Castlewood, VA: Castlewood Schools Campus Conceptual Site Master Plan and Planting Designs

Prepared for Russell County Public Schools
December 2023

COLLEGE OF ARCHITECTURE, ARTS, AND DESIGN
COMMUNITY DESIGN
ASSISTANCE CENTER
VIRGINIA TECH

Project funding provided in part by the US Forest Service in cooperation with the Virginia Department of Forestry Urban and Community Forestry Program

22UCF04

PROJECT TEAM

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The **Community Design Assistance Center** (CDAC) is an outreach center in the College of Architecture, Arts, and Design at Virginia Tech that assists communities, neighborhood groups, and non-profit organizations in improving the natural and built environments. Assistance is provided in the areas of landscape architecture, architecture, planning, and interior design. Working with communities, the conceptual planning and design provides communities with a graphic vision of their project that can then be used for grant applications and fundraising for the next steps toward implementation.

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ACKNOWLEDGMENTS

The CDAC team would like to acknowledge the following individuals for their contributions throughout the project:

Lou Ann Wallace
Russell County Board of Supervisors

Tim Lovelace
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Russell County Board of Supervisors

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Emmily Hines
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and

Those who volunteer their time for the betterment of Russell County Public Schools.

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PART 1:
INTRODUCTION AND BACKGROUND

INTRODUCTION AND BACKGROUND

Background

Russell County is located in Southwest Virginia's Heart of Appalachia region with an estimated population of 25,448 (US Census Bureau, 2022). Russell County Public Schools (RCPS) is comprised of twelve (12) schools, an alternative education center, and a career and technical center. Two of the schools, Castlewood High School and Castlewood Elementary School, are located at 304 and 242 Blue Devil Circle in Castlewood on a ~25 acre campus.

Construction of the Castlewood Schools campus began with Castlewood High School in 1948, after a fire destroyed nearby Temple Hill High School. The beautiful colonial revival building opened its doors in 1949, and Castlewood Elementary School was constructed next to the high school in 1958. Today, Castlewood Elementary School serves grades two through seven, and Castlewood High School serves students grades eight through twelve. Students attend nearby Copper Creek Elementary School for Pre-K through first grade.

For the 2021-2022 school year, Castlewood High School enrolled 320 students and Castlewood Elementary School enrolled 321 students (National Council for Education Statistics 2023). Both Castlewood Elementary School and Castlewood High School are designated Title I schools, meaning they receive additional federal resources to help support a disproportionate number of students from low-income backgrounds. Students attend Castlewood Schools from Castlewood, Dante, and surrounding unincorporated rural communities.

Project Description

The Castlewood Schools campus has not undergone any major renovations in approximately thirty years, and RCPS is interested in making improvements to the site. The primary elements of the school grounds include a girls' softball field, a football field, a boys' baseball field, and a playground. However, the elements do not function well as currently laid out. Consequently, RCPS collaborated with CDAC to determine whether there is a better way to lay out the sports fields on the campus as well as add a tennis court, tree plantings or a mini arboretum, and pollinator plantings that may be able to support agriculture classes.

CDAC worked with a stakeholders committee comprised of school administration, teachers, and members of the Russell County Board of Supervisors to create an updated conceptual site master plan and plant palette for the schools' campus.

INTRODUCTION AND BACKGROUND

Design Process Summary

The design process began with a site visit on May 11th, 2023, where the project team met with stakeholders at Castlewood High School and discussed their vision for the Castlewood Schools campus. The CDAC team had the opportunity to tour the school grounds with stakeholders to further understand their vision. Input and site photos created a comprehensive foundation that the CDAC team used to develop two preliminary conceptual site master plans for the reimagined Castlewood Schools campus.

The CDAC team presented the preliminary design concepts to stakeholders at Castlewood High School on July 12th, 2023. Following the presentation, stakeholders provided feedback about what they liked and disliked about each design. At this meeting, it was decided to create two final design concepts: a “complete” Phase I and a Phase II should additional funding be secured in the future (see pages 12-14). Final design concepts were presented virtually on December 1st, 2023.

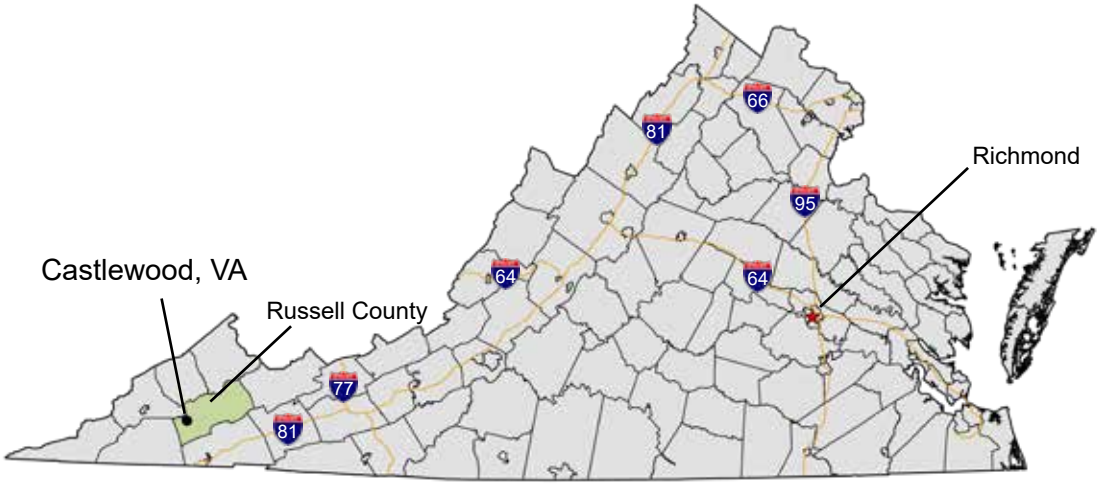
Meeting notes from the stakeholder input session and preliminary design presentation can be found in the appendix.

Stakeholders discuss campus plans with CDAC at the initial meeting and site visit.

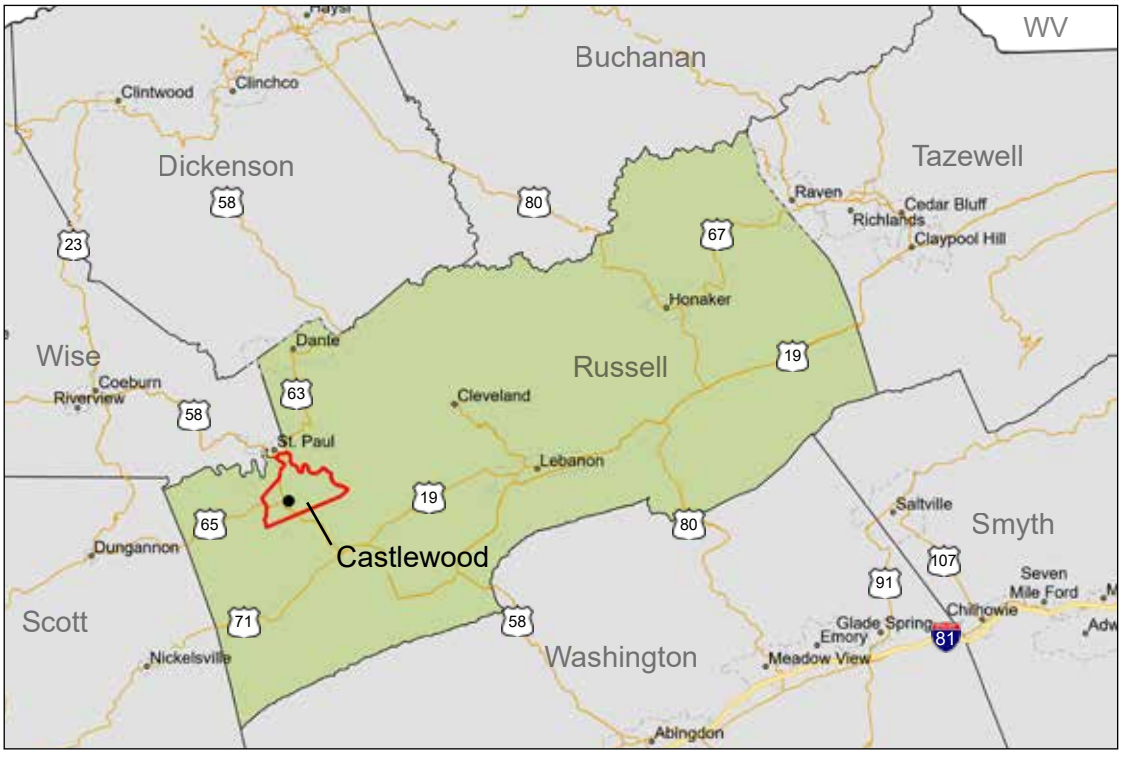
Landscape designer Hayley Harrington presents preliminary design concepts on July 12th.

INTRODUCTION AND BACKGROUND

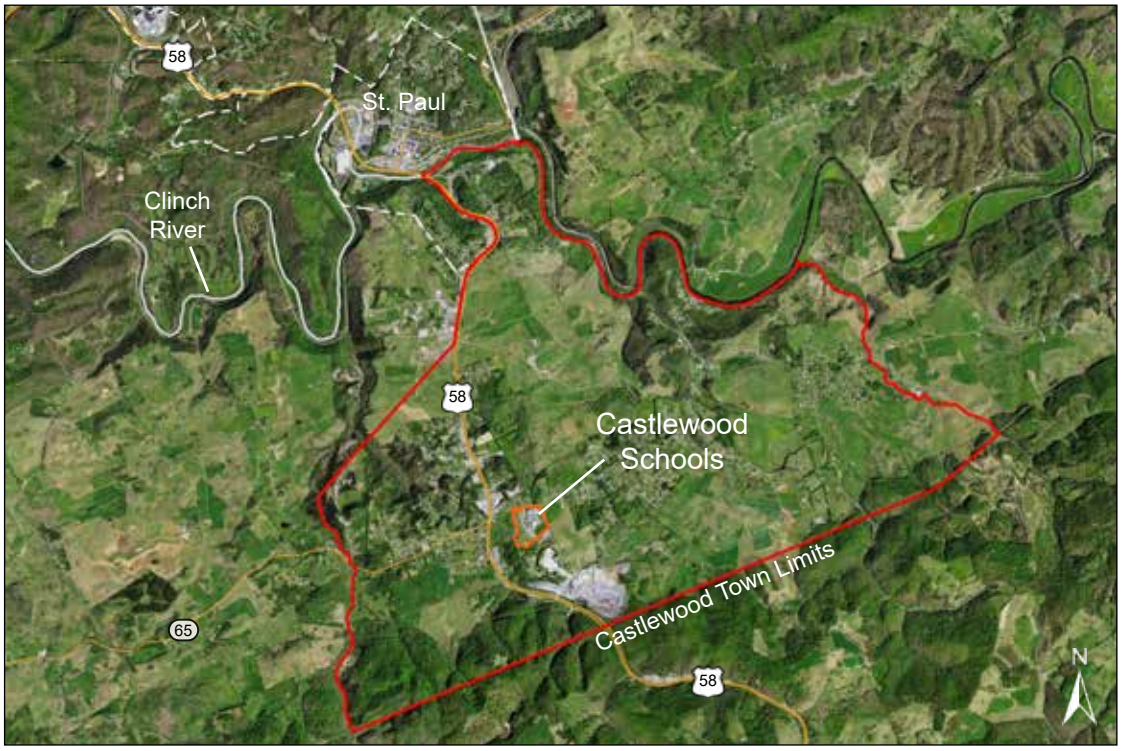
Project Location



The Castlewood community is located in western Russell County in Southwest Virginia's Heart of Appalachia region, near the Kentucky, Tennessee, and West Virginia borders (above). Incorporated as a town between 1991 and 1997, Castlewood is a Census Designated Place with defined borders. The Town of St. Paul borders Castlewood to the north. Other nearby communities include Wise, Cleveland, Lebanon, and Abingdon (below).



INTRODUCTION AND BACKGROUND



Castlewood is approximately 7.2 square miles and is bordered to the north by the Clinch River (above). The Castlewood Schools campus is located along Memorial Drive off US Highway 58 (below).

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PART 2:
FINAL DESIGN CONCEPT

FINAL DESIGN CONCEPT

Phase I Conceptual Site Master Plan Design Description

The final conceptual design envisions the Castlewood Schools Campus as a cohesive and dimensional learning center with increased student safety, aesthetic value, and ecological function.

Entry sign
The final design concept proposes that the electronic entry sign located at the Castlewood High School exit be relocated to the main entrance in front of the community center building. The relocated electronic sign could then be outfitted with a new school sign with a brick base and pillars. This sign would be two-sided and perpendicular to the road, and would replace both the recently fallen sign and the sign at the exit.

Community center
It is proposed that the community center/rescue squad storage building be transferred back to the school district. The bottom level would become maintenance and facilities storage for the schools, and the top level would remain a community center that could be rented for events by community members. The building's roof, currently in disrepair, is replaced with a hip roof and cupola to match the school building. Additional proposed cosmetic improvements include replacing the garage doors, staining the building's brick exterior with a warmer tone that more closely resembles the school building, and adding a brightly colored mural.

Trails and trailhead
The phase I plan proposes approximately 1.5 linear miles of sidewalk throughout the school property, creating several different options for potential exercise loops. A new trailhead structure located near the community center building could offer students and visitors information about the trails, ideas for different walking circuits, and information about the plantings along the trails. New sidewalks are proposed along the school entry drive, connecting the baseball field to the community center; from the baseball field and along the football field to the batting cages, connecting the Castlewood Cannery and athletic buildings, and around the agriculture building/ weight room.

Sunset overlook
The retaining wall on top of the Castlewood High School sign is re-branded as the "sunset overlook", a peaceful stop on the campus's trail system with a picturesque westward view of the mountains. The memorial bench currently at this location is relocated to the mindfulness courtyard, and four observation benches are added.

Covered pavilion
A covered pavilion, approximately 25'x25', is proposed off the southwest corner of the Castlewood High School building. This structure is located such that maintenance vehicles can still drive up the adjacent grass hill and access the Castlewood

FINAL DESIGN CONCEPT

Elementary courtyard. The pavilion could include solar panels that power fans during warmer months and heaters during cooler months, and include picnic tables or benches for students to wait. This pavilion offers increased shelter and protection for students waiting for the activity bus, but could also be used as an outdoor classroom space during off times.

Mindfulness courtyard
The primary courtyard, already home to a memorial garden, a gazebo, and picnic tables, is re-branded as the “mindfulness courtyard”, an intentional calming space for students to relax or collect themselves as needed. This courtyard might feature additional flexible seating areas, sensory paths, aromatic vegetation, and include “hidden” details (painted bricks, colorful rocks, small statues, etc.) for visual scavenger hunts. These are examples of minor interventions that change the thematic character of a space and could give students a comfortable environment to process their emotions.

Softball field
A new, permanent softball field is proposed between the existing baseball and football fields, located near the current playground. This field features two new sets of bleachers and would replace the existing shared football/softball field.

Concessions building with restrooms
A new concessions building is proposed between the softball and football fields. This building is proposed at 40’x20’ to also include a new ADA-accessible multi-stall public restroom facility for athletic events.

Football field
The existing football field is shifted closer to the property line to allow more room for the softball field. During Phase I, the existing grand stand and announcer’s box remain in place.

Playground
A new playground is proposed at the current softball field location. This location offers increased protection on the school property as it is further away from the property’s edge. The new playground would feature modern traditional equipment and be geared toward elementary-age children. The existing picnic shelter would remain and become part of the playground area. Additional trees would be planted for shade.

Long jump track and pit
A dedicated long jump track and pit are proposed in front of the batting cages to replace the existing pit located in the northeast parking lot.

Relocated chicken coop and barn changes
The chicken coop is relocated to the other side of the agriculture building/weight room so that the goat pastures can be expanded. Further, one side of the barn is cleared

FINAL DESIGN CONCEPT

out and turned into a two-stall area for goat care.

Flexible use seating area
A small circular seating area is proposed near the school's north entrance to increase traffic in an otherwise underutilized area. This uncovered seating area could be used for classes, guest speakers, story sharing, waiting, and other collaborative activities.

Parking and vehicle circulation changes
Several changes are proposed to parking and vehicle circulation throughout the school property. The exit drive located north of Castlewood Cannery is re-opened for cars, providing increased traffic circulation on game days. Bus parking is relocated near the field house. Faculty parking lots are re-striped to reflect a more efficient use of space. The "loop" located north of the baseball field is transformed into a regular parking lot and is closed to vehicular traffic after a certain point, creating an interactive area for blacktop games. The parking lots in front of the community center and Castlewood High School are combined to maximize space. Existing parallel parking spots remain where possible.

Plantings
A variety of additional plantings are proposed throughout the school property. Phase I includes the addition of planted walking trails throughout the site, which feature ornamental and shade trees as well as pollinator plants. "Pollinator gardens" are proposed on parking islands as well as near the football field and community center, consisting of perennial forbs, grasses, and shrubs. These plantings serve as an educational opportunity while also providing habitats for pollinator species.

Removal of outdated structures and features
Derelict, redundant, and excessive fencing is proposed to be removed throughout the property. Additionally, the final design concept proposes the removal of the following existing features:

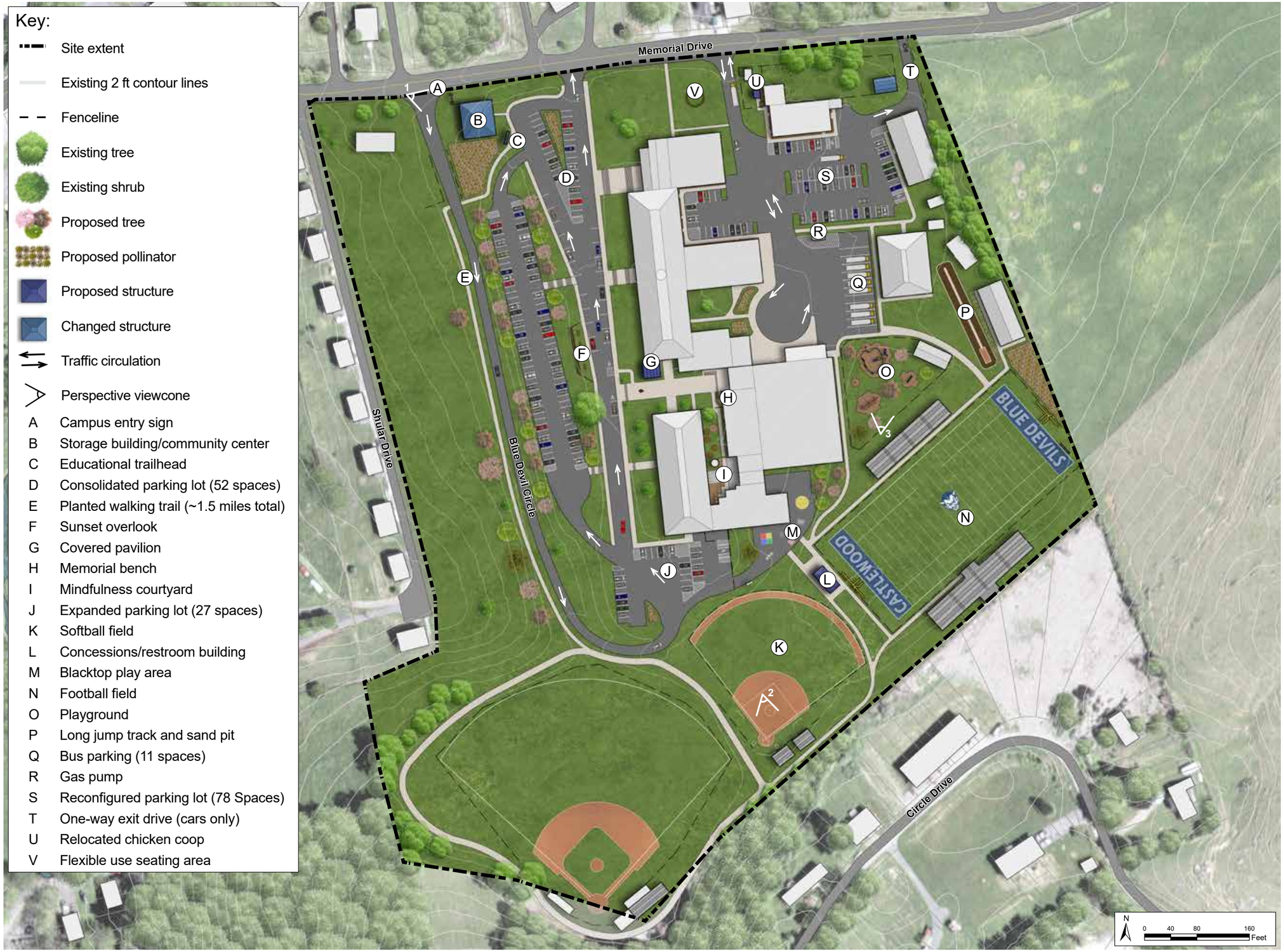
- Both former concessions buildings
- The existing softball field, dugouts, and bleachers
- The storage buildings near the gas pump
- Existing playground equipment and outdoor basketball hoops
- Unused or underused storage space
- Remediation of the ash pile near Castlewood Cannery

The following page contains the Phase I conceptual master plan drawing.

Key:

- Site extent
- Existing 2 ft contour lines
- Fenceline
- Existing tree
- Existing shrub
- Proposed tree
- Proposed pollinator
- Proposed structure
- Changed structure
- Traffic circulation
- Perspective viewcone

A Campus entry sign
B Storage building/community center
C Educational trailhead
D Consolidated parking lot (52 spaces)
E Planted walking trail (~1.5 miles total)
F Sunset overlook
G Covered pavilion
H Memorial bench
I Mindfulness courtyard
J Expanded parking lot (27 spaces)
K Softball field
L Concessions/restroom building
M Blacktop play area
N Football field
O Playground
P Long jump track and sand pit
Q Bus parking (11 spaces)
R Gas pump
S Reconfigured parking lot (78 Spaces)
T One-way exit drive (cars only)
U Relocated chicken coop
V Flexible use seating area



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Conceptual Site Master Plan and Planting Designs

Final Design Concept
Phase I Site Master Plan
December 1st, 2023

FINAL DESIGN CONCEPT

Phase II Conceptual Site Master Plan Design Description

During the preliminary design presentation, stakeholders expressed great interest in the possibility of adding a combination football field and track, pickleball courts, and an arboretum. However, stakeholders also recognized that these elements would come at a significant cost, and wanted to focus on developing a site master plan that could be feasibly developed in the near future. Therefore, these elements were excluded from a “Phase I”, but incorporated into a “Phase II” master plan in the event that funding becomes available for these elements at a later date.

Phase II retains all proposed features from Phase I except the long jump track and pit, which is replaced with a combination track and football field. In addition, Phase II proposes a ~2.5 acre addition to the school property to allow for an arboretum and improved athletic facilities. Additional changes are proposed as follows:

Pickleball courts
Phase II envisions four pickleball courts near the school’s main entrance, which would be accessible from the student parking lot and trails. These pickleball courts could be used for physical education classes and rented out for recreational use.

Football field and track
Phase II envisions a new football field with an encircling track. This phase envisions a new set of bleachers and announcer box for the home team.

Batting cages
The batting cages are relocated for two reasons: first, to make room for the track and football field, and second, because the baseball and softball fields are now located on the other side of the school property.

Open play field
The expanse of space necessitated by the football field/track creates a smaller open play field between the concessions/restroom building and football field. This field is intended to remain a flat open space, and could be used for physical education classes, pickup games, classroom groups, or other activities.

Arboretum
Phase II proposes a campus arboretum, located north of the football field and partially on the campus extension. This arboretum could include a variety of Virginia native trees and other vegetation and serve as an educational opportunity for students and the community.

Additional trails
The additional trails in phase II add up to approximately an additional 0.25 miles, for a total of approximately 1.75 linear miles of sidewalk throughout the school property.

The following pages contain the Phase II site master plan drawings and perspective and precedent images for both phases.

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Key:

- Site extent
- Existing 2 ft contour lines
- Fenceline
- Existing tree
- Existing shrub
- Proposed tree
- Proposed pollinator
- Proposed structure
- Changed structure
- Traffic circulation
- Perspective viewcone
- Proposed Expansion (~2.5 acres)

A Campus entry sign
B Storage building/community center
C Educational trailhead
D Consolidated parking lot (52 spaces)
E Four (4) Pickleball courts
F Planted walking trail (~1.75 miles total)
G Sunset overlook
H Covered pavilion
I Memorial bench
J Mindfulness courtyard
K Expanded parking lot (27 spaces)
L Softball field
M Concessions/restroom building
N Blacktop play area
O Open play field
P Batting cages
Q Playground
R Football field and track
S Arboretum
T Bus parking (11 spaces)
U Gas pump
V Reconfigured parking lot (78 Spaces)
W One-way exit drive (cars only)
X Relocated chicken coop
Y Flexible use seating area

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Disclaimer: This drawing is conceptual and was prepared to show approximate location and arrangement of site features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is undertaken. The Community Design Assistance Center is not responsible for the inappropriate use of this drawing.

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Conceptual Site Master Plan and Planting Designs

Final Design Concept
Phase II Site Master Plan
December 1st, 2023

Perspective 1: School Entry Sign
A new school entry sign on a brick base greets visitors as they enter the school property. The fire department building and community center is converted to school storage on the lower level and remains a community center on the second floor. New garage doors and a new hip roof with a matching cupola are proposed to reflect the colonial revival style of the Castlewood High School and Elementary School buildings.

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Final Design Concept
Perspective 1: School Entry Sign
December 1st, 2023

Perspective 2: Softball Field
The softball field is relocated from its current seasonal location behind the gymnasium to the current playground and outdoor basketball court location, establishing a permanent field location on campus next to the baseball field.

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Conceptual Site Master Plan and Planting Designs

Final Design Concept
Perspective 2: Softball Field
December 1st, 2023

Perspective 3: Playground
This perspective shows the new playground, located behind the Castlewood High School gymnasium at the location of the current softball field. The playground features updated equipment and added trees for shade.

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Conceptual Site Master Plan and Planting Designs

Final Design Concept
Perspective 3: Playground
December 1st, 2023

A dedicated long jump track and pit could be formalized and relocated to near the batting cages.

The open outdoor seating area can be used as a flexible space for classroom groups, storytelling, guest speakers, or club meetings.

The existing primary courtyard is easily transformed into an intentional mindfulness courtyard to provide students a calming space throughout the school day.

Painted asphalt games can help activate former parking areas and provide a range of possibilities for classroom games, recess, and physical education.

An example of a trailhead kiosk with interpretive signage, which could provide information about the walking trails around the school.

Example of a planted walking trail, which could include a variety of different types of vegetation.

A shaded pavilion could provide more protection for students waiting in front of the schools for activity buses. This pavilion might include solar heating and cooling to offer students additional comfort.

An example of a pollinator garden, which could bring seasonal color and educational opportunities to underutilized areas as well as provide a habitat for pollinators.

The concessions stand would be located between the football and softball fields and could also include public restrooms for spectators.

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Conceptual Site Master Plan and Planting Designs

Final Design Concept
Precedent Images
February 1st, 2023

FINAL DESIGN CONCEPT

Plant Palette Description

Final proposed plantings include Southwest Virginia native forbs, grasses, sedges, shrubs, and trees which are likely to be tolerant of the site's climate and soil conditions. Most varieties were selected for their appearance, pest and disease resistance, and relative importance in the regional ecosystem.

Vegetation was identified and selected using guides created by the Plant Southwest Virginia Natives campaign, which offers additional resources and information on planting, purchasing, and maintaining Southwest Virginia native plants through their website, https://plantvirginianatives.org/plantswvanatives.

A recently published guide on the organization's website, managed by the Virginia Department of Environmental Quality (DEQ), has identified a list of the region's keystone plants, which are native plants considered critical to the food web and necessary for many wildlife species. Many tree species were selected for the Castlewood Schools site based on their status as keystone species.

The following page contains a selection of species that might be considered for the final planting recommendations.

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Wild Columbine, *Aquilegia canadensis*
Easily grown in average, medium, well-drained soil in full sun to part shade. Wide range of soil tolerance as long as drainage is good. Attractive to hummingbirds; very good resistance to leaf miner.

Height: 2 to 3 feet
Spread: 1 to 1.5 feet
Bloom Time: February to July
Bloom Description: Yellow/Red
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

Common Partridge-pea, *Chamaecrista fasciculata*
Showy annual wild flower that is easily grown from seed in average, dry to medium moisture, well-drained soils in full sun. Tolerates light shade. No serious insect or disease problems; mildew and leaf spot may appear.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: June to October
Bloom Description: Yellow
Sun: Full sun
Water: Low to medium moisture
Maintenance: Low

Green-and-Gold, *Chrysogonum virginianum*
Easily grown in average, medium moisture, well-drained soils in part shade to full shade. Spreads by rhizomes to form an attractive ground cover, but is easily controlled. No serious insect or disease problems.

Height: 1 foot
Spread: 1 to 1.5 feet
Bloom Time: April to October
Bloom Description: Yellow
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Low

White Wood Aster, *Eurybia divaricata*
Easily grown in average, dry to medium, well-drained soil in part shade to full shade. Thrives in shade and tolerates dry conditions. Good air circulation and some morning sun help reduce incidence of foliar diseases.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: August to November
Bloom Description: White/yellow
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

Dwarf Crested Iris, *Iris cristata*
Best grown in organically rich, medium moisture, well-drained soils in part shade. Will tolerate close to full shade. If grown in full sun, the soil must be kept consistently moist. Grows well on well-drained slopes.

Height: 1.5 to 2 feet
Spread: 1 foot
Bloom Time: March to May
Bloom Description: Purple
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Low

Scarlet Beebalm, *Monarda didyma*
Best grown in rich, medium to wet, moisture-retentive soils in full sun to part shade. Common name in reference to indigenous use of plant resins to soothe bee stings. Deer-resistant but susceptible to powdery mildew.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: May to October
Bloom Description: Red
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Medium

Narrow-leaved Blue-eyed-grass, *Sisyrinchium angustofolium*
Best grown in medium moisture, well-drained soil in full sun to part shade. Prefers consistently moist soils. Noted for its violet-blue flowers and branched flowering stems. No serious insect or disease problems.

Height: 1.5 to 2 feet
Spread: 1 foot
Bloom Time: March to July
Bloom Description: Blue
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Low

Smooth Blue Aster, *Symphyotrichum laeve*
Easily grown in average, dry to medium, well-drained soil in full sun. Easily self-seeds and attractive to butterflies. Flowers through autumn. No serious insect or disease problems; may need staking.

Height: 2 to 3 feet
Spread: 1.5 to 2 feet
Bloom Time: August to October
Bloom Description: Purple
Sun: Full sun to part shade
Water: Low moisture
Maintenance: Low

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Final Design Concept
Plant Palette: SWVA Native Forbs
December 1st, 2023

Big Bluestem, *Andropogon gerardii*
Easily grown in average, dry to medium, well-drained soils in full sun. This grass develops an extensive root system and is somewhat slow to establish, but, once established, has excellent drought tolerance and is easy to maintain.

Height: 5 to 6 feet
Spread: 2 to 3 feet
Bloom Time: August to November
Bloom Description: Purple/red
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

Broomsedge, *Anthropogon virginicus*
Native meadow grass easily grown in average, dry to medium soils in part shade. Clump-forming; attracts birds, butterflies, and deer. Best planted in open fields. No major disease or insect problems, but tends to spread.

Height: 2 to 6 feet
Spread: 2 to 3 feet
Bloom Time: September to November
Bloom Description: Copper/yellow
Sun: Part shade to full sun
Water: Low to high moisture
Maintenance: Low

Goat's-beard, *Aruncus dioicus*
Best grown in moist, fertile, organically rich soils in full sun to part shade. Plants with male flowers (numerous stamens per flower) produce a showier bloom than plants with female flowers (three pistils per flower).

Height: 5 to 6 feet
Spread: 3 to 4 feet
Bloom Time: April to June
Bloom Description: White
Sun: Full sun
Water: Medium moisture
Maintenance: Low

Blue Sedge, *Carex glaucodea*
Small sedge commonly found in meadows, disturbed open soil, wetland borders, and woodlands. Notable for its attractive blue-green foliage. Occurs naturally in wetlands and non-wetlands. No major pest or disease problems.

Height: 1 to 2 feet
Spread: 0.5 to 1 feet
Bloom Time: April to June
Bloom Description: Green
Sun: Part shade
Water: Medium moisture
Maintenance: Low

New Jersey Tea, *Ceanothus americanus*
Easily grown in average, dry to medium, well-drained soils in full sun to part shade. Best in sandy loams or rocky soils with good drainage. No serious insect or disease problems. Susceptible to leaf spot and powdery mildew.

Height: 3 to 4 feet
Spread: 4 to 5 feet
Bloom Time: March to July
Bloom Description: White
Sun: Full sun to part shade
Water: Low moisture
Maintenance: Low

Tufted Hairgrass, *Deschampsia cespitosa*
Easily grown in average, medium, well-drained soils in part shade. Prefers moist, organically rich soils. Semi-evergreen foliage may retain some green color in mild winters. No serious insect or disease problems.

Height: 2 to 3 feet
Spread: 1.5 to 2 feet
Bloom Time: May to July
Bloom Description: Purple/green
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

Hair-Awn Muhly, *Muhlenbergia capillaris*
Best grown in sandy or rocky, dry to medium moisture, well-drained soils in full sun to light shade. Best in full sun. Tolerates heat and poor soils. Noted for attractive foliage; no serious insect or disease problems.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: September to November
Bloom Description: Pink/red
Sun: Full sun
Water: Low to medium moisture
Maintenance: Low

Narrowleaf Meadowsweet, *Spiraea alba*
Grow in average, medium to wet, well-drained soil in full sun to part shade. Prefers full sun. Needs frequent watering to avoid drying out. No serious problems, but susceptible to diseases and insects that attack the rose family.

Height: 3 to 4 feet
Spread: 3 to 4 feet
Bloom Time: June to September
Bloom Description: White
Sun: Full sun
Water: Medium to high moisture
Maintenance: Medium

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Final Design Concept
Plant Palette: SWVA Native Grasses, Sedges, and Shrubs
December 1st, 2023

Red Maple, *Acer rubrum*
Easily grown in average, medium to wet, well-drained soil in full sun to part shade. Notable for bright red fall foliage. Tolerant of a wide range of soils, but prefers moist, slightly acid conditions. Very cold hardy.

Height: 40 to 70 feet
Spread: 30 to 50 feet
Bloom Time: March to April
Bloom Description: Red
Sun: Full sun
Water: Medium to high moisture
Maintenance: Low

Smooth Serviceberry, *Amelanchier laevis*
Easily grown in average, medium, well-drained soil in full sun to part shade. Tolerant of a somewhat wide range of soils, but prefers moist, well-drained loams. No serious insect or disease problems.

Height: 15 to 25 feet
Spread: 15 to 25 feet
Bloom Time: March to May
Bloom Description: White
Sun: Part shade to full sun
Water: Low to medium moisture
Maintenance: Low

Sweet Birch, *Betula lenta*
Best grown in rich, evenly moist, acidic, well-draining soils in full sun to part shade. Avoid pruning in spring when the sap is flowing. Tolerant of clay soils and shallow, rocky soils. Intolerant of heavily compacted soils and urban conditions.

Height: 40 to 50 feet
Spread: 35 to 50 feet
Bloom Time: April to May
Bloom Description: Red/yellow
Sun: Part shade to full sun
Water: Medium moisture
Maintenance: Medium

Eastern Redbud, *Cercis canadensis*
Easily grown in average, medium moisture, well-drained soils in full sun to part shade. Performs best in moderately fertile soils with regular and consistent moisture. Deer-resistant, but somewhat susceptible to pests and disease.

Height: 25 to 30 feet
Spread: 30 to 35 feet
Bloom Time: March to May
Bloom Description: Pink
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Medium

Flowering Dogwood, *Cornus florida*
Easily grown in average, medium moisture, well-drained soils in full sun to part shade. Prefers moist, organically rich, acidic soils in part shade. Minor pest issues; major disease issues present only when stressed.

Height: 15 to 30 feet
Spread: 15 to 30 feet
Bloom Time: March to May
Bloom Description: White
Sun: Full sun
Water: Low to medium moisture
Maintenance: Medium

Cucumber Magnolia, *Magnolia acuminata*
Best grown in moist, organically rich, well-drained loams in full sun to part shade. Intolerant of most urban pollutants. May take 12 or more years before first blooms appear. No serious insect or disease problems.

Height: 60 to 75 feet
Spread: 30 to 35 feet
Bloom Time: April to June
Bloom Description: Green/yellow
Sun: Full sun
Water: Medium moisture
Maintenance: Low

Virginia Pine, *Pinus virginiana*
Easily grown in average, medium, well-drained soil in full sun. Tolerates a wide range of soil conditions including both heavy clay soils and poor soils. Prefers clay or sandy loams with moderate to good drainage.

Height: 35 to 40 feet
Spread: 15 to 20 feet
Bloom Time: Non-flowering
Bloom Description: Evergreen
Sun: Part shade
Water: Medium to high moisture
Maintenance: Low

American Wild Plum, *Prunus americana*
Easily grown in average, dry to medium, well-drained soils in full sun to part shade. Remove suckers to prevent unwanted spread. Fairly adaptable. Minor potential pest and disease issues.

Height: 15 to 25 feet
Spread: 15 to 25 feet
Bloom Time: April to May
Bloom Description: White
Sun: Part shade to full sun
Water: Low to medium moisture
Maintenance: Low

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Castlewood, VA: Castlewood Schools Campus
Conceptual Site Master Plan and Planting Designs

Final Design Concept
Plant Palette: SWVA Native Trees
December 1st, 2023

PART 3:
SITE INVENTORY AND ANALYSIS

SITE INVENTORY AND ANALYSIS

Site Inventory Summary

Background

The Castlewood Schools campus, located at 242-304 Blue Devil Circle, occupies approximately 24.9 acres near central Castlewood. The community center building, currently owned by the Castlewood Fire and Rescue squad, occupies a separate 0.21-acre parcel located within the school property. The Castlewood Schools campus is located off Memorial Drive, about 1000 feet from US Highway 58, which is also called the Trail of the Lonesome Pine. Students from Castlewood, the nearby community of Dante, and surrounding unincorporated rural communities attend Castlewood Schools.

Construction of the Castlewood Schools campus began with Castlewood High School in 1948 and Castlewood Elementary School in 1958. The Castlewood Cannery building was constructed in the northeast corner of the school property circa the 1970s. The last substantial campus renovations happened in the 1990s, when a new gymnasium, baseball field, entry drive, and parking lots were constructed.

Buildings

The campus consists of around thirty buildings, summarized as follows:

- The main school buildings consist of the Castlewood High School and Castlewood Elementary School buildings, connected by the gymnasium.
- Primary support buildings include the agriculture building and weight room, which appears in aerial photographs of the school dating back to 1969 and is the oldest remaining extant building on the school campus; the Castlewood Cannery; the community center/rescue squad storage building; a private residence; a field house; and batting cages.
- Additional structures designated for athletic programming include baseball dugouts, bleachers, and an announcer's box; a football grand stand with announcer's box; and softball dugouts and bleachers. Two concession stands, one in disuse, are located west of the football field.
- Additional structures supporting campus agriculture activities include a barn with adjacent chicken coop; small greenhouse; and three accessory storage structures located throughout the northeast portion of the school campus.
- Additional structures supporting campus facilities include storage sheds located south of the Castlewood Elementary building; additional storage buildings located west of the field house; and a gas pump, which is adjacent to one of the storage buildings near the field house.
- Additional shade structures include a small gazebo structure in the primary courtyard and a large picnic shelter adjacent to the softball field.

Landscape Features

General characteristics and topography

SITE INVENTORY AND ANALYSIS

The Castlewood Schools Campus is characterized primarily by its grassy, hilly topography and mountainous setting. Overhead power lines are located throughout the site, with a large transformer station near where the road meets the playground. According to the USDA Web Soil Survey, the soil west of the school buildings is type 13C Carbo-Frederick-Urban land complex, 0 to 15 percent slopes, eroded. The soil east of the school buildings is type 54F Udorthents-Urban land complex, 0 to 80 percent slopes. There is no naturally-flowing water access onsite.

It should be noted that CDAC utilized publicly available GIS data from Virginia's Geographic Information Network (VGIN) to identify property boundaries and topographic contour lines for this project. Property boundaries and contour lines are estimates for information purposes only and may not be precisely accurate. CDAC recommends a professional survey be undertaken prior to construction to verify this information.

Traffic circulation and parking

Currently, the Castlewood Schools campus has three access points from Memorial Drive: a long one-way entry drive, a corresponding exit drive west of the school buildings, and a two-way drive located east of the school buildings. A fourth access point north of Castlewood Cannery exists, but is currently closed to traffic and in disuse.

The school campus includes approximately ten different parking lots. There is a large student parking lot between the entry and exit drives. Parking lots in front of Castlewood High School and the community center are separated by a fence. Castlewood Elementary faculty and staff mostly park in the lots south of the Castlewood Elementary building. East of the school buildings, there is a series of several connected parking lots, including an area for school bus parking. Occasional parking issues are caused by driver confusion.

Fencing

There is perimeter fencing along the south side of the property from the playground to the eastern property line and along the entire east side of the property. Athletic fencing encircles the baseball, softball, and west and south sides of the football field. Additional disconnected fencing can be found throughout the property. Gates are available to close off all of the active campus entrances and exits.

Signage

A retaining wall located between the school's west (front) parking lot and the student parking lot features a marquee sign with two-foot-tall letters reading "Castlewood High School", which is visible from US-58. A smaller Castlewood High School sign with an electronic message board is located in the courtyard north of the high school building, near the exit drive. An additional sign for Castlewood High School was formerly located by the entry drive, but was recently damaged by severe weather. The only sign for Castlewood Elementary School is located in front of the school building itself.

SITE INVENTORY AND ANALYSIS

Primary courtyard
The primary courtyard, located between the elementary school building the gymnasium, is often used for second, third, and fourth grade recess. This area includes a rock memorial garden, planted garden beds, disused play equipment, picnic tables, and a small gazebo.

Playground and blacktop
The campus playground, used for recess by second through seventh graders, is currently located between the baseball and football fields. The metal jungle gym is between ten and fifteen years old. The playground is adjacent to a large blacktop area with basketball hoops and painted activity lines for games like foursquare. There is currently limited shade and seating in this area, and the entire playground is exposed to a nearby apartment complex.

Baseball field
The existing baseball field was installed in the 1990s. It is encircled by a 10' walking path and features an announcer's box, bleachers, and dugouts. Prior to the addition of the gymnasium, the baseball field was located near the current softball field.

Football/Softball field
Due to spatial constraints, the softball field and football field are both seasonally operational. The outfield of the softball field occupies a portion of the football field and the seasonal location of the visitor bleachers. In 2023, the softball team practiced and played home games at a nearby park because the grass did not adequately regrow in time for the season. During softball season, bleachers are stored along the fence behind the football field's eastern end zone.

Goat enclosure
There is a fenced goat enclosure located between the agriculture building and Memorial Drive. The chicken coop's current location prevents the establishment of a second rotating goat enclosure.

Potentially hazardous features
Potentially hazardous features of note include a coal ash pile between Castlewood Cannery and the greenhouse and a pump-jack located between the greenhouse and batting cages.

Site Analysis Summary

Opportunities

- Large open space west of entry drive could be used for additional recreational space; area has relatively steep topography that levels out towards northwest corner of site.
- Beautiful westward views from the front of the school buildings. Additional

SITE INVENTORY AND ANALYSIS

beautiful views of rolling hills from southeast part of site near football fields.
- Existing picnic shelter can be used as a focal point.
- Underutilized parking can be reconfigured to better suit school's needs.
- Disused drive could be used to improve traffic flow and create one-way exit traffic.
- It is technically possible to shift the football field to the property line and fit a softball field between the baseball and football fields.

Constraints

- Site extent; potential future expansion possible, but will require support from local property owner and community.
- Challenging to place a concession stand that accommodates all athletic fields.
- Extant structures (especially agriculture buildings) are disconnected from one another and located somewhat haphazardly throughout the property.
- Rescue squad building blocks entrance to school with its roof in poor condition; lack of signage somewhat confusing for drivers.

The following pages contain site aerials mapping various building and landscape features, a site inventory summary, existing conditions images, and a site analysis summary.

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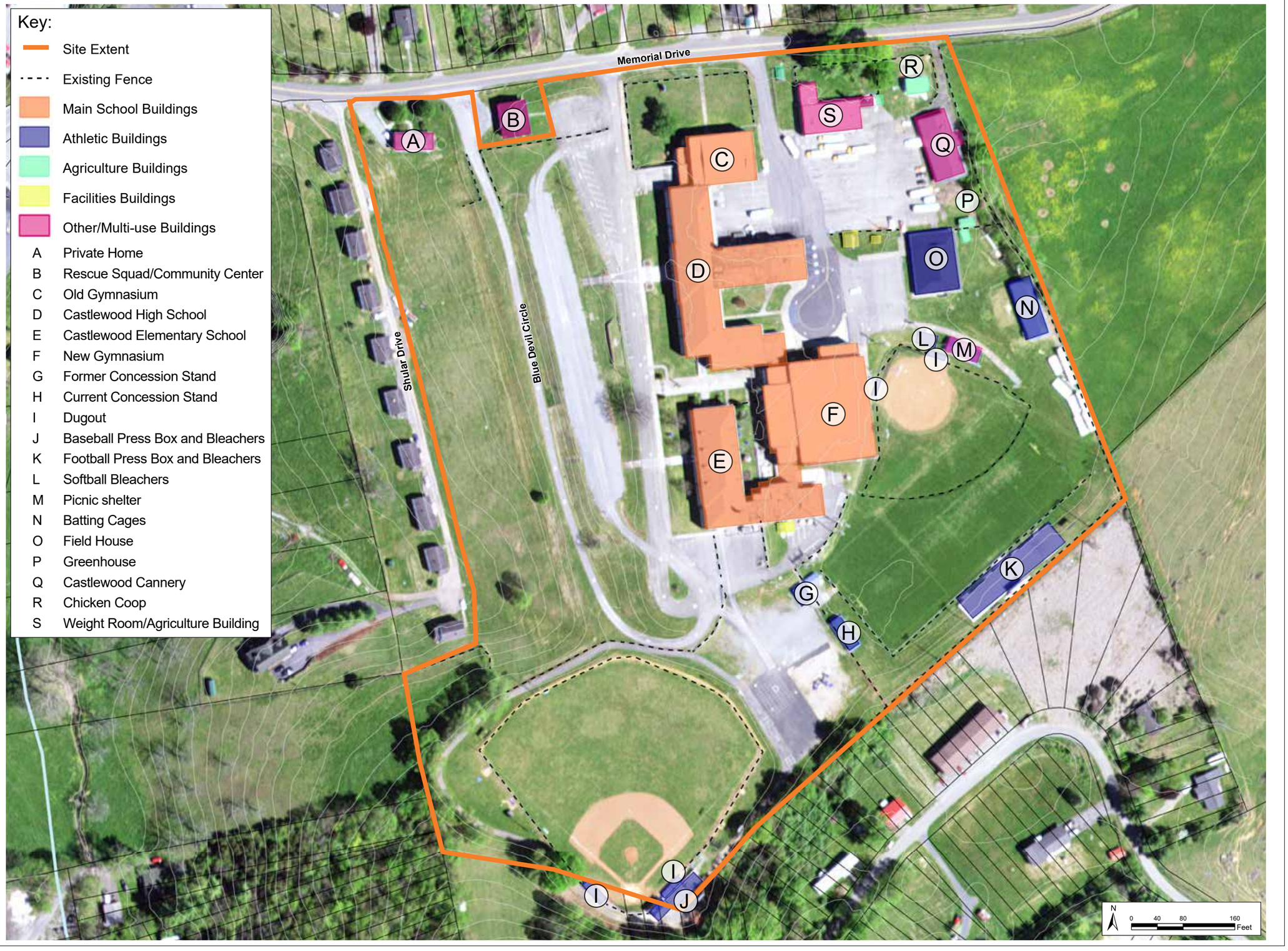
Key:

- Site Extent
- Existing Fence
- Main School Buildings
- Athletic Buildings
- Agriculture Buildings
- Facilities Buildings
- Other/Multi-use Buildings

A	Private Home
B	Rescue Squad/Community Center
C	Old Gymnasium
D	Castlewood High School
E	Castlewood Elementary School
F	New Gymnasium
G	Former Concession Stand
H	Current Concession Stand
I	Dugout
J	Baseball Press Box and Bleachers
K	Football Press Box and Bleachers
L	Softball Bleachers
M	Picnic shelter
N	Batting Cages
O	Field House
P	Greenhouse
Q	Castlewood Cannery
R	Chicken Coop
S	Weight Room/Agriculture Building



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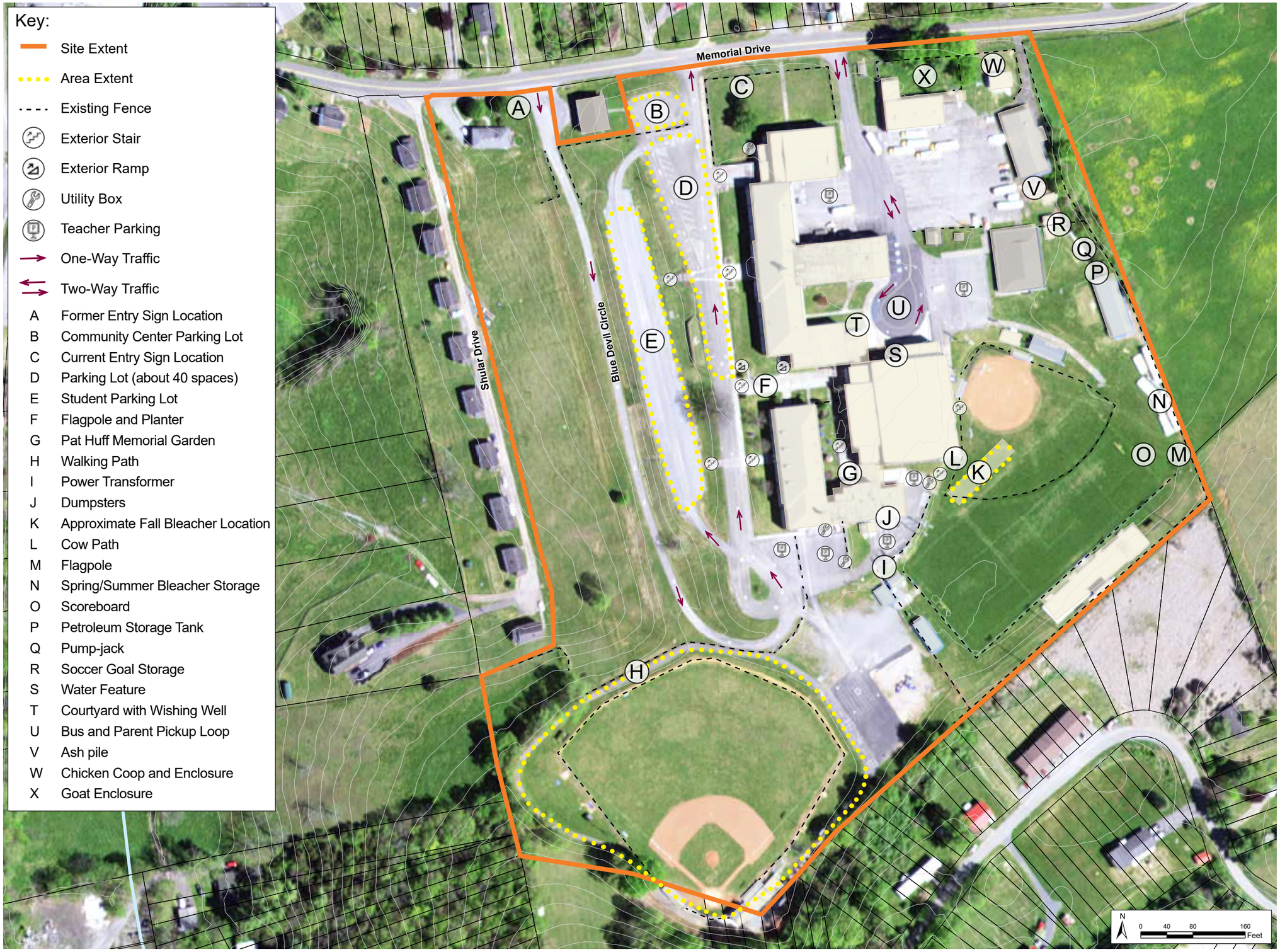
Site Inventory and Analysis
Inventory of Existing Building Locations
July 12th, 2023

Key:

- Site Extent
- Area Extent
- Existing Fence
- Exterior Stair
- Exterior Ramp
- Utility Box
- Teacher Parking
- One-Way Traffic
- Two-Way Traffic

A	Former Entry Sign Location
B	Community Center Parking Lot
C	Current Entry Sign Location
D	Parking Lot (about 40 spaces)
E	Student Parking Lot
F	Flagpole and Planter
G	Pat Huff Memorial Garden
H	Walking Path
I	Power Transformer
J	Dumpsters
K	Approximate Fall Bleacher Location
L	Cow Path
M	Flagpole
N	Spring/Summer Bleacher Storage
O	Scoreboard
P	Petroleum Storage Tank
Q	Pump-jack
R	Soccer Goal Storage
S	Water Feature
T	Courtyard with Wishing Well
U	Bus and Parent Pickup Loop
V	Ash pile
W	Chicken Coop and Enclosure
X	Goat Enclosure



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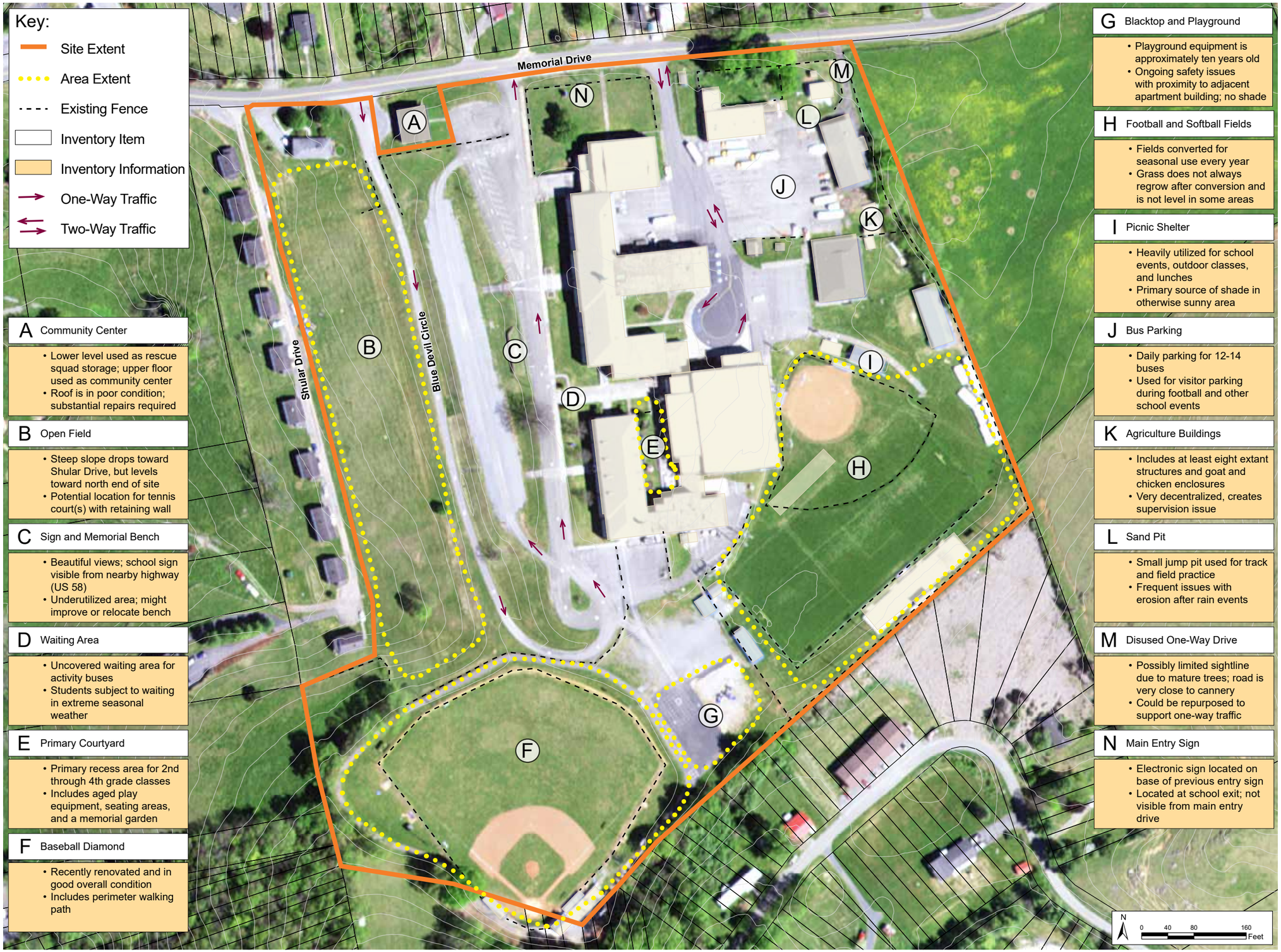
Site Inventory and Analysis
Locations of Minor Landscape Features
July 12th, 2023



A Community Center

- Lower level used as rescue squad storage; upper floor used as community center
- Roof is in poor condition; substantial repairs required

B Open Field

- Steep slope drops toward Shular Drive, but levels toward north end of site
- Potential location for tennis court(s) with retaining wall

C Sign and Memorial Bench

- Beautiful views; school sign visible from nearby highway (US 58)
- Underutilized area; might improve or relocate bench

D Waiting Area

- Uncovered waiting area for activity buses
- Students subject to waiting in extreme seasonal weather

E Primary Courtyard

- Primary recess area for 2nd through 4th grade classes
- Includes aged play equipment, seating areas, and a memorial garden

F Baseball Diamond

- Recently renovated and in good overall condition
- Includes perimeter walking path

G Blacktop and Playground

- Playground equipment is approximately ten years old
- Ongoing safety issues with proximity to adjacent apartment building; no shade

H Football and Softball Fields

- Fields converted for seasonal use every year
- Grass does not always regrow after conversion and is not level in some areas

I Picnic Shelter

- Heavily utilized for school events, outdoor classes, and lunches
- Primary source of shade in otherwise sunny area

J Bus Parking

- Daily parking for 12-14 buses
- Used for visitor parking during football and other school events

K Agriculture Buildings

- Includes at least eight extant structures and goat and chicken enclosures
- Very decentralized, creates supervision issue

L Sand Pit

- Small jump pit used for track and field practice
- Frequent issues with erosion after rain events

M Disused One-Way Drive

- Possibly limited sightline due to mature trees; road is very close to cannery
- Could be repurposed to support one-way traffic

N Main Entry Sign

- Electronic sign located on base of previous entry sign
- Located at school exit; not visible from main entry drive

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Site Inventory and Analysis
Site Inventory Summary
July 12th, 2023

1: The Rescue Squad and community center building obstructs views of the school and entry sign from Memorial Drive.

2: The open field at the west edge of the site overlooks a row of rental houses. This area could be transformed with a retaining wall.

3: The Castlewood High School sign is visible from nearby Highway 58. The area above the sign has beautiful views, but is seldom visited by students or the public.

4: Students wait for activity and vocational buses between the school buildings in an unsheltered area subject to waiting in extreme seasonal weather (high winter winds, summer sun, etc.).

5: Second and third grade classes frequent the Primary Courtyard for recess, which includes a variety of seating options like those pictured here, a small play structure, and a memorial garden.

6: A view looking southwest toward the baseball diamond, which was recently renovated and is in good condition.

7: The large blacktop and playground areas are unshaded and exposed to the nearby apartment complex, which may create safety concerns for students.

8: A view looking southeast at the shared football and softball field, where grass struggles to thrive.

Existing Conditions Image Locator Map

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Site Inventory and Analysis
Existing Conditions Images (1 of 2)
July 12th, 2023

9: During the off season, football bleachers are stored near the scoreboard.

10: The softball field was not utilized by student athletes for the spring 2023 season due to inadequate grass growth. The softball team instead practiced at a nearby park.

11: The picnic shelter near the softball field is used heavily for lunches, school events, and outdoor classes.

12: View looking east toward Castlewood Cannery showing school bus parking. During football games and events, this parking lot becomes visitor parking.

13: The CHS Agriculture program has at least eight decentralized outbuildings, including this small greenhouse located south of the cannery.

14: The sand jump pit, implemented for track and field practice, erodes into the adjacent parking lot during rain events and becomes hazardous for athletes.

15: View looking north at the disused one-way access drive behind the cannery, which could be redesigned to support one-way traffic behind Castlewood High School.

16: An eastward view of the electronic main entry sign, which is located in a large, underutilized courtyard near the school's one-way exit.

Existing Conditions Image Locator Map

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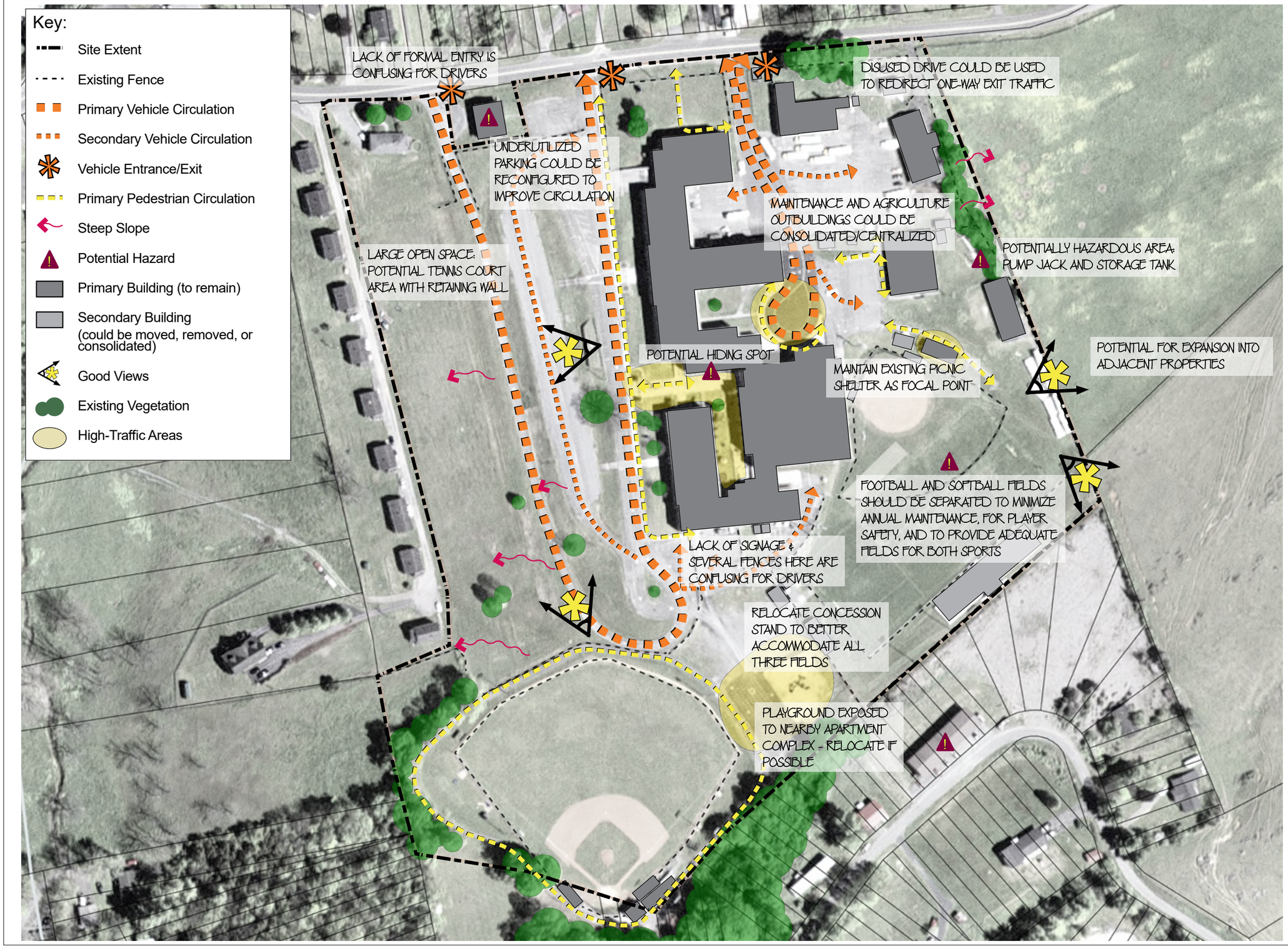
Site Inventory and Analysis
Existing Conditions Images (2 of 2)
July 12th, 2023



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Conceptual Site Master Plan and Planting Designs

Site Inventory and Analysis
Site Analysis Summary
July 12th, 2023

PART 4: PRELIMINARY DESIGN CONCEPTS

PRELIMINARY DESIGN CONCEPTS

Introduction

Based on initial ideas from stakeholders, the CDAC team created two preliminary design concepts. Both concepts share a number of commonalities: a softball field located between the baseball and football fields, a playground behind the gymnasium, tennis courts, added plantings, outdoor education space, and added sidewalks and walking trails. The most substantial difference between the two concepts is that Concept 2 proposes an approximately 3-acre addition to the school property. Other smaller design differences are reflected throughout the campus, with Concept 1 generally inclined towards smaller or less invasive changes than Concept 2.

The following pages include the preliminary design descriptions, master plans, perspectives, precedent images, and preliminary plant selections and descriptions for both concepts.

Preliminary Design Concept 1: Existing Footprint

Design Description

Entry sign

Concept 1 proposes that the existing electronic entry sign be moved to a new base with brick pillars and a school sign at the entry drive. This area might be further planted with pollinator-friendly perennial forbs.

Trails and educational trailhead

This concept proposes two “arboretum trails” or planted walking trails. The first would be a continuous loop at the front or west side of the school property, and the second would be a connecting path from the baseball field leading to a walking loop that encircles the playground. An educational trailhead, proposed near the rescue squad building, could offer visitors and students information about the trails and their associated plantings.

Parking lots and circulation

Concept 1 proposes two changes to the school’s parking lots and circulation. First, the community center parking lot and the west/front parking lot for Castlewood High School are combined and reconfigured as a single parking lot. Second, the exit drive by Castlewood Cannery becomes an occasional use one-way exit drive, alleviating traffic issues during busy school events like football and basketball games.

Combination tennis/pickleball courts

This concept proposes a combination tennis (1) or pickleball (4) court, allowing for flexible use by teams, tournaments, recreational groups, and physical education classes. These courts would be accessible from a short staircase from the north and a paved walkway from the south.

Sunset Overlook

The retaining wall on top of the Castlewood High School sign is re-branded as the

PRELIMINARY DESIGN CONCEPTS

"sunset overlook", a peaceful stop on the campus's trail system with a picturesque westward view of the mountains.

Solar-powered shade structure
A shade pavilion is proposed in the area where students wait for the activity bus in front of Castlewood Elementary School. This pavilion could have solar panels on top that power fans, lights, and/or space heaters.

Nature-inspired playground
This concept proposes a naturalistic-style playground where play equipment consists of elements and textures from the earth, including tree logs and stumps, boulders, plants, and drainage paths. A natural play environment can provide children with educational play opportunities to further engage with their surroundings.

Softball and football fields
A new, permanent softball field is proposed between the existing baseball and football fields, located near the current playground. The football field is correspondingly shifted closer to the school's property line, though the grand stand and announcer's box remain in place.

Concession stand
A small new concessions building is proposed between the football and softball fields.

Long jump track and pit
As a response to issues with the location of the current long jump pit in the rear parking lot, this concept incorporates a dedicated long jump track and pit near the batting cages.

Sensory waterfall
A peaceful sensory waterfall could deliver calming sounds and replace the existing outdated water feature near the pick-up loop.

Covered outdoor classroom
A covered outdoor classroom space is proposed north of the Castlewood High School building. This space could serve as the designated outdoor classroom space for multiple classes.

Vegetation
Increased plantings throughout the campus include pollinator plantings and arboretum trails. Pollinator plantings for this concept are proposed as primarily composed of colorful perennial forbs that are Southwest Virginia native wildflowers intended to attract pollinators and create color throughout the site from February until November. The arboretum trails could be themed around Virginia natives, and plantings could feature vegetation native throughout the various regions of Virginia.

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Key:

- Site Extent
- One-Way Traffic
- Two-Way Traffic

A Campus Entry Sign
B Educational Trailhead
C Consolidated Parking Lot (~45 Spaces)
D Combination Tennis (1) and Pickleball (4) Courts
E Five (5) Parallel Parking Spaces
F Arboretum Trail A (~0.35 mi)
G Sunset Overlook
H Solar-Powered Shade Structure
I Refreshed Play Equipment
J Softball Field
K Concession Stand
L Football Field
M Arboretum Trail B (~.20 mi)
N Nature-Inspired Playground
O Long Jump Track and Sand Pit
P Sensory Waterfall
Q Pollinator Gardens
R One-Way Exit Drive (Occasional Use)
S Covered Outdoor Classroom

N
0 40 80 160 Feet

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Conceptual Site Master Plan and Planting Designs

Preliminary Design Concept 1: Existing Footprint
Site Master Plan
December 14th, 2022

Perspective 1A: Campus Entry Sign
This perspective re-imagines the campus entrance and features the existing electronic sign on a new base with a short retaining wall. The area around the new sign is planted, featuring a variety of native flowering plants that provide seasonal color and a pollinator habitat.

An example of an educational trailhead structure, which might inform students and visitors about the arboretum trails, included species, and grade-appropriate methods for learning more about the vegetation onsite.

This concept features a shaded outdoor classroom structure. This structure could be used for a variety of learning activities and includes built-in raised garden beds, which could support student projects.

The existing electronic entry sign could be moved to a new base located at the school's main entry drive.

This concept features "arboretum trails", or walking paths lined with specimen trees and other plants.

The area where students wait for the activity bus becomes an educational, protective, and self-sufficient solar patio.

A calming sensory waterfall could replace the existing water feature near the gym.

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Preliminary Design Concept 1: Existing Footprint
Perspective and Precedent Images
July 12th, 2023

Section 1B: Tennis Court
This section shows the changes in topography between the student parking lot and the homes on Shular Drive that would be necessary for one tennis court. This concept does not include a retaining wall. Instead, it proposes a balanced regrading of the grassy area around the tennis court footprint. An arboretum trail is visible west of the tennis court and added stairs connect the school's entry drive to the main student parking lot.


The parking islands in this concept would prioritize featuring pollinator plants and maintaining sightlines from the entry road to the school building.


This concept envisions refreshed play equipment in the primary courtyard to provide more options for elementary classes during recess and other breaks.


An example of combined courts with one tennis court and four pickleball courts, which maximize a small footprint for tennis matches and physical education.


An example of a nature-inspired playground utilizing shade trees and materials with natural appearances.


This concept features a dedicated long jump pit, which would be relocated away from roads and parking lots.


An example of a small pollinator garden, which could bring seasonal color and educational opportunities to the underutilized courtyard behind CHS.

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Preliminary Design Concept 1: Existing Footprint
Section and Precedent Images
July 12th, 2023

Wild Columbine, *Aquilegia canadensis*
Easily grown in average, medium, well-drained soil in full sun to part shade. Wide range of soil tolerance as long as drainage is good. Attractive to hummingbirds; very good resistance to leaf miner.

Height: 2 to 3 feet
Spread: 1 to 1.5 feet
Bloom Time: February to July
Bloom Description: Yellow/Red
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

Narrow-leaved Blue-eyed-grass, *Sisyrinchium angustofolium*
Best grown in medium moisture, well-drained soil in full sun to part shade. Prefers consistently moist soils. Noted for its violet-blue flowers and branched flowering stems. No serious insect or disease problems.

Height: 1.5 to 2 feet
Spread: 1 foot
Bloom Time: March to July
Bloom Description: Blue
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Low

Dwarf Crested Iris, *Iris cristata*
Best grown in organically rich, medium moisture, well-drained soils in part shade. Will tolerate close to full shade. If grown in full sun, the soil must be kept consistently moist. Grows well on well-drained slopes.

Height: 1.5 to 2 feet
Spread: 1 foot
Bloom Time: March to May
Bloom Description: Purple
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Low

Green-and-Gold, *Chrysogonum virginianum*
Easily grown in average, medium moisture, well-drained soils in part shade to full shade. Spreads by rhizomes to form an attractive ground cover, but is easily controlled. No serious insect or disease problems.

Height: 1 foot
Spread: 1 to 1.5 feet
Bloom Time: April to October
Bloom Description: Yellow
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Low

Scarlet Beebalm, *Monarda didyma*
Best grown in rich, medium to wet, moisture-retentive soils in full sun to part shade. Common name in reference to indigenous use of plant resins to soothe bee stings. Deer-resistant but susceptible to powdery mildew.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: May to October
Bloom Description: Red
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Medium

Common Partridge-pea, *Chamaecrista fasciculata*
Showy annual wild flower that is easily grown from seed in average, dry to medium moisture, well-drained soils in full sun. Tolerates light shade. No serious insect or disease problems; mildew and leaf spot may appear.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: June to October
Bloom Description: Yellow
Sun: Full sun
Water: Low to medium moisture
Maintenance: Low

Smooth Blue Aster, *Symphyotrichum laeve*
Easily grown in average, dry to medium, well-drained soil in full sun. Easily self-seeds and attractive to butterflies. Flowers through autumn. No serious insect or disease problems; may need staking.

Height: 2 to 3 feet
Spread: 1.5 to 2 feet
Bloom Time: August to October
Bloom Description: Purple
Sun: Full sun to part shade
Water: Low moisture
Maintenance: Low

White Wood Aster, *Eurybia divaricata*
Easily grown in average, dry to medium, well-drained soil in part shade to full shade. Thrives in shade and tolerates dry conditions. Good air circulation and some morning sun help reduce incidence of foliar diseases.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: August to November
Bloom Description: White/yellow
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

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Castlewood, VA: Castlewood Schools Campus
Conceptual Site Master Plan and Planting Designs

Preliminary Design Concept 1: Existing Footprint
Plant Palette: Native Pollinator Gardens
July 12th, 2023

Cinnamon Fern, *Osmundastrum cinnamomeum*
Easily grown in medium to wet soils in part shade to full shade. Prefers moist, rich, humusy, acidic soils, but adapts to lesser conditions. Remains attractive through the summer and turns yellow in autumn.

Height: 5 to 6 feet
Spread: 2 to 13 feet
Bloom Time: Non-flowering
Bloom Description: n/a
Sun: Full shade to part shade
Water: Medium to high moisture
Maintenance: Low

Virginia Pine, *Pinus virginiana*
Easily grown in average, medium, well-drained soil in full sun. Tolerates a wide range of soil conditions including both heavy clay soils and poor soils. Prefers clay or sandy loams with moderate to good drainage.

Height: 35 to 40 feet
Spread: 15 to 20 feet
Bloom Time: Non-flowering
Bloom Description: Evergreen
Sun: Part shade
Water: Medium to high moisture
Maintenance: Low

Eastern Redbud, *Cercis canadensis*
Easily grown in average, medium moisture, well-drained soils in full sun to part shade. Performs best in moderately fertile soils with regular and consistent moisture. Deer-resistant, but somewhat susceptible to pests and disease.

Height: 25 to 30 feet
Spread: 30 to 35 feet
Bloom Time: March to May
Bloom Description: Pink
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Medium

Virginia round-leaf birch, *Betula uber*
Rare species of birch endemic to Smyth County; considered one of the most endangered species of trees in North America. Found naturally in forests near Cressy Creek. Approximately 50-year lifespan.

Height: 40 to 50 feet
Spread: 40 to 50 feet
Bloom Time: March to June
Bloom Description: Yellow
Sun: Part shade
Water: Medium to high moisture
Maintenance: Medium

Trumpet Honeysuckle, *Lonicera sempervirens*
Easily grown in average, medium moisture, well-drained soils in full sun. Will grow in some shade, but best flowering is in full sun. No serious insect or disease problems. Excellent vine for trellises, arbors, and fences; good groundcover if unsupported.

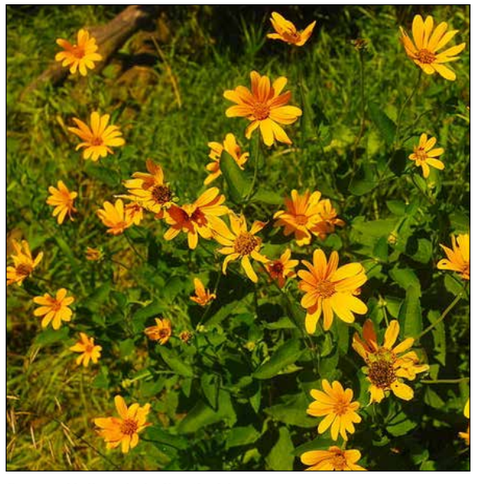
Height: 10 to 20 feet
Spread: 3 to 4 feet
Bloom Time: March to June
Bloom Description: Red/yellow
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Low

Cucumber Magnolia, *Magnolia acuminata*
Best grown in moist, organically rich, well-drained loams in full sun to part shade. Intolerant of most urban pollutants. May take 12 or more years before first blooms appear. No serious insect or disease problems.

Height: 60 to 75 feet
Spread: 30 to 35 feet
Bloom Time: April to June
Bloom Description: Green/yellow
Sun: Full sun
Water: Medium moisture
Maintenance: Low

Eastern Prickly Pear, *Opuntia humifusa*
Easily grown in dry, sandy or gravelly, well-drained soils in full sun. May be grown in clay soils as long as drainage is good and soils do not remain wet. Easily propagated by cuttings. No serious insect or disease problems.

Height: 1 to 1.5 feet
Spread: 1.5 to 2 feet
Bloom Time: April to August
Bloom Description: Yellow
Sun: Full sun
Water: Low moisture
Maintenance: Low



Oxeye, *Heliopsis helianthoides*
Easily grown in average, dry to medium, well-drained soil in full sun. Tolerates drought, but does best if regularly watered. Tolerates a wide range of soils, including poor, dry, and clayey. Some susceptibility to aphids; taller plants may need staking.

Height: 4 to 5 feet
Spread: 3 to 4 feet
Bloom Time: June to September
Bloom Description: Yellow
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Medium

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Plant Palette: VA Native Arboretum Trails
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PRELIMINARY DESIGN CONCEPTS

Preliminary Design Concept 2: Expanded Footprint

Design Description

Proposed expansion
Concept 2 proposes a ~3-acre eastward expansion to the school grounds for the purposes of expanding athletic facilities, adding a horticulture garden, and centralizing agriculture buildings on campus. This expansion would require collaboration with local landowners.

Entry sign
A curved brick entry sign is proposed by the school's main entry sign. This sign is more evocative of a college campus compared to the sign proposed in concept 1. Planting beds may surround the curved sign.

Trails and educational trailhead
This concept proposes added walking trails that total approximately one mile in length. These trails do not create a clear circular "loop", but do connect all of the major amenities on the school property.

Parking lots and circulation
Parking lot and circulation changes are limited to the west parking lots, which are entirely reconfigured. Bus parking is now located by the field house and drop-off loop. The other lots are re-striped for cars. The exit drive by Castlewood Cannery becomes permanently re-opened, with traffic redirected accordingly.

Tennis courts
Four regulation tennis courts are proposed in the field near the northwest corner of the school site. The leveled tennis plaza would be accessible via stairs and ADA ramp, and include one ADA parking space. A tiered retaining wall would support the elevated playing surface. An adjacent observation plaza with bleachers and picnic tables is proposed along the south end of the tennis courts.

Covered walkway
A covered walkway could connect the Castlewood High School and Elementary School buildings and serve as a protective structure for students waiting for the activity bus.

Mindfulness courtyard
The primary courtyard, already home to a memorial garden, a gazebo, and picnic tables, is re-branded as the "mindfulness courtyard", an intentional calming space for students to relax or collect themselves as needed. This courtyard might feature additional flexible seating areas, sensory paths, aromatic vegetation, and include "hidden" details (painted bricks, colorful rocks, small statues, etc.) for visual scavenger hunts. These are examples of minor interventions that change the thematic character of a space and could give students a comfortable environment to process

PRELIMINARY DESIGN CONCEPTS

their emotions.

Softball field and football field with track
Like Concept 1, this concept proposes a softball field between the baseball and football fields. However, this concept also proposes a football field with encircling walking track. This concept also proposes permanent bleachers for the away team and a new grand stand and announcer's box.

Batting cages
The batting cages are relocated for two reasons: first, to make room for the track and football field, and second, because the baseball and softball fields are now located on the other side of the school property.

Meeting plaza with shade sails
The asphalt area behind Castlewood Elementary School is closed to vehicular traffic and becomes a social gathering area. Large triangular shade sails are proposed as a response to the limited shade in this area. A nearby ramp creates an accessible path towards athletic fields.

Traditional playground
This concept features traditional metal playground equipment behind the gymnasium. The area would be heavily planted with additional shade trees.

Concession stand
A small new concessions building is proposed between the football and softball fields.

Fountain
A new fountain could be installed to refresh the existing water feature near the pickup loop.

New primary courtyard
The courtyard behind Castlewood High School is proposed as a new primary play area, with playground equipment specifically geared toward second, third, and fourth grade students.

Horticulture garden
This concept proposes a horticulture garden inspired by Hahn Horticulture Garden at Virginia Tech located north of the football field on the expanded campus property.

Greenhouse and agriculture storage
A new or refreshed greenhouse and agriculture storage buildings are proposed at the northernmost end of the campus expansion, which would establish a centralized area for all campus agriculture buildings.

PRELIMINARY DESIGN CONCEPTS

Open seating area

A circular formation of benches is proposed in the courtyard north of the Castlewood High School building. This uncovered seating area could be used for classes, guest speakers, story sharing, waiting, and other collaborative activities.

Vegetation

Increased plantings throughout the campus include pollinator gardens, ornamental and shade trees, and the horticulture garden. This concept envisions the pollinator gardens as comprised of a mix of perennial forbs, grasses, and shrubs, with a slightly less manicured appearance compared to Concept 1. The horticulture garden could primarily serve as an educational space and host a variety of plant species from all over the world.

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Key:

- Site Extent
- One-Way Traffic
- Two-Way Traffic

A	Curved Entry Sign
B	Four (4) Tennis Courts
C	Retaining Wall and Observation Plaza
D	ADA Parking Spot
E	Perimeter Walking Trail (~1 mi)
F	Covered Walkway
G	Mindfulness Courtyard
H	Softball Field
I	Batting Cages
J	Meeting Plaza with Shade Sails
K	Concession Stand
L	Football Field and Track
M	Traditional Jungle Gym
N	Fountain
O	New Primary Courtyard
P	13 Bus Parking Spots
Q	Redesigned Parking Lot (79 Spaces) with re-opened exit drive
R	Horticulture Garden
S	Trailhead
T	Greenhouse
U	Agriculture Storage
V	Open Seating Area

Proposed Property Expansion:

Parcel 1 (Bleachers): ~0.54 ac

Parcel 2 (Athletic Fields, Horticulture Garden, Agriculture Buildings): ~2.54 ac

N

0 40 80 160 Feet

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Disclaimer: This drawing is conceptual and was prepared to show approximate location and arrangement of site features. It is subject to change and is not intended to replace the use of construction documents. The client should consult appropriate professionals before any construction or site work is undertaken. The Community Design Assistance Center is not responsible for the inappropriate use of this drawing.

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Preliminary Design Concept 2: Expanded Footprint
Site Master Plan
July 12th, 2023

Perspective 2A: School Entry Sign
This perspective re-imagines the campus entrance and features a new curved wall entry sign. The area around the new sign is planted, featuring a variety of low-maintenance native grasses and flowering plants.

An example of an educational trailhead, which might involve signage and a few picnic tables for use by classroom groups, students, or visitors.

This concept includes an additional uncovered outdoor seating area, which can be used as a flexible space for classroom groups, storytelling, guest speakers, or club meetings.

An example of a curved entry wall, which could help establish a campus-type atmosphere.

An example of a section of a horticulture garden, which could feature several distinct areas showcasing various educational plants.

An example of a simple covered walkway, which could offer basic shade and raincover for students awaiting the activity bus.

The water feature near the gym could be upgraded to a simplistic but attractive fountain, providing white noise and a calming atmosphere.

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Preliminary Design Concept 2: Expanded Footprint
Perspective and Precedent Images
July 12th, 2023

Section 2B: Tennis Court
This section shows the changes in topography between the student parking lot and the homes on Shular Drive that would be necessary for a multicourt tennis complex. This concept includes a tiered retaining wall on the west side with native planting beds. The perimeter walking trail is visible between the tennis courts and the edge of the retaining wall. Added stairs connect the school's entry drive to the main student parking lot.


This concept utilizes shade trees in parking lot islands, offering vehicle protection, improving water retention and drainage, and minimizing the overall heat island effect from the large impervious asphalt lot.


The existing primary courtyard could be easily transformed into an intentional mindfulness courtyard to provide students a calming space throughout the school day.


An example of four regulation tennis courts, which could be used for boys', girls', and community tennis events.


This concept includes a more "traditional"-style jungle gym compared to Concept 1.

An example of a combination football field and track, which utilizes artificial turf for decreased maintenance and all-season play and could also be used for soccer.


An example of a shade sail walkway, which could provide a central meeting point and seasonal shade in an otherwise unshaded area.

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Preliminary Design Concept 2: Expanded Footprint
Section and Precedent Images
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New Jersey Tea, *Ceanothus americanus*
Easily grown in average, dry to medium, well-drained soils in full sun to part shade. Best in sandy loams or rocky soils with good drainage. No serious insect or disease problems. Susceptible to leaf spot and powdery mildew.

Height: 3 to 4 feet
Spread: 4 to 5 feet
Bloom Time: March to July
Bloom Description: White
Sun: Full sun to part shade
Water: Low moisture
Maintenance: Low

Goat's-beard, *Aruncus dioicus*
Best grown in moist, fertile, organically rich soils in full sun to part shade. Plants with male flowers (numerous stamens per flower) produce a showier bloom than plants with female flowers (three pistils per flower).

Height: 5 to 6 feet
Spread: 3 to 4 feet
Bloom Time: April to June
Bloom Description: White
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Low

Pasture Rose, *Rosa carolina*
Best grown in average, medium to wet, well-drained soil in full sun. Best flowering and disease resistance occur in full sun. Good air circulation promotes vigorous and healthy growth and helps control foliar diseases.

Height: 5 to 6 feet
Spread: 8 to 10 feet
Bloom Time: May to June
Bloom Description: Pink
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Medium

Tufted Hairgrass, *Deschampsia cespitosa*
Easily grown in average, medium, well-drained soils in part shade. Prefers moist, organically rich soils. Semi-evergreen foliage may retain some green color in mild winters. No serious insect or disease problems.

Height: 2 to 3 feet
Spread: 1.5 to 2 feet
Bloom Time: May to July
Bloom Description: Purple/green
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

Narrowleaf Meadowsweet, *Spiraea alba*
Grow in average, medium to wet, well-drained soil in full sun to part shade. Prefers full sun. Needs frequent watering to avoid drying out. No serious problems, but susceptible to diseases and insects that attack the rose family.

Height: 3 to 4 feet
Spread: 3 to 4 feet
Bloom Time: June to September
Bloom Description: White
Sun: Full sun
Water: Medium to high moisture
Maintenance: Medium

Heart-leaved Aster, *Symphyotrichum cordifolium*
Easily grown in average, dry to moist, well-drained soils in full sun to part shade. Easily grown from seed and often abundantly self-seeds in the garden if not deadheaded. Some susceptibility to Aster wilt when grown in poorly-drained soils.

Height: 4 to 5 feet
Spread: 1.5 to 2 feet
Bloom Time: June to November
Bloom Description: Blue
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Low

Big Bluestem, *Andropogon gerardii*
Easily grown in average, dry to medium, well-drained soils in full sun. This grass develops an extensive root system and is somewhat slow to establish, but, once established, has excellent drought tolerance and is easy to maintain.

Height: 5 to 6 feet
Spread: 2 to 3 feet
Bloom Time: August to November
Bloom Description: Purple/red
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Low

Hair-Awn Muhly, *Muhlenbergia capillaris*
Best grown in sandy or rocky, dry to medium moisture, well-drained soils in full sun to light shade. Best in full sun. Tolerates heat and poor soils. Noted for attractive foliage; no serious insect or disease problems.

Height: 2 to 3 feet
Spread: 2 to 3 feet
Bloom Time: September to November
Bloom Description: Pink/red
Sun: Full sun
Water: Low to medium moisture
Maintenance: Low

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Plant Palette: Native Pollinator Gardens
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Northern Maidenhair Fern, *Adiantum pedatum*
Easily grown in average, medium, well-drained soil in part shade to full shade. Prefers moist, humusy, acidic soils in full shade. Spreads slowly by creeping, branching rhizomes to form large colonies over time.

Height: 1 to 2.5
Spread: 1 to 1.5 feet
Bloom Time: Non-flowering
Bloom Description: N/a
Sun: Part shade to full shade
Water: Medium
Maintenance: Low
Origin: Hybrid

Japanese Cedar, *Cryptomeria japonica*
Best grown in moist, rich, fertile, acidic, well-drained soils in full sun. Tolerates light shade. Soils should not be allowed to dry out. Site in a location protected from drying winter winds. No serious insect or disease problems.

Height: 50 to 60 feet
Spread: 20 to 30 feet
Bloom Time: Non-flowering
Bloom Description: N/a
Sun: Full Sun
Water: Medium moisture
Maintenance: Low
Origin: Japan, Southern China

Skylands Caucasian Spruce, *Picea orientalis* 'Skylands'
Easily grown in average, medium moisture, well-drained soils in full sun. Tolerates some light shade, particularly in warm summer climates. Some susceptibility to insects and diseases, but no major problems. Foliage may brown in cold winter winds.

Height: 10 to 35 feet
Spread: 4 to 12 feet
Bloom Time: Non-flowering
Bloom Description: N/a
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Low
Origin: Caucuses

Lamb's Ear, *Stachys byzantina* 'Big Ears'
Easily grown in average, dry to medium, well-drained soils in full sun. Appreciates some light afternoon shade in hot summer climates. Known for woolly textured leaves that are soft to touch. Susceptible to disease in humid summer climates.

Height: 0.1 to 1 feet
Spread: 1 to 2 feet
Bloom Time: Rarely flowers
Bloom Description: Purple
Sun: Full sun
Water: Low to medium moisture
Maintenance: Medium
Origin: Turkey, Armenia, and Iran

Smooth Hydrangea, *Hydrangea arborescens*
Easily grown in average, medium moisture, well-drained soils in part shade. Tolerates full sun only if grown with consistent moisture. Prune in late winter to promote stem vigor and mitigate pests and diseases.

Height: 6 to 10 feet
Spread: 3 to 5 feet
Bloom Time: May to July
Bloom Description: White
Sun: Full sun to part shade
Water: Medium to high moisture
Maintenance: Medium
Origin: Southeastern United States

Yellow Daylily, *Hemerocallis lilioasphodelus*
Easily grown in average, medium, well-drained soil in full sun to part shade. Does well in a wide range of well-drained soils. A tough plant that is tolerant of poor soil, summer heat and humidity. No serious problems; extremely adaptable.

Height: 1 to 2 feet
Spread: 1 to 2 feet
Bloom Time: May to September
Bloom Description: Yellow
Sun: Full sun to part shade
Water: Medium moisture
Maintenance: Low
Origin: Eastern Europe, China

Hosta, *Hosta* 'Prairie Sky'
Best grown in part shade. Versatile and adaptable perennial with broad, coarse leaves that provide excellent coverage. Keeps showy color all season and attracts hummingbirds. No serious disease problems, but watch for slugs.

Height: 1 to 1.5 feet
Spread: 2 to 3 feet
Bloom Time: July to September
Bloom Description: Purple
Sun: Part shade to full shade
Water: Medium moisture
Maintenance: Low
Origin: Hybrid

President Plum, *Prunus domestica*
The latest maturing of the European-type plums. President is a large, dark blue freestone plum with attractive orange flesh. Resistant to black-knot disease. Pollinates with Stanley, but will also set fruit alone.

Height: 10 to 14 feet
Spread: 7 to 13 feet
Bloom Time: Fruits late September
Bloom Description: Dark blue/purple
Sun: Full sun to part shade
Water: Low to medium moisture
Maintenance: Medium
Origin: United Kingdom

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Plant Palette: Horticulture Garden
July 12th, 2023

PART 5:
APPENDIX

APPENDIX A: MEETING NOTES

Meeting Notes

Initial Site Visit and Stakeholder Input Meeting - May 11th, 2023

Present:

- Elizabeth Gilboy, Director, CDAC
- Hayley Harrington, Landscape Designer, CDAC
- Lou Ann Wallace, Russell County Board of Supervisors
- Jarrod Sparks, Castlewood High School Principal
- Adam Padgett, Castlewood Elementary School Principal
- Sherry Allen, Castlewood High School CTE (Business) teacher

Others mentioned:

- Tim Lovelace, Director of Maintenance, RCPS
- Emmily Hines, Ag teacher and FFA sponsor, Castlewood High School
- Dr. Lorraine Turner, former superintendent of schools
- Scouts (general)
- 4H (2nd-4th grade) – nature art program

Info about site:

- Dr. Lorraine Turner or another teacher previously began work on formalizing a perimeter trail, which has not come to fruition
- The school has already had a company come out and look at installing a turf football field and moving the softball field
- Playground equipment is used by 2nd-7th grades; equipment is about 12-13 years old
- Location of playground near apartment complex has resulted in major incidents between residents and school; playground is also a hotspot for teenagers after dark.
- Administration is open to pretty much anything that makes the school better
- Main buildings and baseball field are pretty much the only things with locations etched in stone
- Electronic sign is in its location because original school sign was in that location and financially it made sense to reuse existing base
- Entry drive is a bit confusing. Main loop is one way in/out, then there's a back entrance that's in/out and a disused entrance by the cannery.
- Jump pit for track is ongoing maintenance headache and point of concern
- Surrounding land is mostly owned by one local person, who may or may not be open to giving the school a small amount of land
- Current state of softball field is potential Title IX violation; adequate fields are a priority
- Baseball dugout roofs tend to be an unintended magnet for the heads of unsuspecting children
- Concession stand hasn't made money in 50 years
- There are goats and chickens on campus!

APPENDIX A: MEETING NOTES

- Rescue squad building – rescue squad holding onto downstairs, but is mostly unused storage space. The upstairs is used as a community meeting space. The roof is in rough shape and this building might need to be condemned. It is also owned by the county and was segmented off for the rescue squad a long time ago, but they haven't used it in years.
- There used to be a hip roof canopy connecting the elementary and high schools
- Bleachers are not center and have never been center. Every football season the softball field gets destroyed from the other set of bleachers, which are stored at the east end of the football field during the off season.
- Total of 13-14 buses park in back lot by cannery, which used to be tennis court
- The pavilion by the softball fields was very heavily used
- A pickleball court is about to go into the nearby park
- There is an ash pile southeast of the cannery, next to the greenhouse
- They hold basketball tournaments at the high school gym, which is both large and impressive

Info about school:

- Summer school 6/5-7/14; off 4th of July week
- FBLA used to have after school program through 21st century Ag grant; lost grant, hoping to get it back to resume programming
- Elementary school typically has their recess on the playground, football field, or in the courtyard by the elementary school gym
- Football and basketball draw largest spectator audiences. Post-2020, attendance has been up even though program participation has been down
- Seniors often eat lunch outside

Design Ideas:

- "College campus feel"
- Good signage and wayfinding
- Grand entryway with curved brick wall
- Move memorial bench from near big school sign to in front of elementary school gym
- Perimeter walking trail (cross county, nature walks for science classes, etc)
- Consolidate perimeter fences
- 3 tennis courts ideal, but any number is better than zero
- Move elementary playground to softball field
- Consolidate maintenance/storage buildings
- Consolidate Agriculture outbuildings to central area
- Create new exit drive for buses at the disused driveway by the cannery
- Some sort of canopy between elementary school and high school that can have fans and heaters for bus pickup

APPENDIX A: MEETING NOTES

Preliminary Design Presentation - July 12th, 2023

Present:

- Elizabeth Gilboy, Director, CDAC
- Hayley Harrington, Landscape Designer, CDAC
- Lou Wallace, Russell County Board of Supervisors
- Jarrod Sparks, Castlewood High School Principal
- Adam Padgett, Castlewood Elementary School Principal
- Sherry Allen, CTE (Business) teacher, Castlewood High School
- Tim Lovelace, Director of Maintenance, RCPS
- Emmily Hines, Ag teacher and FFA sponsor, Castlewood High School

Info about site:

- There is a gas pump at the older/left/west building on the small island between parking lots.
- The student parking lot is not currently paved but will be paved next month before students return.
- The slope between the entry drive and student parking lot feels more like 6-8 feet than 4 feet

Design notes:

- Rescue squad/community center: see if ownership can be transferred back to school, use lower levels for storage and upper level as community center. Make roof repairs, add hip roof to match school. Make some sort of aesthetic change to better tie in building to school property (change signs, garage doors, etc)
- Tennis courts: No tennis courts as new ones are being built at a nearby park. Potential for pickleball courts. Leave smaller footprint with pickleball in final design, but make somewhat level with the road so that the area could also be used as a parking lot if desired.
- Front parking lot: consolidate
- Sunset overlook: include
- Shade structure between schools: don’t connect between buildings; install in front of flagpole with covered seating on either side of existing path.
- Primary courtyard: transform into mindfulness courtyard
- Separate final design into dual-part phasing; phase I using the existing school footprint and phase II using an expanded footprint.
- Relocated softball and playground are both good; use a traditional jungle gym when depicting playground area
- Play equipment in other courtyard might be okay, but also might create noise issues.
- Rear parking reconfiguration was extremely well-received.
- Most interested in smaller elements that can be implemented quickly; proof they’re moving forward.

APPENDIX A: MEETING NOTES

- No strong opinions about additional outdoor classroom space vs uncovered seating, probably go with uncovered seating to minimize cost.
- Move chicken coop eventually to expand goat pastures
- Potential for cleanup at ash pile and greenhouse
- “grading will be the easiest part” of acquiring additional land
- Look into minimum amount of land that could be used to expand track and football field…seemed to have a wow factor but acquisition will be complicated
- Idea of transforming back area by dumpsters into a patio well-received
- Add parking or reconfigure traffic loop near baseball fields
- Add restrooms at concessions building
- Turn one of the bays of the existing barn into a two-stall area for goat care

<u>Ideas for Grant Funding:</u>

- Soil & Water Conservation Service (SCWS): VA Ag in the Classroom up to $5,000
- VBAF: Ash Pile
- VA Outdoors Foundation: Walking trail + kiosk

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