional development and shared resources.

The main entry to the school will be on the northeast side of the building. It will be accessed from a well-defined entry plaza. The entry will be clearly visible from Broad Ford and Harvey Winters Rd. A drop off loop will provide space for parental drop off during school hours and a drop off zone for after hours use of the auditorium and other public use spaces. An entry canopy will provide visual identification of the school entry and provide shelter in inclement weather.

Entry into the building is via a secure vestibule. The school administration will have control of access from the exterior doors to the vestibule and visitors will be required to enter the administration suite reception area and be approved before access is allowed into the school through a second set of secured doors. The SRO officer will be located directly adjacent to the main entrance to head off any potential threats. The health suite is located near the entry for easy emergency access, and student discretion.

A main corridor provides connection to administration, library, gym, and dining, and connecting corridors lead to classrooms and collaborative areas.

The Gym houses a stage that will fill a vital need in Garrett County for a Performance space, and it is expected that it will see significant community after hours use. The new location of the stage provides an opportunity for an outdoor stage for performances and possibly outdoor movie nights.

The Media center is centrally located to provide easy access from all parts of the building.

The Dining area, gymnasium, kitchen and support, corridors, and restrooms are to remain as located to avoid costly renovations. These spaces shall be renovated but not re-located.

The PE wing is located with direct access to parking and the stadium for use of the PE spaces after hours. Secure cross -corridor doors will provide security control to maintain the security of school spaces during the gym use by other programs.

BUILDING MASSING

The current Southern Middle School provides a lack of natural light into the majority of the learning environments. New clerestory windows shall provide daylight into buried spaces.

A small section of the building will be demolished to allow for daylight to get deeper into the school and the media center as well as provide a secure play area/courtyard for the younger students. The current grade of the site does not allow for an accessible play area at the north without costly retaining walls. This selective demolition occurs between existing bearing points and provides significant added value.

The additions are designed to flank the corners of the school providing a cost effective way to truly enhance the schools character and presence.

PHASING

It is anticipated that the current Southern Middle School renovation will occur without phases. However, the Southern High School renovation shall occur first to accommodate the 7th and 8th grade students when the current Middle School renovation begins. Broad Ford Elementary School shall remain open during the Southern Middle School renovation and accommodate the 6th grade students. GCPS is prepared to provide additional capacity to Broad Ford ES through the use of trailers for the duration of the current Middle School renovation.

TECHNOLOGY

Throughout the school, state-of-the-art technology systems will be incorporated into every discipline. Instructional areas will have access to high-capacity internet and video. The design of the technology systems for the new Broad Ford Elementary School will meet the requirements of the Educational Specifications while incorporating a flexible design approach to accommodate future technologies.

SUSTAINABLE DESIGN

This building will be designed to achieve a LEED Silver certification from the United States Green Building Council (USGBC) based on the Leadership in Energy and Environmental Design (LEED) v4 for Schools New Construction and Major Renovation criteria. The school is to be planned and developed to maximize energy efficiency through the use of state-of-the-art mechanical systems and both passive and active energy savings practices.

EXTERIOR SPACES

Exterior amenities will be provided on the school site to support outdoor learning, student engagement, environmental literacy, and sports and recreation activities. Spaces will include outdoor dining, outdoor amphitheater, enclosed and secure play areas, outdoor wetland classrooms, and outdoor stage. Athletic fields will be inter-connected by paths and supported by vehicular parking on the east side of the fields. Toilet rooms with exterior access shall be provided for sporting events and community activities.

BUILDING CODES

narrative descriptions

Applicable codes include:

- MARYLAND BUILDING PERFORMANCE STANDARDS / MARCH 2019
- LIFE SAFETY CODE (NFPA 101)
- INTERNATIONAL BUILDING CODE / 2018
- AMERICANS WITH DISABILITIES ACT 2010
- MARYLAND ACCESSIBILITY CODE 2012 (COMAR 09.12.53)
- DGS PROCEDURES MANUAL
- NATIONAL ELECTRICAL CODE / 2018
- INTERNATIONAL FUEL GAS CODE / 2018
- INTERNATIONAL MECHANICAL CODE / 2018
- INTERNATIONAL PLUMBING CODE / 2018
- INTERNATIONAL FIRE CODE / 2018
- INTERNATIONAL ENERGY CONSERVATION CODE / 2018

SOUTHERN 7-12 HIGH SCHOOL

BUILDING PLANNING

CONCEPT

Southern High School is being designed under the classification as a limited renovation to achieve the planning criteria listed. It will be designed to emphasize safety, security, and accessibility. Sustainable design principles such as natural daylight in all classrooms, and improved acoustics shall be implemented.

Recognizing the different ages, maturity levels, safety and security needs of 7th and 8th grade students, the building will be designed with observable zones of interaction where users can take advantage of shared resources and create opportunities for positive engagement while maintaining a sense of 7th and 8th grade communities.

The 7th grade community is organized in a way to provide remoteness from the older students. The older students can circulate to shared spaces like the cafetorium, CTE, and gymnasium without having to go through the 7th grade community. The 7th grade community shall have its' own set of toilet rooms and a de-centralized administration office to monitor the entry to the 7th grade community.

The 8th grade students also have their own community. However, 8th grade science and CTE spaces are located adjacent to the existing departments to promote interaction with older students for the 8th grade. This will provide students ready to excel, additional opportunities within the 7th - 12th grade facility.

BUILDING DESIGN

- Grade 7 is located in separate learning communities to increase collaboration and maintain student separation.
  It includes:
    - Multi-functional Fine Arts Lab
    - Grade level classrooms
    - Collaboration space
    - Resource rooms
    - Separate toilet rooms
    - Assistant Principal office for added supervision
- SRO office relocated to front door to directly supervise the main entry
- Nurse's Office increased in size and functionality
- Renovated locker rooms create separate locker rooms for grades 7-8 and grades 9-12.

- Underutilized, oversized science room separated into two smaller labs for student use.
- 8th grade technology education lab adjacent to existing technical education lab to increase learning opportunities and maximize resources
- Separate oversized Computer Science room into two Computer Science rooms for student use.
- ALO and STARS classrooms are co-located in areas of building with office support suite
- Allied Health to move to the Agricultural wing of the facility for increased synergies.

SITE DESIGN

A small renovation shall occur to better organize and vastly improve the student drop off.

PHASING

Refer to PK-6 criteria

BUILDING CODES

Applicable codes include:

- MARYLAND BUILDING PERFORMANCE STANDARDS / MARCH 2019
- LIFE SAFETY CODE (NFPA 101)
- INTERNATIONAL BUILDING CODE / 2018
- AMERICANS WITH DISABILITIES ACT 2010
- MARYLAND ACCESSIBILITY CODE 2012 (COMAR 09.12.53)
- DGS PROCEDURES MANUAL
- NATIONAL ELECTRICAL CODE / 2018
- INTERNATIONAL FUEL GAS CODE / 2018
- INTERNATIONAL MECHANICAL CODE / 2018
- INTERNATIONAL PLUMBING CODE / 2018
- INTERNATIONAL FIRE CODE / 2018
- INTERNATIONAL ENERGY CONSERVATION CODE / 2018

SOUTHERN PK-6 ELEMENTARY SCHOOL

SITE ANALYSIS

EXISTING CONDITIONS

SITE DESCRIPTION

The current Broad Ford ES and Southern MS campus is located at 607 Harvey Winters Drive, Oakland, MD, 21550, in the jurisdiction of Garrett County, Maryland. The campus is an approximate thirty-two-acre parcel of ground. The site is a hub of community activity. The play fields are used year-round for various school and community-based sports.

The school and property are owned by the Board of Education of Garrett County. The Board of Education operates the existing building as a public elementary and middle school within the Garrett County Public School's System.

ADJACENCIES

The site is bound on the

- north by Harvey Winters Drive and single family homes
- east by Broad Ford Road and single family homes
- south by wetlands and farmland
- west by single family homes rear lots
- The campus is located in close proximity to Broad Ford Lake that is utilized as an educational natural resource

Broad Ford Elementary School Campus - Aerial view of the site

SITE CIRCULATION + PARKING

Access to the existing site is off Harvey Winters Drive for staff and buses and off Broad Ford Rd for parents and service. The existing site circulation results in heavy traffic build up along Broad Ford Rd due to an inefficient pick up/drop off and parking layout. There are a number of conflicting left turns. The drop off loop interferes with parked vehicles. There is no covered walk for students to enter the school without exposure to harsh Garrett County weather.

A loop road is proposed with an enter only from Broad Ford Rd and an exit only to Harvey Winters Drive. A new parent drop off is proposed with an internal parking lot to minimize the interference of pick up/drop off traffic and parked cars trying to exit the site. Additional parking lots are proposed along the new loop road to provide increased parking within close proximity to the community use spaces.

ACCESSIBILITY

ADA accessibility to the main building entrance will be provided from the bus drop off and parent drop off/pick up locations.

ZONING

The site is in the Suburban Residential (SR) District of Mountain Lake Park. Schools are permitted by Special Exception. Building restrictions for the SR District are as follows:

Minimum Land Area:	12,000 SF
Minimum Lot Width:	100 feet
Building Setback, Front:	15 feet
Building Setback, Side:	10 feet
Building Setback, Rear:	20 feet
Building Height:	35 feet

Required Parking for elementary schools is one space per faculty member and employee plus one space per two classrooms.

The proposed number of parking spaces is 295 which exceeds the required number as outlined above due to the community use of the site. One lot is proposed to be multi-purpose serving after hours community events and paved play during school hours. The multi-purpose lot contains 50 spaces.

TOPOGRAPHY

The site slopes generally from Northeast to Southwest. Most of the site has been improved either with hard scape or used as play fields. Play fields arranged in a terraced condition are found on the western edge of the property. There is approximately forty feet of grade change in the north-south direction along the western half of the fields. The grade along Broad Ford Road is flatter with a low spot in the middle of the eastern property line and approximate fifteen feet of grade difference from both the northeast and southeast property corners. The site drains both to the South towards and existing pond/wetland area and to the East towards Broad Ford Road.

UTILITIES

Water

The site is served by municipal drinking water fed from Broad Ford Road. There are several fire hydrants located on the site using the same feed.

Sanitary Sewer

The site is served by a force main connection to a municipal sewer in Broad Ford Road. A recent upgrade to the sewer system that parallels the south access road lined failing sanitary lines and installed a duplex grinder pump that services both schools. A new force main was installed that connects to the municipal sewer system on Broad Ford Road

Storm Drains

There are two storm drain outfalls on the site. One outfall is located on the east end of the property and drains via a culvert under Broad Ford Road. A second storm outfall is located along the southern property line and drains toward existing off-site wetlands. There are a series of storm drains around the site that connect to one of the two aforementioned outfalls. There is currently no stormwater management on site.

Electric

Electric service is provided by Potomac Edison. The feed for both schools is from Broad Ford Road.

Gas

Natural gas is supplied by Columbia Gas of Maryland. The feed is from Broad Ford Road along the southern boundary of the site.

Telephone

Telephone service is fed from Broad Ford Road. Phone service is provided by Verizon.

STORMWATER MANAGEMENT

There is currently no stormwater management on-site, only stormwater conveyance.

The proposed site plan shall provide a new stormwater management pond that seconds as a wetlands outdoor classroom.

FLOODPLAINS, WETLANDS + WATERWAYS

The site is in the Little Youghiogheny River (05020202) watershed. There were no wetlands of special state concern found in a review of the state's database within the project area but there are wetlands located adjacent to the property to the southwest. MD Merlin identifies a linear freshwater emergent wetland along the southern border of the property. The site is not located in a mapped FEMA floodplain.

LANDSCAPING

There is limited landscaping on the site.

FOREST COVER + SPECIMEN TREES

The majority of the tree specimens on site are deciduous and act as buffers for the site. The proposed site plan does not impact any specimen trees.

Broad Ford Elementary School Campus - Water Features

EXTERIOR RECREATION FACILITIES

There are several athletic facilities and play areas on the site. The western third of the site has a terraced set of multi-purpose fields large enough to host high school soccer practice. These fields are often used by the community for peewee football and AYSO soccer leagues. The athletic fields appear to be in serviceable shape. There are areas where the field drainage could be improved. The fields lack inter-convertibility with ADA compliant pathways between themselves and the schools. The grades on the western portion also hamper emergency vehicle access.

There is a multi-purpose field in the northeast corner of the site. It has a small backstop for softball. It is often used for local soccer matches and the BFES PE program. Another softball field is in the southeast corner between the existing modulars and the south access road.

A paved playground is adjacent to the gymnasium on SMS. Fixed non-regulation basketball goals hamper the use of the playground for other activities. Another paved area is adjacent to the BFES, just north of the modular classrooms.

There are two regulation tennis courts in a fenced-in area northwest of SMS. These field also lack a direct accessible link to the school.

None of the fields are lighted.

Existing Broad Ford ES basketball courts

View from exterior

View of Broad Ford ES tennis courts

View of Broad Ford ES entrance

View of Broad Ford ES entrance

SOUTHERN PK-6 ELEMENTARY SCHOOL

SITE ANALYSIS

PROPOSED DESIGN

SITE LAYOUT

The proposed site will see the demolition of Broad Ford Elementary and additions and renovations made to the current Southern Middle School as part of its conversion to an extended elementary school. Site improvements will include reworked bus drop-offs and teacher parking, a new student drop-off location and separated parking for parents, and separate community parking and entrance to the facility. Accessibility and safety improvements are also planned.

SITE CIRCULATION & PARKING

Site circulation, particularly issues with the current access to Broad Ford Road rank high in the site priority list. The site circulation is broken down into three core areas: bus and Staff, visitor and student drop-off, and community parking. The new bus area uses pull-in side-by-side parking in lieu of the 'elephant' style parking for use during dismissal operations. This method allows for buses to bypass immobile buses in the event of a breakdown with a minimal back-up move. Thirteen buses area expected to be able to park in this fashion with the other remaining buses parking on the entrance road for the bus loop. Bus arrival and drop-off is staggered in the morning with buses pulling up to the covered drop-off area. Under normal operation, the buses would not be required to make a reverse movement. The extended staff lot is expected to have approximately 130 spaces.

As already discussed, the access on Broad Ford Road has some traffic concerns. To alleviate some of these issues, the proposed site plan changes the existing south access road into a one-way road with traffic entering the site from Broad Ford Road and exiting via a new road that loops around the southern end of the new elementary school and continues to Harvey Winters Drive. A separate student drop-off loop and pick up area would follow along the opposite side of the covered walkway. A parking lot with approximately fifty spaces with separate access aisles is planned. The drop off will also serve as access for delivery trucks to the cafeteria.

A third parking area is planned that is intended to be used for community events. The community portion of the school is focused on the western half of the school, away from the staff and visitor parking areas. This lot is located south of the school and will have access to the community areas without forcing visitors to walk through the school. In addition, the existing outdoor play area will be resurfaced and striped for after school parking.

All parking areas will incorporate appropriate ADA parking areas and accessible routes to the school.

Broad Ford ES MODERNIZATION

tt County Public Schools

Proposed Site Plan

RD ES MODERNIZATION - PROPO

0' 50' 150'

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SOUTHERN PK-6 ELEMENTARY SCHOOL

STRUCTURAL DESIGN

The following section outlines the structural systems and components proposed for the new Southern PK-6 Elementary School. All new construction will be designed and built using conventional engineering and construction practices.

OVERVIEW

Southern Middle School was built in 1977 and consists of 92,000 square feet. The building has received renovations + additions in 2015. During the 2015 renovations + additions, the building has received a new roof, some columns have been removed and new columns have been added; new load-bearing walls and new foundations have been added also.

Proposed Modernization and Additions

Steel lintels will be provided for all new openings at the existing masonry walls. In order to achieve a leveled ground floor elevation, new crushed stone fills and new slabs will be installed at ground floors.

Gymnasium Modernization

The existing roof construction consists of metal roof deck supported by open web steel joists and steel beams. It is understood that a new stage will be added in the gymnasium. In order to achieve this task, a steel column will be removed, and a new steel beam will be added to support the roof. Adjacent existing columns + footings will be strengthened to account for the extra loads that come from the column been removed.

Additions

The proposed additions include an administration office, special education and behavioral center, and community space for Judy center. These new additions will be constructed as follows:

- Structural Framing Systems

  These additions will be a steel framed structure with load-bearing masonry walls or load-bearing metal stud walls.

- Foundations

  These additions will use continuous footings for interior + exterior walls.

- First Floor

  The first-floor slab will be a 5” slab on grade with welded wire fabric.

- Roof Framing

  The roof construction of these additions will consist of a wide rib galvanized 1 ½” 22 GA. metal roof deck supported by open web steel joists and steel beams.

SOUTHERN 7-12 HIGH SCHOOL

STRUCTURAL DESIGN

The following section outlines the structural systems and components proposed for the new Southern 7th-12th Elementary School. All new construction will be designed and built using conventional engineering and construction practices.

OVERVIEW

Southern Garrett High School was built in 1952.The building has received multiple additions along with some renovations. The most recent renovations are adding a security vestibule and new front façade. Southern Garrett High School currently has 177,000 square feet.

PROPOSED RENOVATIONS

Steel lintels will be provided for all new openings at the existing masonry walls.

1. First Floor Renovations

The proposed renovations include the classrooms for 8th grade general education, 8th grade science labs, 8th grade technology education, special education, and locker rooms for 7th + 8th grade students inside the gymnasium.The lightweight CMU or metal stud walls will be used as the partition walls. The operable partitions will be hung from the existing joists/ beams above and strengthen the members as required.

2. Second Floor Renovations

The proposed renovations include the classrooms for 7th grade general education, 7th + 8th grade labs, 7th grade art, 7th grade music, AP office, and a toilet. The partition walls will be built with lightweight CMU or metal studs too. The operable partitions will be hung from the roof structures and strengthen the members as required.

STRUCTURAL SYSTEMS

Structural Framing Systems

The building is a 2-story building that was built with a combination of steel joists/beams, load-bearing masonry walls, and masonry piers.

Foundations

There is currently no information about the foundations.

First Floor

The first-floor slab is concrete slab on grade.The interior walls and exterior walls are constructed by masonry walls. Some of the masonry walls both at interior + exterior are used as load-bearing walls. Masonry piers are used to support steel beams.

Second Floor

The second floor consists of concrete slab on metal deck supported by open web steel joist and steel beams. Some of the masonry walls are used as joist bearing walls and the steel beams are supported by masonry piers.

Roof Framing

The roof construction consists of a metal roof deck supported by open web steel joists and steel beams. Load-bearing masonry walls and masonry piers are used to support steel joists and steel beams.

SOUTHERN PK-6 ELEMENTARY SCHOOL

HVAC | PLUMBING | ELECTRICAL | IT + SEC SYSTEMS | FIRE PROTECTION

HVAC SYSTEMS

Design Basis

The heating, ventilating and air conditioning systems will be designed based on the criteria set forth in the code of Maryland, the International Mechanical Code (IMC) and the International Energy Conservation Code (IECC).

The building is currently served by a central boiler and chiller plant. Indoor air handlers incorporating hot water and chilled water coils provide conditioned air to the spaces. Reheat coils in the ductwork provide individual space temperature control. The central plant currently serves the adjacent elementary school. The connections to the elementary school will be removed from service.

The central plant equipment (chiller, cooling tower, boilers, and associated pumps) is in good condition and will remain. All other HVAC equipment, materials, and components will be removed.

The building classrooms and similar areas will be heated and cooled through central, variable air volume (VAV) systems. A series fan powered VAV box with hot water reheat coil will serve each area to allow for individual temperature control of the space or group of spaces. Roof mounted, chilled water, VAV air handling units will supply air to each VAV box. Each will incorporate heating and chilled water coils. Ventilation air will be introduced at the air handler. A ceiling return plenum will be utilized.

The Gymnasiums and Cafeteria will each be heated and cooled with a rooftop single zone, chilled water and hot water air handler. Each unit will deliver the required amount of ventilation air to each space and will be provided with CO2 sensors for demand-based ventilation. The cafeteria unit will provide a portion of the make-up air required by the existing kitchen exhaust systems.

The Kitchen will be heated and spot-cooled with a rooftop single zone, chilled water and hot water air handler. It will deliver the required amount of ventilation air to each space.

The administration area will be heated and cooled with a rooftop, chilled water, VAV air handling unit. A shutoff type or fan powered VAV box with hot water reheat coils will serve each space or group of spaces to provide temperature control. Ventilation air will be introduced through the rooftop unit. Hot water baseboard heat will be considered as supplemental heat in areas with external exposure.

Propylene glycol will be utilized in the chilled water and heating water hydronic systems.

Toilet rooms will be heated using electric wall heaters. Mechanical exhaust will be provided for the toilet rooms, storage rooms, and utility rooms.

Individual DX cooling will be provided in the server rooms.

HVAC Equipment

The rooftop air handling units will be complete with chilled water cooling coil, hot water heating coil, drain pan, supply air fan, exhaust (or return) fan as required, filters, controls and wiring enclosed in a weather resistant steel enclosure suitable for roof mounting. The units will incorporate energy recovery wheels. A variable speed drive will be utilized on the supply and exhaust fans to optimize fan energy consumption.

Fan powered VAV boxes will be single duct, series fan type, pressure independent, variable volume units operating in conjunction with a hot water heating coil and unit mounted fan.

The shutoff variable volume heating boxes will be single duct type, pressure independent, variable volume units operating in conjunction with a hot water coil and primary air damper. The casing will be internally insulated with casing of welded steel construction.

Heating water and chilled water piping will be Type L hard drawn copper tubing or standard weight black steel and will be insulated with 1-1/2" thick fiberglass insulation. Grooved piping will be allowed. To the greatest extent possible, runouts to fan powered VAV boxes and shutoff VAV boxes will be provided with service valves located in the corridors.

Ductwork will be galvanized steel fabricated and sealed in accordance with SMACNA Standards, latest edition. Supply ductwork will be insulated with 1-1/2" thick fiberglass duct wrap and will be completely vapor sealed. Supply ductwork downstream of the VAV boxes and other locations as necessary for acoustics will include 1" thick internal acoustic liner. Exhaust and return ductwork will be un-insulated.

Exhaust fans will be rooftop or inline power exhaust fans, belt or direct-driven with aluminum, centrifugal blades connected to motor enclosed in an aluminum housing. Fans will be provided with motor operated dampers and prefabricated roof curbs (if applicable).

Diffusers, registers and grilles will be commercial type constructed of aluminum or steel. Ceiling diffusers will be square, louver faced, lay-in mounted type. Registers and grilles will be double deflection type with vanes spaced on maximum 1/3" centers.

Controls will provide safe, automatic operation of all systems through a direct digital control/energy management system. The system will allow control of such items as space humidity, exhaust fan interlocks, time of day functions and safety devices. The basis of design and allowable controls manufacturers will be coordinated and determined as the design progresses.

PLUMBING SYSTEMS

Design Basis

The sanitary, storm and domestic water systems will be designed based on the criteria set forth in the in the code of Maryland, the ICC International Plumbing Code and ICC A117.1-2009.

Sanitary Waste and Vent System

Gravity sanitary waste and vent system shall serve all plumbing fixtures, drains and equipment as required. Sanitary waste piping below the floor shall be schedule 40 DWV PVC in accordance with ASTM D2665 and hub and spigot cast iron in accordance with ASTM A74 where equipment discharge temperatures exceed 140°F. Sanitary waste piping above the floor shall be "no-hub" cast iron in accordance with ASTM F888 or CISPI 301. All sanitary sewer piping shall be extended to five (5) feet beyond the building wall where the Site Contractor shall connect the piping.

Storm Sewer System

Gravity storm sewer system shall serve all interior rain conductors from roof drains and outside rainwater conductors. Downspout boots shall be rectangular pattern cast iron. Storm piping below the floor shall be schedule 40 DWV PVC in accordance with ASTM D2665. Interior storm piping above the floor shall be "no-hub" cast iron in accordance with ASTM F888 or CISPI 301. All roof drains will be specified as adjustable height rim type with cast iron dome. All roof drains and interior rain conductors will be insulated with ½" thick insulation, minimum. All storm sewer piping shall be extended to five (5) feet beyond the building wall where the Site Contractor shall connect the piping.

Domestic Water Systems

A backflow preventer shall be installed on water service inside the building. Cold and hot water shall be connected to fixtures and equipment from the building distribution systems. Domestic water piping shall be type "K" copper underground and type "L" copper above slab and inside the building. Domestic hot water shall be provided by existing gas–fired storage water heaters. Domestic hot water shall be re-circulated and balanced as required to maintain supply temperature within 5-degree-F. Hot water from the main distribution system shall be heated to 140°F and tempered to 120°F. Public hand washing fixtures will be provided with ASSE 1070 thermostatic mixing valves as required. All domestic water piping above ground will be insulated with 1" thick fiberglass insulation. Freeze-proof exterior wall hydrants shall be provided on exterior walls around the building, a roof hydrant will be provided for wash down of roof and equipment. The existing water service shall be extended from which point it is connected to public water main and will be regulated to maximum 80 PSI.

Plumbing Fixtures

Commercial grade fixtures will be provided throughout with fixtures as required for the physically handicapped persons in accordance with ICC A117.1-2009 “Accessible and Usable Buildings and Facilities”. Floor drains and hose bibs will be provided in all public toilets. Lavatories will be wall mounted and have grid drains. All existing mop sinks shall be replaced with new fixtures.

ELECTRICAL SYSTEMS

Design Basis

The Electrical Systems for Southern Middle School will be designed based on the criteria set forth in the Code Maryland, the Maryland Department of General Services Procedure Manual for Professional Services, International Building Code (IBC), International Energy Conservation Code (IECC), the National Electric Code (NEC), and the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Electrical Service

The existing building currently contains one (1) 480V, 3 phase, 3,000A electric service, The electric service enters the building underground from a pad mounted transformer and terminates in a main switchboard in the main original mechanical/electrical room. The main switchboard contains a single main 3,000 amp bolted pressure switch, and multiple breakers in a distribution section serving panelboards and electrical equipment throughout the building. This existing service and all electrical gear and associated wiring will be replaced with one (1) new 2000A-3ø-480V electric service fed underground from a new pad mounted transformer. The main switchboard will be provided with a main breaker section complete with ground fault protection module, phase loss protection module and surge protection. The switchboard will be used to serve lighting and large mechanical loads throughout the building as well as step-down transformers for distribution to receptacles, small mechanical loads, and other miscellaneous loads throughout. Electrical distribution gear will be specified around Square D, with equal manufacturers being Siemens, Cutler-Hammer and General Electric.

The main service gear and each distribution panelboard on the secondary side of a transformer will be protected by means of a surge protective device (SPD). A building grounding electrode system (BGES) will be provided with all grounding and bonding installed and tested as required by the National Electrical Code (NEC) 2017.

The existing indoor diesel emergency generation system with day tank will be removed and an exterior diesel generator and day tank will be provided with multiple transfer switches for life safety loads and option stand by loads. The size of the 480V-3ø generator has not been determined.

Motors

All motors will be protected by means of a separate combination fusible disconnect motor controller. Motors larger than 1HP will be served at 480 or 208 volts, 3ø. Motors 1HP and under will be served at 277 or 120 volts. Motors will be served at typical voltage and phase configurations to allow for replacement equipment to be located quickly.

Lighting

Relighting within the entire facility will be accomplished utilizing energy efficient LED fixtures. These fixtures will consist of recessed lay-in type with volumetric housing, recessed downlights, linear pendants, industrial style fixtures (in mechanical and storage spaces), high bay LED fixtures in the gymnasium, and exterior wall mounted fixtures. Lighting control will be via low-voltage devices utilizing 0-10V dimming capabilities. Occupancy (vacancy) sensors, vacancy sensors will be installed in each space as required by the IECC. Interior photocells will be installed in daylighting zones as defined by the IECC, which will control and automatically dim lights in the associated daylighting zone in response to the available daylight in the space. Exterior building mounted and canopy lighting will be shielded type, full cutoff type. Exit signs and emergency battery drivers will be provided as required by code for egress lighting inside the facility and at exit doors.

Lighting levels will be in accordance with IES recommended levels of illumination:

Space	Foot-candles
Classrooms	50 - 55
Offices	40 - 45
Workrooms	50
Media Center type spaces	60
Mechanical/Electrical	35 – 50
Kitchen	70
Cafeteria	35 – 45
Gym type spaces	50 - 60
Corridors	25
Toilets	25
Exterior Entrances	5
Building Surroundings	1

Lighting controls will be provided in accordance with the IECC. All enclosed spaces will be provided with local switches. Classrooms and other teaching spaces will be complete with multi-scene low-voltage controllers with built-in dimming capabilities. Offices and similar spaces will contain multi-level switches with integral dimming capability. Additionally, vacancy sensors will be installed in all spaces as required by the IECC to override switches and turn off lights in unoccupied areas. Vacancy sensors will generally be of the dual technology infrared and ultrasonic type. Exterior lighting, building mounted and canopy, will be controlled via single photocell and timeclock(s). Exterior area (pole) mounted lighting will be addressed as needed.

Stage lighting system will be provide with LED fixtures and DMX controls.

Wiring Methods

All wiring methods will conform to the National Electric Code.

Wiring

Branch circuit wiring for power and lighting will generally be NEC type “THWN”, with type “THHN” being used in wiring space inside LED fixtures and for connections to recessed fixtures. All branch circuit and feeder conductors #1 AWG and smaller will be copper. All feeders #1/0 AWG and larger will be either copper or aluminum. Wiring will be installed in heavy wall rigid conduit utilizing threaded fittings or electric metallic tubing utilizing compression-type fittings. Minimum size conduits will be 3/4”, with larger sizes as required by the National Electric Code. Schedule 40 PVC conduit will be utilized only under the floor slab for underground service entrance conduits and exterior branch circuits.

Grounding System

Equipment grounding of all conduits, motor frames, metal castings, receptacles, switches, etc., shall be provided as required by the latest publication of the NFPA-70. Grounding electrodes and conductors for the main electric service and all separately derived services shall be provided as required by the NFPA-70. An isolated grounding system will be installed for the computer network and other electronic equipment loads. Communication / Data grounding system will be provided.

Receptacles

Duplex convenience receptacles shall be provided as required. Receptacles shall be 3-wire grounding type 20A at 125 volts, NEMA 5-20R. As required by the NEC, receptacles throughout the building will be tamper-proof type. All receptacles within 6’ of a sink or

water source will be ground-fault circuit interrupter type, as well as all 120V, 20A receptacles in the kitchen (as required by the NEC). Charging type receptacles will be provided as coordinated with the Owner.

Sound System

The Gymnasium, Cafeteria and music rooms will have a basic sound system installed for playback of music and special programs. This sound system will consist of a soundboard, amplifiers, speakers, microphones, etc., as required for a complete system. Each space mentioned above will have a dedicated set of speakers installed. The systems will be muted for intercom announcements or emergency calls.

AV System

Conduit, boxes and power will be installed in all teaching spaces to allow for wall-mounted, ultra-short throw projectors or ceiling mounted projectors. Receptacles and empty raceways will be provided as required for power and low-voltage cabling and connections. The low-voltage cabling raceways will be extended to the teacher's location in each teaching space or as otherwise designated by the Owner. These raceways and power provisions will be per diagrams provided by the Owner during design.

Data Network Systems

The Data Network system will consist of Category 6 or 6A cabling and single mode fiber for connectivity between rooms and data closet. Connections for various network devices (Access Points, computer, projectors, LED TV, phone system, CCTV system and other equipment. This system will be coordinated with the Owner in greater detail during the design phase.

Public Address System

The replacement Public Address system will consists an IP base room paging system, room call-in switches, recessed ceiling speakers, music on demand type player, and a microphone. Call in over any phone or Call-in switches and speakers will be located in each occupied space. This system will be coordinated in greater detail with the Owner during the design phase.

Clock System

A new wireless master clock and time control system will be installed with synchronous clock devices located in classrooms, office, conference rooms, corridors and common types of spaces. The current clock system is a Primex Clock system with battery synchronous.

PoE CCTV System

A new CCTV System (PoE) will be provided with data network drop and PoE switches with physical servers, or office storage or cloud base storage. This system will be coordinated with the Owner in greater detail during the design phase.

Fire Alarm System

The Fire Alarm System will be a new Automatic/Voice/Manual Microprocessor based ADA compliant system with all required pull stations, audible/visual alarms, visual (strobe) alarms, smoke detectors, duct detectors, etc. as required by code. A voice evacuation system will be provided for this project. The current system in the building is an Edwards System 3 Voice system.

Security System

The Security System will consist of a control panel, remote entry keypads, and motion detectors at entrances, for a complete system. This system will be coordinated with the Owner in greater detail during the design phase.

An Aiphone entry system will be provided for entry into the facility and will interface with the electrified door hardware. The Aiphone system will be audio-type only.

Access control and Intrusion system will be coordinated with the Owner in greater detail during the design phase.

Distributive Antenna System

A DAS system will be provided and be coordinated with police, fire, rescue and first responder radio system for inter building communications.

The following systems are not anticipated for use on this project and have not been included herein: Lightning Protection System and Nurse Call System (clinic).

FIRE PROTECTION

Design Basis

The fire protection system shall be designed based on the criteria set forth in the in the code of Maryland, the International Fire Code, and the National Fire Protection Association Standards.

SOUTHERN PK-6 ELEMENTARY SCHOOL

FOOD SERVICE DESIGN

The food service areas shall remain as currently located for purposes of fiscal responsibility. The kitchen equipment is currently outdated and requires replacement. As part of the proposed design the food service equipment will be replaced in kind with state of the art and energy efficient equipment.

A 1,000 sq ft addition is planned to accommodate the kitchen and service out buildings currently located on site. The current location of these out buildings requires the food service staff to leave the building through harsh Garrett County elements. The outbuildings also create challenges for the site design and circulation. The foundations on the outbuildings are crumbling and are recommended to be removed from the site. The freezer addition will accommodate the required needs of the additional food storage and provide a safe and secure situation for the food service staff.

The kitchen will include the following functional work spaces:

- Receiving Area
- Manager's Office
- Dry Food Storage
- Walk-in Cooler/Freezer
- Main Food Prep/Cooking Area
- Serving Area
- Staff Toilet/Locker
- Soap Storage/Laundry/Janitor's Closet
- Pot + Pan/Dishwashing Washing Area

SUSTAINABILITY NARRATIVE

The new Broad Ford Elementary School will incorporate green building principles that will result in benefits to the students, employees and to the school system. The new school is being designed with the goal of achieving LEED for Schools v.4 (2014) certification at the Silver level. A preliminary scorecard is attached at the end of this narrative for reference. This scorecard will be refined as the design process proceeds.

LEED OVERVIEW

The LEED Green Building Rating System is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. LEED emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources. LEED for Schools is a measurement system designed for rating the new construction or major renovation of elementary and secondary schools. LEED for Schools addresses classroom acoustics, master planning, and environmental site assessment.
To achieve LEED for Schools v.4 Silver certification, the project must achieve fifty credit points. Based on prior experience with the USGBC and to allow for any unforeseen factors that could cause a point not to be achieved, we recommend an initial target of fifty-five credit points at this early phase of design. The following descriptions summarize the eight LEED categories, the prerequisites required and the credit points that our team believes can be achieved for the new School, with recommendations for additional points to be considered.

INTEGRATIVE PROCESS

1 possible point – no credits anticipated

LEED encourages early analysis of building systems to develop a comprehensive approach in the pre-design and early design phases to developing a sustainable building. This credit rewards pre-design effort including:

- Gathering information and feedback on achieving performance targets
- Taking advantage of opportunities that appear as early as possible.
- Preparing an Owner's Project Requirements document and revising it upon LEED analysis

LOCATION AND TRANSPORTATION

8 credits – 15 possible points – anticipate 3 points, examine credits worth 3 more

This category encourages compact development, alternate transportation, and walking. It addresses features of the surrounding community, and rewards projects that avoid development on inappropriate sites.

Assuming 3 points for: Sensitive Land Protection, Reduced Parking Footprint, and Green Vehicles.

SUSTAINABLE SITES

2 prerequisites/8 credits – 12 possible points – anticipate 5 points, examine credits worth 3 more

LEED minimizes the impact of placing a building on a site, with an eye to land use compatibility and biodiversity. LEED minimizes effects on neighboring sites of light, runoff, pollution, etc. In LEED for Schools v.4, there are twelve possible Sustainable Site credit points a project can earn towards certification, as well as two prerequisites intended to control erosion during construction and confirm the site is contamination free. The preliminary analysis suggests that five points will be captured as well as the prerequisites. The Design Team's site assessment efforts will be summarized. The project will minimize light pollution. The building will allow joint use of the facilities by the community. In addition, the design will provide open space, manage rainwater on site, protect habitat, and include materials that minimize the heat island effect. LEED credits related to these issues will be pursued as appropriate.

WATER EFFICIENCY

3 prerequisites/4 credits – 12 possible points – anticipate 5 points

In LEED for Schools v.4 there are twelve possible Water Efficiency credit points a project can earn towards certification. The design team will capture two points for developing a site design that does not require a permanent irrigation system. Furthermore, the design team recommends incorporating high-efficiency sinks, 1-pint per flush urinals, and high efficiency or dual-flush toilets to reduce potable water needs. Selecting high-efficiency fixtures may capture additional LEED credits. Water metering subsystems will capture another two points.

ENERGY AND ATMOSPHERE

4 prerequisites/7 credits – 31 possible points – anticipate 17, examine credits worth 4 more

LEED ensures that buildings systems function as intended, establishes energy efficiency and optimization for the building envelope and systems, encourages use of renewable and distributed energy systems, and supports early compliance with the Montreal Protocol for ozone protection. LEED for Schools v.4 includes thirty-one possible Energy and Atmosphere credit points a project can earn towards certification, in addition to four prerequisites. The preliminary analysis suggests that up to seventeen points may be captured as well as the prerequisites. and an enhanced commissioning process will ensure proper installation. Major energy uses will be sub-metered. Additional points are available for achieving even greater energy efficiency, and for participating in a demand response program to help reduce peak loads.

MATERIALS AND RESOURCES

2 prerequisites /5 credits – 13 possible points - anticipate 4

LEED reduces waste from construction and building occupants and redirects recyclable material back to the manufacturing process. It extends the life cycle of existing building stock, in part by extending the life cycle of targeted building materials. It increases use of building products with recycled content material and of locally manufactured building products. It reduces depletion of finite raw materials and encourages environmentally responsible forest management.

In LEED for Schools v.4, there are thirteen possible Materials and Resources credit points a project can earn towards certification, as well as two prerequisites intended to provide adequate space for building occupant recycling and a plan for a construction waste management. Based upon the preliminary analysis, the project team may capture up to two points by selecting materials that meet current environmental standards, and two more by Construction and Demolition Waste Management.

INDOOR ENVIRONMENTAL QUALITY

3 prerequisites /9 credits – 16 possible points – anticipate 7, examine credits worth 6 more

LEED promotes indoor air quality (IAQ) and prevents exposure to environmental tobacco smoke (ETS). It provides high level of individual occupant control of thermal, ventilation, and lighting systems. LEED promotes a connection between indoor spaces and the outdoor environment through the introduction of sunlight and views into the occupied areas of the building.

In LEED for Schools v.4, there are sixteen possible Indoor Environmental Quality credit points a project can earn towards certification, as well as three prerequisites that prohibit smoking and set the minimum standard for indoor air quality and acoustics. The current analysis suggests that the project may capture seven to fifteen points. The architect will select carpets, flooring, paints, and other interior products that contain low-emitting materials. Classrooms are designed to maximize occupant environmental control. Indoor air quality testing will be done prior to occupancy. Depending upon the Owner's direction and the final design, the project may capture points for daylight and for quality views.

INNOVATION IN DESIGN

6 possible – anticipate 5, examine credit for 1 more point

The purpose of this LEED category is to recognize projects for innovative building features and sustainable building knowledge. Innovation credits may capture up to six points to a project's total for measures that go above and beyond LEED criteria.

Under LEED for Schools v.4, the project team will identify five potential innovation credits to pursue. The Owner's policies for green cleaning and for integrated pest management may qualify for an innovation credit. The design team will specify low mercury lighting. A post occupancy comfort survey will receive one point. Furthermore, a credit will be captured by including a LEED accredited professional on the design team. LEED Pilot Credits will be considered to earn an additional innovation point.

REGIONAL PRIORITY

This LEED category provides an incentive to achieve credits that are of priority for the project's geographical region. A project may capture up to four points for achieving credits that are designated of particular importance for the region. The project team has identified two of the designated regional priority credits that may be achievable by the project: the location credit for sensitive land protection and the credit for indoor water use reduction. Two additional credits, if confirmed as feasible, could earn two more points for regional priority.

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name:
Date:

Y	?	N			
			Credit	Integrative Process	1

Y	?	N		Location and Transportation	16
			Credit	LEED for Neighborhood Development Location	16
			Credit	Sensitive Land Protection	1
			Credit	High Priority Site	2
			Credit	Surrounding Density and Diverse Uses	5
			Credit	Access to Quality Transit	5
			Credit	Bicycle Facilities	1
			Credit	Reduced Parking Footprint	1
			Credit	Green Vehicles	1

Y	?	N		Sustainable Sites	10
Y			Prereq	Construction Activity Pollution Prevention	Required
			Credit	Site Assessment	1
			Credit	Site Development - Protect or Restore Habitat	2
			Credit	Open Space	1
			Credit	Rainwater Management	3
			Credit	Heat Island Reduction	2
			Credit	Light Pollution Reduction	1

Y	?	N		Water Efficiency	11
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
			Credit	Outdoor Water Use Reduction	2
			Credit	Indoor Water Use Reduction	6
			Credit	Cooling Tower Water Use	2
			Credit	Water Metering	1

Y	?	N		Energy and Atmosphere	33
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
			Credit	Enhanced Commissioning	6
			Credit	Optimize Energy Performance	18
			Credit	Advanced Energy Metering	1
			Credit	Demand Response	2
			Credit	Renewable Energy Production	3
			Credit	Enhanced Refrigerant Management	1
			Credit	Green Power and Carbon Offsets	2

Y	?	N		Materials and Resources	13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
			Credit	Building Life-Cycle Impact Reduction	5
			Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
			Credit	Building Product Disclosure and Optimization - Material Ingredients	2
			Credit	Construction and Demolition Waste Management	2

Y	?	N		Indoor Environmental Quality	16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Low-Emitting Materials	3
			Credit	Construction Indoor Air Quality Management Plan	1
			Credit	Indoor Air Quality Assessment	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
			Credit	Daylight	3
			Credit	Quality Views	1
			Credit	Acoustic Performance	1

Y	?	N		Innovation	6
			Credit	Innovation	5
			Credit	LEED Accredited Professional	1

Y	?	N		Regional Priority	4
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1

Y	?	N		TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

LEED scorecard

SOUTHERN PK-6 ELEMENTARY SCHOOL

LANDSCAPE DESIGN

There are 4 identified outdoor learning opportunities for the proposed site plan in addition to the outdoor learning curriculum integrated into Broad Ford lake.

A proposed fenced in outdoor play area (L1) shall provide a safe a secure outdoor environment for grades PK-2, Headstart, and Special Ed. This enclosed courtyard shall have outdoor play equipment for the desired ages, seating areas for students and faculty, and opportunities for outdoor learning. The courtyard increases the amount of classrooms with daylight and also serves to provide borrowed light into the media center.

A proposed outdoor amphitheater (L2) can be easily constructed and nestled into the topography to the north for use by all ages.

A proposed outdoor stage (L3) can function during school hours as a platform for performances and rehearsals while gymnasium activities are occurring on the opposite side. It can also serve community functions, such as performances and outdoor movie nights.

A proposed wetland classroom (L4) shall serve as both a storm water management necessity and a learning tool.

PRECEDENT CONCEPTS

L1 - Precedent Concept

L2 - Precedent Concept

L3 - Precedent Concept

L4 - Precedent Concept

PRECEDENT CONCEPTS (cont'd)

Broad Ford ES MODERNIZATION

Proposed Site Plan

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summary of spaces - PK-6

		Space	Space Quantity	SF Req.	Total SF	SD phase room area	Number of Teaching Stations	# of students per teaching station	Total # of students
1.0	**Teaching and Learning**								
	Classrooms								
		Head Start Classroom	2	1000	**2000**	**1900**	2	18	36
		Toilet Room	2	50	**100**	**100**			
		Head Start/Pre-Kindergarten	4	1000	**4000**	**4000**	4	20	80
		Toilet Room	4	50	**200**	**200**			
		Pre-Kindergarten	0	1000	**0**	**0**	0	20	0
		Toilet Room	0	50	**0**	**0**			
		Kindergarten	4	1000	**4000**	**3994**	4	25	100
		Toilet Room	4	50	**200**	**200**			
		Grade 1 Classroom	4	800	**3200**	**2981**	4	25	100
		Grade 2 Classroom	4	800	**3200**	**3008**	4	25	100
		Grade 3 Classroom	4	800	**3200**	**3000**	4	25	100
		Grade 4 Classroom	4	800	**3200**	**3000**	4	25	100
		Grade 5 Classroom	4	800	**3200**	**3192**	4	25	100
		Grade 6 Classroom	4	800	**3200**	**3192**	4	25	100
	Shared Spaces								
		Teacher Planning and Grade Level Storage	2	225	**450**	**422**			
		General Educational Storage - Primary	1	150	**150**	**500**			
		General Educational Storage - Intermediate	1	150	**150**	**172**			
		Team Collaborative Learning Area	2	400	**800**	**850**			
		Subtotal			**31,250**	**30,711**	28		816
2.0	**Sciences**								
	Classrooms								
		Science Classroom	2	700	**1400**	**1952**	2	25	50
	Shared Spaces								
		STEM Lab	1	1100	**1100**	**1100**			
		Subtotal			**2,500**	**3,052**	2		50
3.0	**Special Education**								
	Support Suite								
		Special Educator Offices	4	100	**400**	**320**			
		OT + PT + Speech Room	1	300	**300**	**273**			
		Sensory Room	1	400	**400**	**327**			
		Storage	1	50	**50**	**56**			
		Large Conference Room (shared)	1	150	**150**	**150**			
	Inclusion Classrooms								
		Resource Classrooms	2	550	**1100**	**820**	2	10	20
	ALO								
		Classrooms	2	800	**1600**	**1600**	1	6	6
		Life Skills Lab	1	800	**800**	**800**	1	6	6
	STARS								
		STARS Support Space (6)	1	250	**250**	**160**			
		Classrooms	2	550	**1100**	**1100**	2	4	8
		Toilet Room with Changing Area	2	100	**200**	**210**			
		Sensory Room	1	200	**200**	**270**			
		Subtotal			**6,550**	**6,086**	6		40
4.0	**Related Arts Education**								
	Art								
		Visual Arts Classroom	1	1000	**1000**	**1000**			
		Makerspace/Art Classroom	1	1000	**1000**	**1000**			
		Art Storage	1	200	**200**	**200**			
		Kiln Room	1	80	**80**	**50**			
	Music								
		Instrumental + Vocal Music	1	875	**875**	**875**			
		Music + Movement	1	875	**875**	**875**			
		Instrument Storage	1	200	**200**	**109**			
		Office + Music Storage	1	150	**150**	**106**			
	Technology								
		Technology Education Lab	1	900	**900**	**1210**			
		Subtotal			**5,280**	**5,425**			

		Space	Space Quantity	SF Req.	Total SF	SD phase room area	Number of Teaching Stations	# of students per teaching station	Total # of students
5.0	**Media Center**								
	Instruction								
		Primary Group Instruction (Storytelling)	1	700	**700**	**700**			
		Group Instruction	1	700	**700**	**700**			
		Collaboration + Soft Seating	2	200	**400**	**400**			
		Collection + Stacks	1	800	**800**	**800**			
			1						
	Office								
		Media Specialist Office	1	150	**150**	**156**			
		Circulation Desk	1	50	**50**	**187**			
		Subtotal			**2,800**	**2,943**			
6.0	**Physical Education**								
	Gymnasium								
		Main Gym	1	6,825	**6,825**	**6825**			
		Auxillary Gym	1	1,850	**1,850**	**1848**			
		Lockers	2	400	**800**	**800**			
		PE - Indoor Storage Room	1	400	**400**	**360**			
		PE - Outdoor Storage Room	1	300	**300**	**280**			
		PE Instructor Office	1	120	**120**	**120**			
		Outdoor Toilet Rooms	0	150	**0**	**-**			
	Performance								
		Platform	1	1,000	**1000**	**1118**			
		Platform Storage	1	100	**100**	**164**			
		Subtotal			**11,395**	**11,515**			
7.0	**Food Services**								
	Dining								
		Dining Area	1	4,585	**4585**	**4585**			
		General Furniture Storage	1	300	**300**	**424**			
	Kitchen					**1,630**			
		Staff Office	1	100	**100**				
		Personnel Area	1	75	**75**				
		Serving Lines	2	200	**400**				
		Food Preparation Area	1	500	**500**				
		Dry Storage	1	250	**250**				
		Non-Food Storage	1	100	**100**				
		Walk In Cooler	1	100	**100**				
		Walk In Freezer	1	100	**100**	**1000**			
		Pot Washing	1	100	**100**				
		Inside Receiving Area	1	80	**80**				
		Subtotal			**6,690**	**7,639**			
9.0	**Community Area**								
	Judy Center		0	1700	**-**	1,705			
		Toilet	0	0	**-**	48			
		Storage Closet	0	0	**-**	104			
		Subtotal			**0**	**1,857**			

summary of spaces - PK-6

Space	Space Quantity	SF Req.	Total SF	SD phase room area	Number of Teaching Stations	# of students per teaching station	Total # of students
Administrative Suite							
Reception + Waiting Area	1	200	**200**	**200**			
Administrative Assistant Area	2	100	**200**	**200**			
Principal's Office	1	200	**200**	**200**			
Principal's Secretary Office	1	100	**100**	**100**			
Assistant Principal's Office	2	150	**300**	**300**			
Records Room	1	100	**100**	**100**			
Conference	1	200	**200**	**200**			
Office Workroom / Mailboxes	1	100	**100**	**100**			
Storage	1	60	**60**	**60**			
Staff Toilets	2	50	**100**	**100**			
SRO	1	50	**50**	**50**			
Secure Vestibule	1	150	**150**	**150**			
Subtotal			**1,760**	**1,760**			
Health Services Suite							
Waiting Area	1	100	**100**	**100**			
Office-Treatment Room	1	180	**180**	**180**			
Exam-Isolation Room	1	100	**100**	**100**			
Resting Area	1	250	**250**	**250**			
Toilet - ADA	2	50	**100**	**100**			
Storage	1	100	**100**	**100**			
Personal Care Suite - shower, W/D	1	180	**180**	**180**			
Subtotal			**1,010**	**1,010**			
Guidance Suite							
Waiting/Administrative Area	1	100	**100**	**100**			
Large Conference Room	0	150	**0**				
Counselor Office	3	100	**300**	**300**			
School Psychologist	1	100	**100**	**100**			
Social Worker	1	100	**100**	**100**			
Behavior Coach	1	100	**100**	**100**			
School-based Therapist	1	100	**100**	**100**			
Itinerant Offices	2	100	**200**	**200**			
Storage	1	30	**30**	**30**			
Subtotal			**1,030**	**1,030**			
Instructional Support							
Faculty Dining + Lounge	1	400	**400**	**400**			
Faculty Restroom	2	50	**100**	**300**			
Privacy Room	2	50	**100**	**150**			
Teacher Planning + Workroom	2	200	**400**	**625**			
Subtotal			**1,000**	**1,475**			

		Space	Space Quantity	SF Req.	Total SF	SD phase room area	Number of Teaching Stations	# of students per teaching station	Total # of students
8.0	**Building Services**								
	Grounds and Maintenance Areas								
		Outside Storage (Grounds Maintenance)	1	200	**200**	**200**			
	Custodial Support Areas								
		Custodial Equipment Closet	1	100	**100**	**100**			
		Building Services Office	1	100	**100**	**100**			
		Personnel Area	1	75	**75**	**75**			
	Building Support Receiving								
		Receiving Area	1	100	**100**	**100**			
		General Storage Room	1	100	**100**	**100**			
	Network Support								
		Main Distribution Frame Room	1	200	**200**	**200**			
		Intermediate Distribution Room	1	90	**90**	**90**			
	MEP Support								
		Mechanical Rooms	1	400	**400**	**400**			
		Fire Protection Sprinkler Service Room	1	150	**150**	**150**			
		Electrical Rooms	2	200	**400**	**400**			
		Subtotal			**1,915**	**1,915**			
TOTAL PROGRAM REQUIREMENTS (NET SQUARE FEET)					**73,180**	**76,418**			
		Grossing Factor NSF x 0.43		43%	31,467				
TOTAL GROSS SQUARE FEET (Facility without Community Use Space)									
		Building Efficiency (NSF x 1.43 = 70%)			**104,647**				
	Community Use Space								
		Outdoor Toilet Rooms	2	200	**400**	**400**			
		Judy Center	1	1,700	**1700**	**1857**			
		Subtotal			**2,100**	**2,257**			
TOTAL PROGRAM REQUIREMENTS (NET SQUARE FEET)									
		Grossing Factor NSF x 0.43		43%	2,100				
TOTAL GROSS SQUARE FEET (Community Use Space)					3,003				
TOTAL GROSS SQUARE FEET (Facility with Community Use Space)					**107,650**	**101,820**			

summary of spaces - 7-12

		Space	Space Quantity	SF Req.	Total SF	SD phase room area	Number of Teaching Stations	# of students per teaching station	Total # of students
1.0	**Teaching and Learning**								
	Classrooms								
		Grade 7 Classroom	6	758	**4548**	**4548**	6	25	150
		Grade 8 Classroom	6	840	**5040**	**5040**	6	25	150
	Shared Spaces								
		Team Collaborative Learning Area	2	445	**890**	**890**			
		Subtotal			**10,478**	**10,478**	12		300
2.0	**Sciences**								
	Classrooms								
		Science Classroom	4	758	**3032**	**3032**	4	25	100
	Shared Spaces								
		Tech Ed Lab/STEM	1	1200	**1200**	**1200**			
		Subtotal			**4,232**	**4,232**	4		100
3.0	**Special Education**								
	Inclusion Classrooms								
		Resource Classrooms	4	450	**1800**	**1800**	4	10	40
	ALO								
		Suite	2	1149	**2298**	**2298**	2	6	12
	STARS								
		Suite	2	873.5	**1747**	**1747**	2	4	8
		Subtotal			**5,845**	**5,845**	8		60
4.0	**Related Arts Education**								
	Art								
		Fine Arts Lab	1	820	**820**	**820**			
	Technology								
		Computer Science	1	820	**820**	**820**			
		Subtotal			**1,640**	**1,640**			
	Administrative Suite								
		De-centralized AP Office	1	283	**283**	**283**			
		SRO	1	290	**290**	**290**			
		Subtotal			**573**	**573**			
	Health Services Suite								
		Health Services Suite	1	680	**680**	**680**			
		Subtotal			**680**	**680**			
TOTAL GROSS SQUARE FEET						**23,448**	**24**	**0**	**460**

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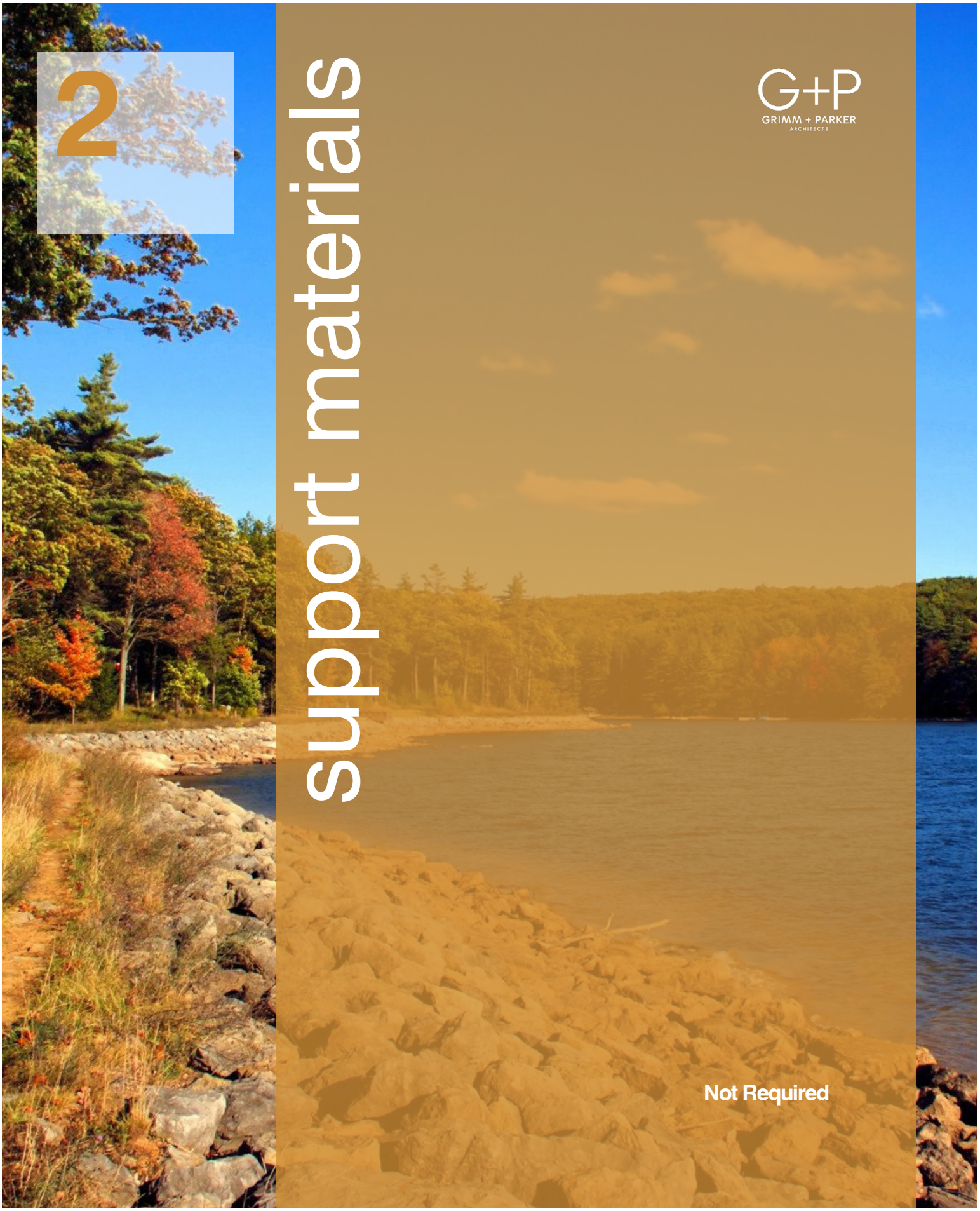

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support materials

GRIMM + PARKER ARCHITECTS

Not Required

Tab Two

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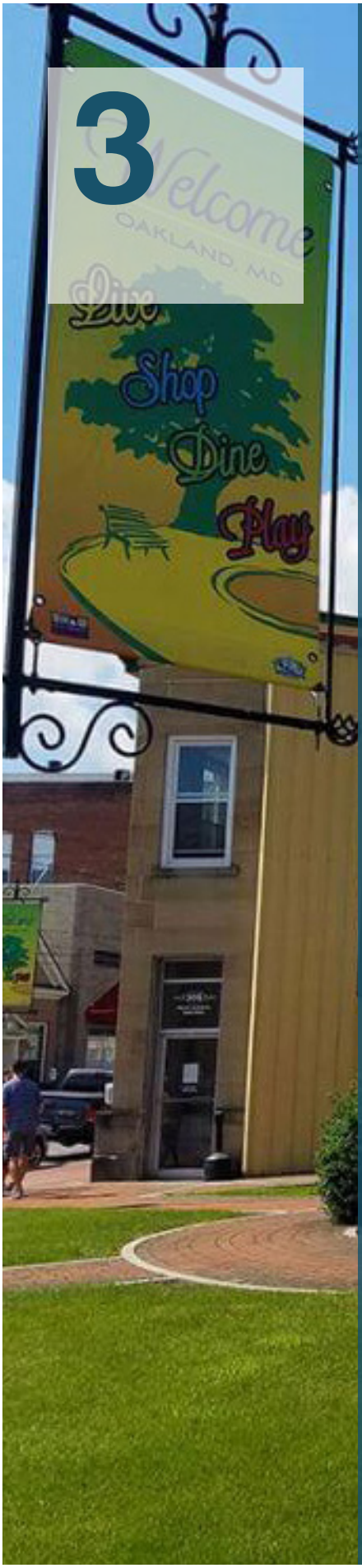

3

schematic design drawings

GRIMM + PARKER ARCHITECTS

Southern PK-6 ES

Site Drawings
Cooperative Use Floor Plan
Architectural Renderings

Southern 7-12 HS

Cooperative Use Floor Plans
Site Drawing

Tab Three

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EXISTING SITE PLAN

OPOSED SITE PLAN

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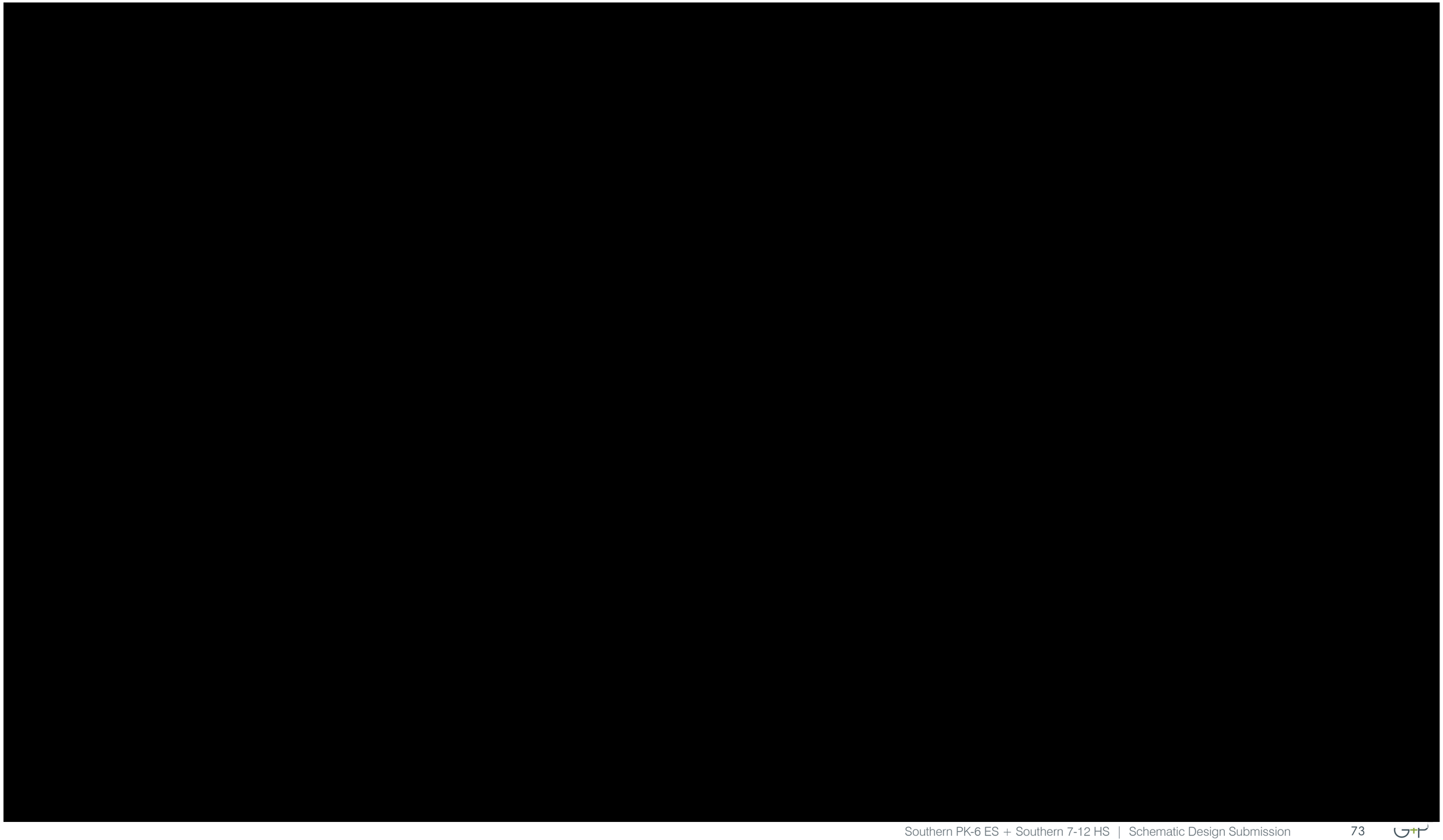

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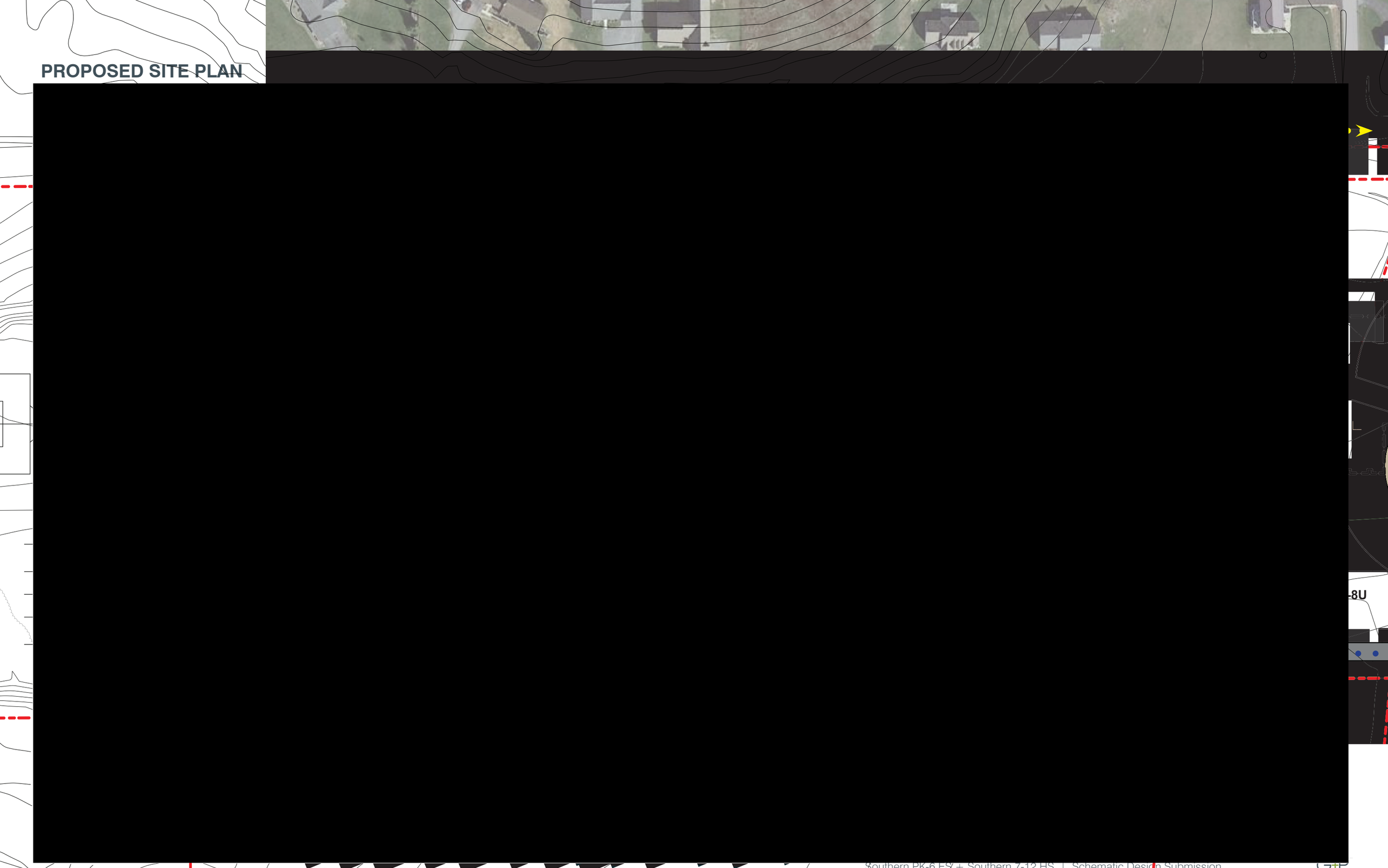
PROPOSED SITE PLAN



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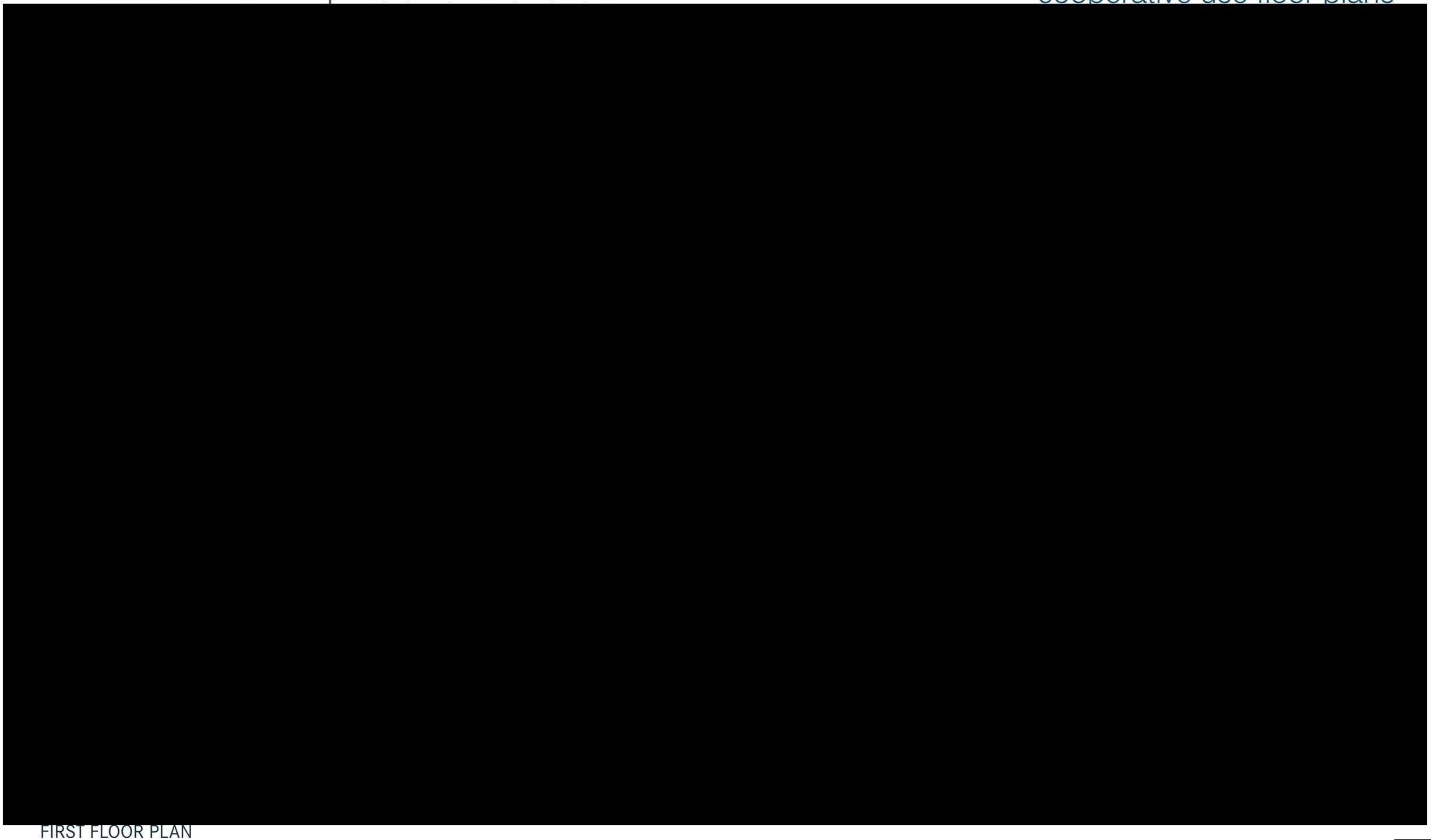

FIRST FLOOR PLAN

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CONCEPTUAL HARVEY WINTERS DRIVE ELEVATION

Broad Ford ES MODERNIZATION

CONCEPTUAL MAIN ENTRANCE

Broad Ford ES MODERNIZATION

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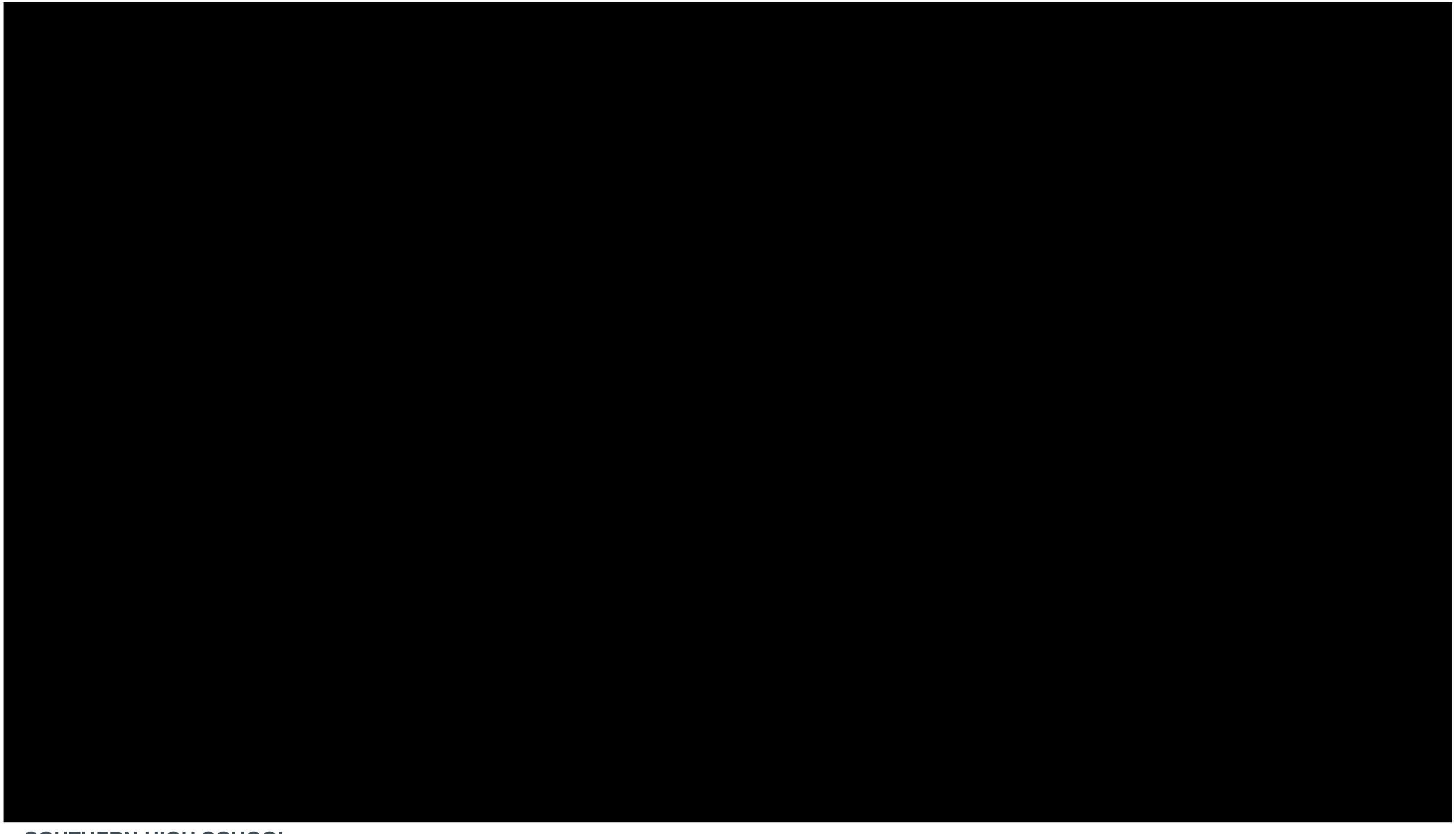

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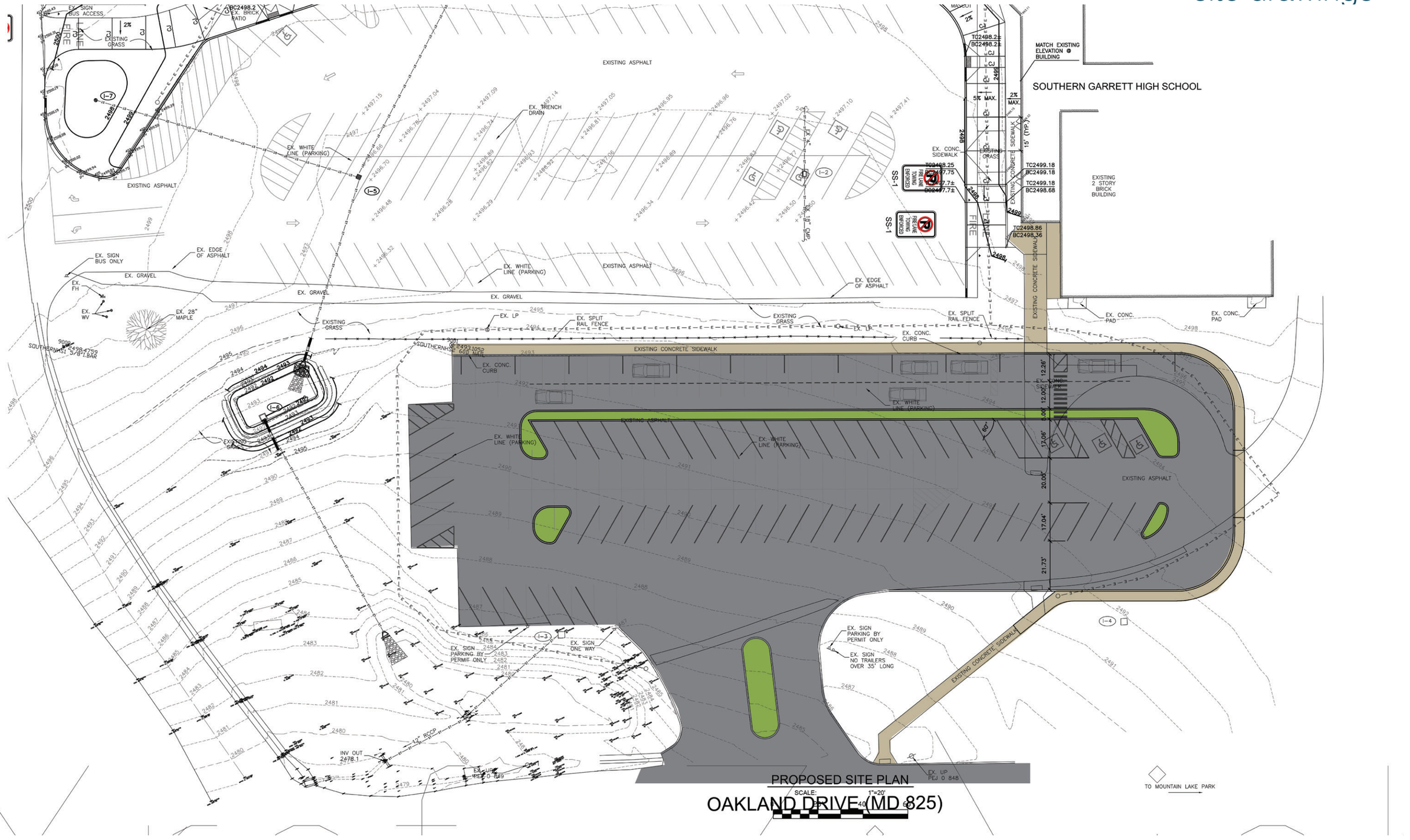
CONCEPTUAL SITE PLAN



SOUTHERN HIGH SCHOOL