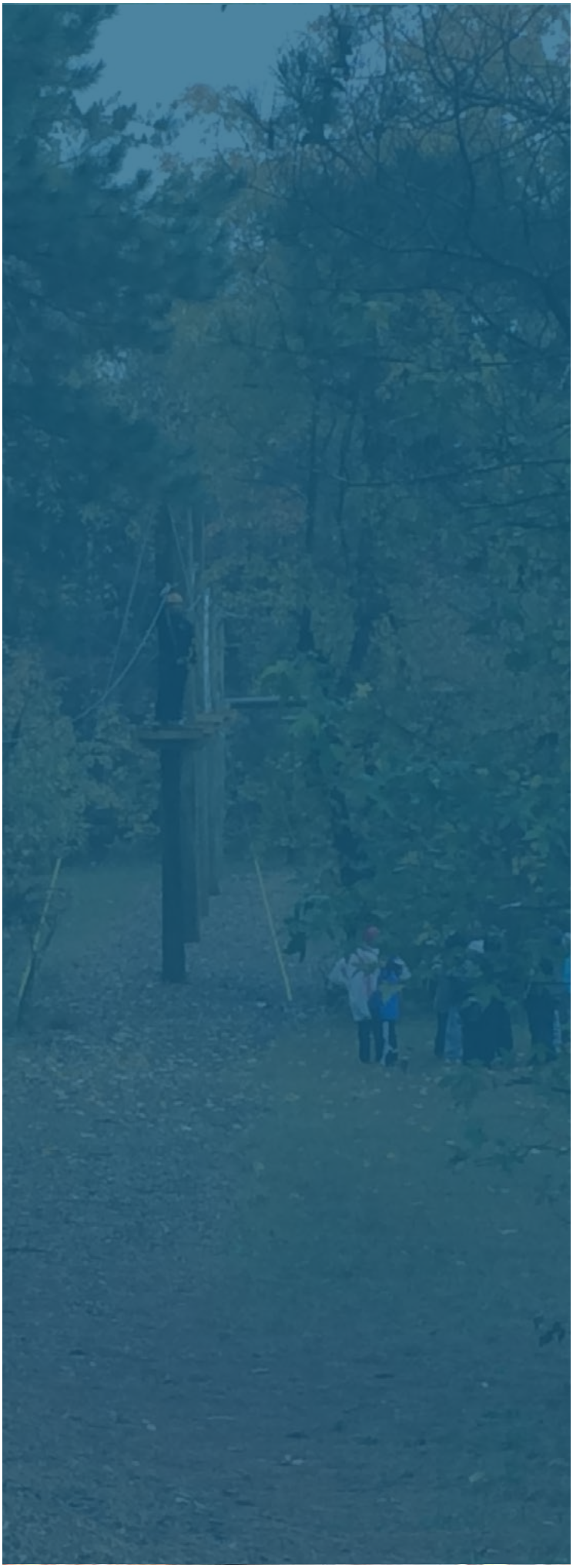


William S. Schmidt Outdoor Educational Center

Masterplan and Feasibility Study

Prince Georges County Public Schools
January 29, 2016

FINAL DRAFT
pending Board of Education approval

Grimm+Parker Architects
Columbia Engineering
Weigand Associates, Inc.
Adtek Engineers, Inc.

this page is intentionally left blank

contents

this page is intentionally left blank

Design Committee Representatives

Adam Ortiz
Adrienne Farfalla
Ajay Rawat
Amana Simmons
Andrea Jones
Andrew Onukwubiri
Angela Ballard-Landers
Anthony Soriano
Ariel Trahan
Beth Novick
Brian Galbraith
Cassandra Edwards
Chris Garrett
Dr. Christine Barrow
CJ Lammers
Dave Miller
David Wilson
Deanna Newman
Donald Belle
Dorothy Pearson
Elizabeth Chaisson
Esra Soytutan
Eugene Thifault
Gloria Mikolajczyk
Helen Register
John Neville
James Roberson
Janice Szymanski
Jason Fritz
John Ceschini
Kara Miley-Libby
Karen Fedor
Kathryn Culbertson
Katina Shoulars
Keith Roumfort
Kieran Wilmes
Leslie Marcus
Lisa Lincoln
Mary Kate Bransford
Melanie Parker
Melissa Wilfong
Monica Goldson
Nicole Hinds Mofor
Paul Willey
Pat Cruz
Rachel McNamara
Ronald Skyles
Rudolph Saunders
Rupert McCave
Samuel Stefanelli
Sara Campbell
Sarah Woodhead
Sharon Bradley
Shayla Taylor
Stephanie Jacobs
Steve Parker
Steven Hartling
Susan Cecere
Susan Dorsey
Sylvester Conyers
Teresa Gardner-Williams
Travis Long
Wendy Rouget

this page is intentionally left blank

section one

executive summary

executive summary

Purpose

The purpose of this Masterplan & Feasibility Study is to explore a long-term vision and planning options for future development of the William Schmidt Environmental Center (Camp Schmidt) campus in order to fulfill the Center's goal of providing students with a meaningful outdoor experiences that enhance and reinforce skills learned in the classroom. The Masterplan considers broad planning issues at the scale of the entire site as well as considerations for each of the existing buildings and future buildings required by the Educational Specifications. All improvements to the campus must meet the current educational, environmental, safety, and efficiency standards of Prince George's County Public Schools and also satisfy concerns and needs from the Camp Schmidt community.

The study provides an assessment of the existing conditions of the site and each existing building, and analyzes the value and limitations these conditions impose upon the various approaches to this redevelopment project. The result of the study is a comparison of the relative costs of each of the options and the advantages and disadvantages of each developed by the design team, in consultation with Prince George's County Public Schools, Camp Schmidt staff, the surrounding community and stakeholders. This report will provide Prince George's County Public Schools with an essential tool to aid in making a highly informed and confident determination on the best approach to take to address the needs of this environmental center and its community.

Methodology

PGCPS is committed to the collaborative involvement of educational, environmental and community stakeholders in the planning process. Therefore, the Design Team led a series of meetings to develop an understanding of the various perspectives from each of the myriad project stakeholders and to engage these representatives as meaningful participants in the planning process. The goals of these meetings were to develop a unified vision of a successful project and to develop consensus around focused options for an updated physical masterplan. An initial visioning workshop established goals for the masterplan; subsequent workshops provided masterplan options for review, evaluation and refinement. The resulting masterplan options helped to frame different strategies for implementing future redevelopment of the site and offered unique approaches to overall land use on the campus. The masterplan provides a framework to analyze the existing buildings on the campus; their potential for renovation or replacement and their relationship to new buildings and outdoor learning areas required by the Educational Specifications.

The Design team worked with PGCPS to confirm the program of the campus buildings and outdoor learning spaces for the Camp Schmidt masterplan. Program elements were reviewed to determine the essential interior and exterior spaces that would help to provide an effective basis of comparison between the masterplan options.

Cost Estimates are included in Section 5 of this report for each masterplan option and individual building option. The cost estimates for this report are based upon the current state funding formula adapted to the local conditions and current bidding climate as observed by the Design Team. We have included a cost per square foot for building renovations and new construction, site development costs as well as a category for exceptional costs. The estimate reflects the requirements of constructing a campus and buildings that can deliver environmental education and function for a minimum life span of 40 years in Prince George's County.

Overview

Prince George's County Public Schools (PGCPS), one of the nation's 25 largest school districts, having 207 schools, over 124,000 students and over 18,000 employees. The Vision, Mission, and Goals of the system serve as a frame of reference for all design and construction projects:

Our Vision

Our vision statement paints a future where all students, regardless of background or experiences, have access to high-quality learning environments, a broad array of educational opportunities, and effective support systems that equip them to graduate college and career ready.

Our Mission

Our mission statement defines the scope of our work and communicates what we hope to contribute to society as a result.

Core Values

Our core values articulate our key beliefs about students, academic achievement, and the elements necessary to achieve excellence in education and learning.

1. Students are our priority and all students can achieve at high academic levels.

2. Families, students, and educators share the responsibility for student success.

3. High expectations inspire high performance.

4. All staff share the responsibility for a safe and supportive school environment contributing to excellence in education.

5. The support of everyone in our community is essential to the success of our schools and students, and this success enriches our community.

6. Continuous improvement in teaching, leadership, and accountability is the key to our destiny.

The William S. Schmidt Center (Camp Schmidt) is an academic center that provides students with a meaningful outdoor experience that enhances as well as reinforces skills learned in the classroom. As a result, participants have a greater comfort level in being in the outdoors as well as a greater awareness of the environment and their responsibility as citizens in making informed decisions that improve and enhance the environment.

Camp Schmidt hosts a variety of programs for students ranging from elementary to high school; the major focus of the Camp Schmidt program is to provide an overnight camp experience with outdoor educational enrichment for up to 8000 fifth grade students in Prince George County Public Schools. Student groups coming to Camp Schmidt are assigned a Program Specialist who works with the school in developing a schedule of activities including: Stream Ecology, Dropping in on Deer, Orienteering Challenge, Nature Walk, Team Building, Problem Solving and a Confidence Course. Evening activities include a wagon ride and campfire. These activities taught at the Schmidt Center complement and enhance the existing curriculum and are aligned to Common Core, STEM (Science, Technology, Engineering and Mathematics) and Environmental Literacy.

Camp Schmidt is focused on becoming the centerpiece for environmental education for Prince George's County Public Schools. This report is focused on defining a vision and long-range masterplan that helps Camp Schmidt realize its goals through the implementation of site and building projects that will enhance the campus for years to come.

executive summary

Existing Conditions

Camp Schmidt consists of 450 acres of mostly wooded land located on Aquasco Road southeast of Brandywine in Prince George's County, Maryland. The Camp Schmidt campus has multiple buildings and structures in four separate clusters located on the eastern side of the property. The oldest building dates back to 1956 and the most recent buildings were constructed in 1982 for a total area of approximately 38,000 SF. The four building clusters consist of the following:

Orme Building

The former Orme Elementary School was originally built in 1956, and has been used by the environmental program since 1979. The building contains ten classrooms that are currently used as sleeping quarters for overnight campers, and a cafeteria and kitchen used to provide meals for the campers.

Villages I

The Villages consists of three identical cabin-style buildings each containing sleeping quarters and restrooms for overnight student campers and adult chaperones, along with small resource rooms and a central activity room. The cluster also includes a Camp Center which contains a large assembly room used primarily for lunchtime and evening activities and during times of inclement weather.

Neville Administration Building

The Administrative and Interpretive Center contains the primary offices for the Camp Schmidt staff along with the primary indoor lab spaces used for student instruction. This building, along with the Villages, was constructed in 1981-82.

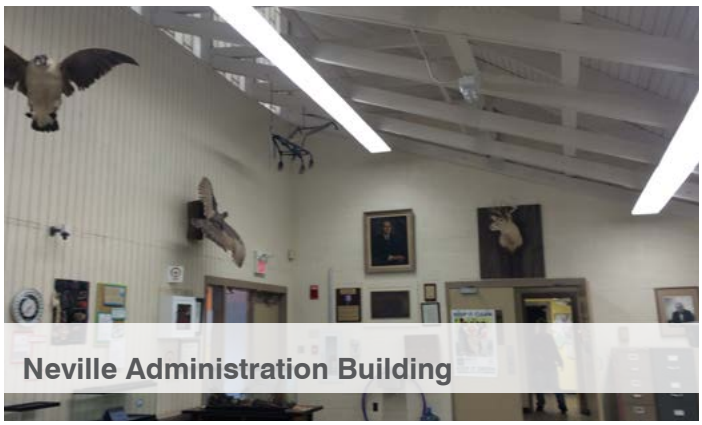
Original Cabin Cluster

The old cabin cluster contains a large pavilion with restrooms and near-by cabins used now primarily for storage. The cabins do not have indoor restrooms and are no longer used for sleeping. These buildings were constructed in 1972. This site also contains many of the outdoor activity centers for students staying in Villages I, such as the Confidence Course, the Vegetable Garden and adjacent instructional stations.

Many of the buildings on the campus contain building systems and materials that have reached the end of their useful lifespan. The buildings have not received modernizations and are need of major renovation to be able to comply with current energy, performance and accessibility requirements. Also, the buildings are not currently able to provide adequate physical space for Camp Schmidt to effectively deliver its quality programs and outdoor educational experience to a high-volume of students throughout each school year.

Orme Building

Villages 1



Neville Administration Building

Process

The Design Team led a thorough investigation of the physical, functional and aspirational aspects of the Camp Schmidt program. Starting with field survey and on-site investigation of the 450-acre campus, the team produced a site analysis study to identify the various physical considerations such as steep slopes, wetlands, stream valleys, and tree conservation areas. Aerial surveys and geotechnical investigations were used to confirm existing topography and soil conditions.
Within the various existing campus buildings, the team conducted an existing conditions assessment for each structure to review the primary structure, building envelope, secondary systems, mechanical systems, electrical systems, plumbing systems, energy efficiency, safety, security, and technology.

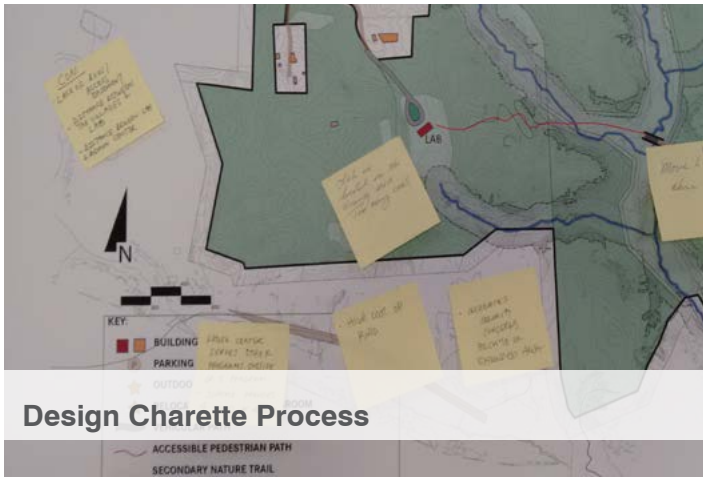
To deepen our understanding of the unique outdoor experience provided at Camp Schmidt, the design team also participated in several educational activities with fifth grade student groups. This observation, along with interviews and workshops with staff, helped to provide valuable insights to the design team as to the impact the programs and activities have on the student experience.

The Design Team held a visioning session to gather and focus the unique perspective of the various stakeholders assembled to participate in the masterplan process. Guiding Principles were developed to help determine the overarching themes and goals for the masterplan. A Design Charrette was held with stakeholder workgroups to inspire creative solutions for how to most effectively develop the campus masterplan. Multiple site planning options were then presented to and reviewed by the stakeholder group, then further refined and presented back to the group. Ultimately, two masterplan approaches were selected for analysis in this report; each with distinct advantages, potential phasing strategies and optional design elements to consider.

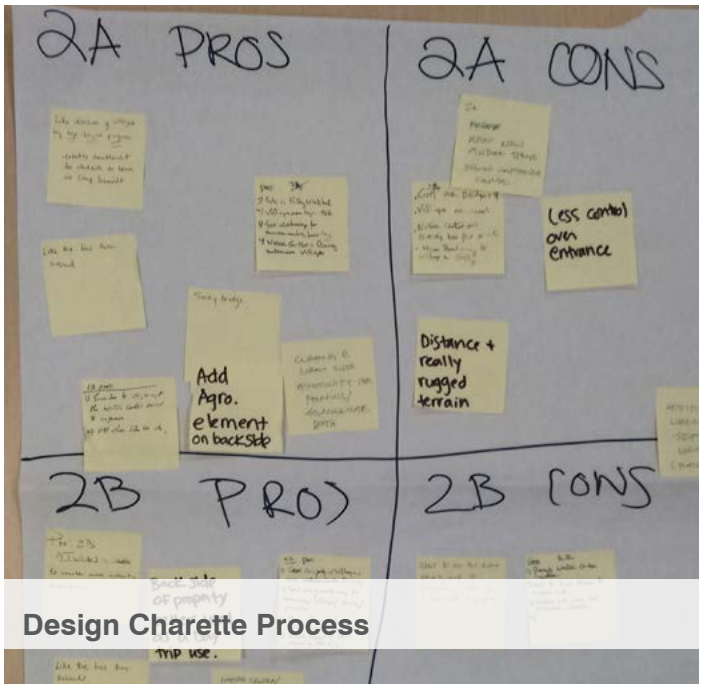
After multiple planning meetings, a consensus was reached on the recommendation to the school board to be included in the final report. The final report was then compiled and submitted to the Board of Education for their review and acceptance. Throughout the process, the results of the meetings and assessments were posted online on a dedicated website* that allowed the community to view the progress and provide comments.

***website: www.grimmandparker.com/micro/wsec**

Design Charette with Stakeholders



Design Charette Process



Design Charette Process

executive summary

Guiding Principles

The planning process for this masterplan and feasibility study was fortunate to include the unique perspectives and input of a wide variety of project stakeholders; from educators, administrators, environmentalists, advocates and beyond. After an initial visioning session was held with the stakeholder group, a list of Guiding Principles were developed to help capture the values and long-term vision for the Camp Schmidt program and physical masterplan. The list was reviewed and refined in collaboration with the group to result in the following principles:

Interaction with the Outdoors

Create an engaging outdoor learning experience that encourages a deep connection and understanding of nature and exploration of the vast and diverse 450-acre Camp Schmidt site.

Raise Environmental Awareness

Elevate students' consciousness of the environment and their role/responsibility as global citizens in making informed decisions to improve our planet

Create an "Ecological Living Campus"

Provide a natural setting of inspiring outdoor and indoor spaces made from organic, native and renewable materials that demonstrate sustainable practices with efficient use of all resources.

Deliver Comprehensive Educational Programs

Offer high quality, multi-disciplinary, curricula that result in high-performing science learning, creative thinking, proactive decision making, problem-solving, teamwork, and devising solutions to conservation issues that can change student behavior at home and beyond; Inspire students to pursue innovative programs in the field of Environmental Studies/Engineering.

Prioritize Spaces within the Least Restrictive Environment

Create a variety of flexible interior and exterior spaces that allows all students to access activities and services, and can also be utilized for diverse uses by multiple groups of educators, professionals and community members.

Design Schemes

Design options were prepared and reviewed at two different scales for this study: masterplan options at the scale of the overall site and conceptual floor plans at the individual building scale. Masterplan options were generated as a result of input gathered at various stakeholder meetings and an interactive Design Charrette.

Two masterplan options were developed initially to address two unique approaches to development on the Camp Schmidt site; the first approach based on minimizing the impact of the site and consolidating the arrangement of buildings; the second approach based on expanding the locations of the campus buildings and utilizing more available land on the property. Each of these two approaches include two variations containing unique building locations that were identified as important issues to explore by the stakeholder group, thus yielding the four total masterplan options presented in this study. These masterplan options, along with descriptions and lists of pros & cons, are illustrated in Section 3 of this report.

Conceptual building plans were developed to illustrate the spaces for each building on the Camp Schmidt campus included in the Educational Specifications furnished by PGCPS (reference Appendix). The building plans are diagrammatic in nature, and are intended to demonstrate potential adjacencies and relationships between spaces and buildings consistent with the arrangement of buildings shown with the masterplan options. Multiple plan options for each building were presented to the stakeholder group and the preferred options are included in Section 4 of this report.

Recommendations

After a collaborative and thorough design review process with Prince George's County Public Schools and Camp Schmidt staff, the stakeholder group and the Design Team recommend Masterplan Option 2B for future development of the Camp Schmidt property. Based on the Evaluation Criteria Matrix (see Appendix) established and reviewed with the stakeholder group, Option 2B delivers on the major criteria deemed most important and relevant to delivering the unique outdoor educational experience desired for all students visiting the campus.

Option 2B provides what the stakeholder group perceived to be the greatest opportunity for desirable natural settings for each of the campus buildings. This was determined to be the most important criteria for the masterplan options, and was weighed more heavily in the Evaluation Matrix. The buildings are located independently rather than in clusters, giving each building its own 'quiet' area of the site, while still being interconnected by a network of accessible pedestrian trails. The buildings are spaced to provide each user group with a certain degree of privacy, but located closely enough to keep walking distances between the buildings reasonable and safe to navigate.

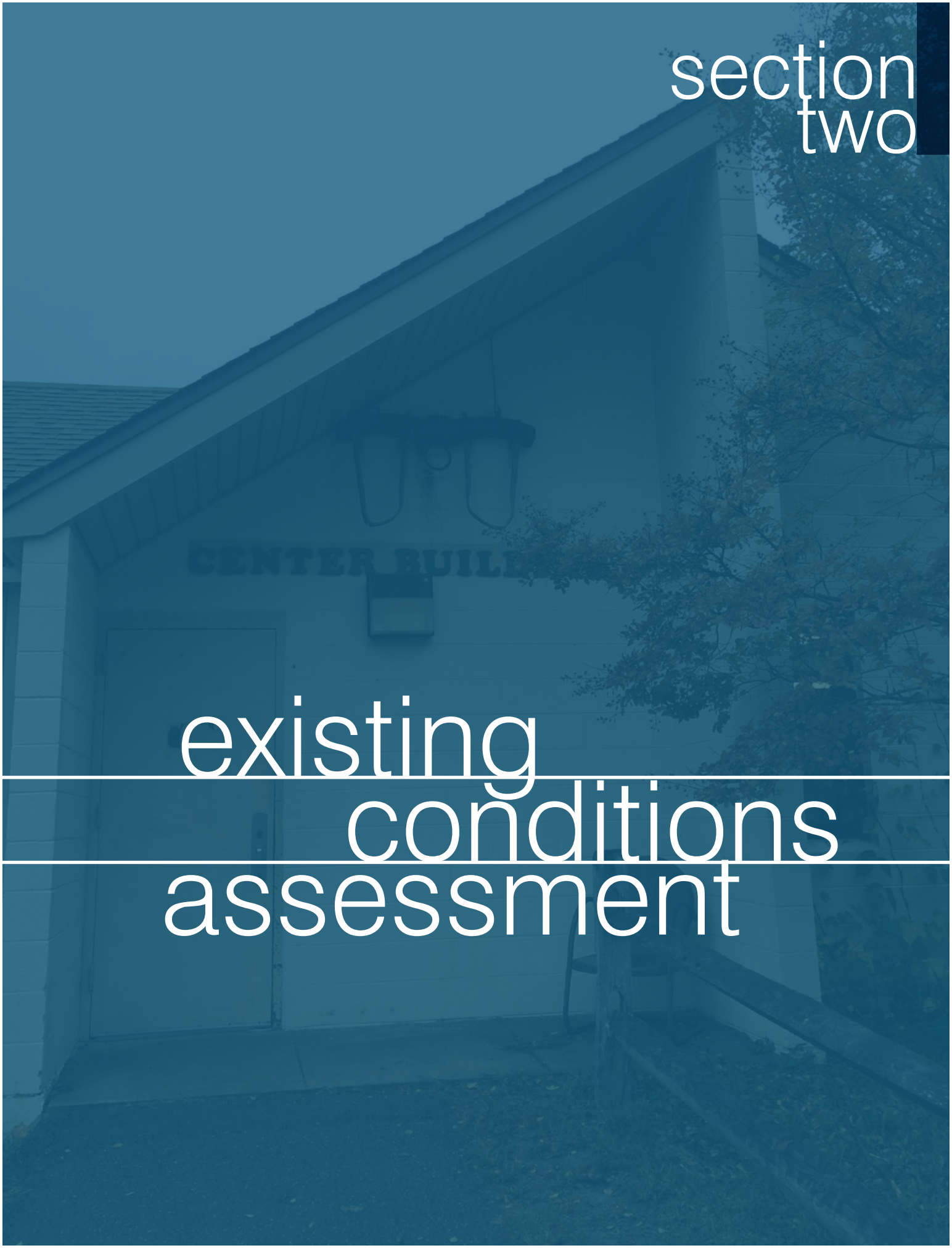
Option 2B also takes advantage of the western portion of the property, which is currently undeveloped. By locating the new Environmental Research Center on the west side, the visiting high school groups will have a more private, natural setting with a separate entry point that will not be disruptive to the ongoing activities of the fifth grade groups across the stream. This strategy also offers the opportunity to expand the campus in future. The Villages I and II clusters are located on the east side of the site, both having essentially an equal distance from the new Dining Hall located in between. An accessible trail connects the buildings on the east side of the property with the ERC to the west.

While the estimated costs for Option 2B are slightly higher than the other masterplan options, the differential is a moderately low amount considering the other desirable programmatic and design attributes of this scheme. Most of the cost differential is attributed to the new access drive to Horsehead Road, which the stakeholder group has identified as a desirable design element for broader utilization of the property.

It must be noted that for Option 2B, the development of the west side of the property is dependent on the construction of a new entrance road from Horsehead Road to access the Camp Schmidt property and the new ERC building. Since the County-owned property does not extend to Horsehead Road at this location, an easement or dedicated right-of-way would need to be confirmed or established through the neighboring properties. Initial research conducted by the Design Team and PGCPS was not able to yield conclusive evidence that such an easement or dedicated right-of-way exists; further research will continue by PGCPS to clarify the legal rights to access Horsehead Road.

It may be determined that PGCPS does not currently have access rights from Camp Schmidt property to Horsehead Road, or that they are not realistically able to obtain these rights from the neighboring landowners. If this is the case, and another masterplan option is ultimately considered for development, Option 1A was the second-most preferred option selected by the stakeholder group. Option 1A represents a compact planning strategy with all buildings located on the east portion of the site. This option also has a straightforward phasing plan and is among the most cost-effective masterplan options.

this page is intentionally left blank



section two

existing conditions assessment

Site Assessment

Introduction & General Information

The Design Team completed a Natural Resource Inventory/Forest Stand Delineation for the project known as Schmidt Environmental Center located in Brandywine, Prince Georges County, MD, in November 2015. This is a 429.49 acre site per GIS, owned by the Prince George's County Board of Education, is zoned R-O-S. It is located in the General Plan Tier III; Rural. The site currently is undeveloped and contains 393.50 acres of woodland. The site is surrounded by forest and low-density residential usage to the east, forest, agriculture and low density residential usage to the south east, forest and industrial gravel mining to the south, low density residential usage to the west and forest and agricultural usage to the north there is Cedarville State Forest to the west of the site. The site lies within the Swanson Creek Watershed, Use I.

Methodology

The forest stand plot samples were done in a random method as outlined in Natural Resources Measurement, Avery, T. E., 1975, and Simplified Point Sample Cruising, Ashley, B.D., 1991. The plot size was 1/10 acre. Each individual stand has a minimum of two (2) forest sample plots. In the case of some forest stands that were too small to sample, the forest were generally described. These plots were conducted to inventory the most representative area of the forest stand.

Ocular estimate was used to measure the DBH of trees found on-site and within 100' of the property. The placement of sample points was random and chosen as representative areas of the stand.

Zoning

The site is zoned R-O-S reserved open space. Construction of a public school in a R-O-S zone is a permitted use according to the Prince George's County Code, Subtitle 27. The minimum yard setbacks are as follows:

Front – 50'
Side – 40' / 20' (min.). For each one (1) foot of lot width over forty-two (42) feet (up to fifty (50) feet) the total of both side yards shall be increased by one-half (1/2) foot.
Rear – 20'
Height – 35'. The height of public and quasi-public buildings may be increased to one hundred twenty (120) feet, provided that, for each one (1) foot increase in height, every yard is increased by one (1) foot.

Because the site use is a public school it would not be subject to the Prince George's County Landscape Manual. However, the site design will confirm to the design requirements of the manual as they related to the site use and zone. Mandatory Referral as reviewed by MNCPPC Planning will be required for this project.

Current Land Use for this site is Mixed Forest, Institutional, and Cropland.

The subject property is located within Subregion 6 of the County Masterplan and is further categorized within Planning Area 86A/87A.

The Transportation section of the Masterplan for Subregion 6 identifies Aquasco Road and Horsehead Road, both abut the subject property, as Collector Roads. Both are planned for 80' rights-of-ways. It is noted that the separate parcel that the Orme Building is located on currently does not include the 80' right-of-way as previously described. However, the remaining parcel of the subject site along Aquasco Road appears to already include the appropriate width required by the Masterplan. As for where the property abuts Horsehead Road, dedication to expand the right-of-way to 80' would be required along the entire frontage. There is an unnamed road off of Horsehead Road that provides access to the subject site on the west. However, there is no mention of this within the Masterplan. Furthermore, it was identified by the adjacent homeowners, that this piece of unnamed road is currently maintained by the homeowners, suggesting that it may be a common easement, rather than dedicated County owned/ maintained right-of-way. A title report is suggested for the subject property and this unnamed portion of road.

Site Features

The William S. Schmidt Education Center is an existing outdoor educational facility located at 18501 Aquasco Road, in Brandywine Maryland. The existing site consists of three (3) parcels, 18501 Aquasco Road, 18715 Aquasco Road, and an unnamed parcel on Horsehead Road with Tax Account 0809754. These three (3) parcels total approximately 429.49 acres owned by the Prince George's County Board of Education. The majority of the site is undeveloped and contains approximately 393.50 acres of woodland. The site is surrounded by forest and

low-density residential usage to the east, forest, agriculture and low density residential usage to the southeast, forest and industrial gravel mining to the south, low density residential usage to the west and forest and agricultural usage to the north. Cedarville State Forest is to the west of the site.

As the survey for the site continues, letters to local utility companies have been sent requesting available information on existing facilities. It is known currently that telecom and power reside on poles along Aquasco Road and Horsehead Road. There are a number of underground electric lines on the site, but the location of these are currently unknown. Several wells and septic areas are known, as information was provided by the County Health Department, although this information may not have included every well and septic area being utilized on the site. Any improvements to these systems will require additional permitting.

Approximately a quarter of the site has slopes 15% or steeper. The amount of relief within the site is approximately 50'. Soils information is derived from the USDA NRCS Web Soil Survey. The soils types are described as follows:

1.	BaA	Beltsville Silt Loam	0-2% Slopes
2.	BaB	Beltsville Silt Loam	2-5% Slopes
3.	BaC	Beltsville Silt Loam	5-10% Slopes
4.	BgB	Beltsville-Grosstown-Woodstown Complex	0-5% Slopes
5.	CrC	Croom Gravelly Silt Loam	5-10% Slopes
6.	CwD	Croom Marr Complex	10-15% Slopes
7.	CwE	Croom-Marr Complex	15-25% Slopes
8.	DoB	Downer-Hammonton Complex	2-5% Slopes
9.	DoC	Downer-Hamonton Complex	5-10% Slopes
10.	FaaA	Fallsington Sandy Loams	0-2% Slopes
11.	GgB	Grosstown Gravelly Silt Loam	2-5% Slopes
12.	GgC	Grosstown Gravelly Silt Loam	5-10% Slopes
13.	GhC	Grosstown-Hoghole Complex	5-10% Slopes
14.	GmD	Grosstown-Marr-Hoghold Complex	5-15% Slopes
15.	GwD	Grosstown-Woodstown-Beltsville Complex	5-15% Slopes
16.	HgB	Hoghole-Grosstown Complex	0-5% Slopes
17.	InA	Ingleside Sandy Loam	0-2% Slopes
18.	LQA	Lenni and Quindocqua	0-2% Slopes
19.	MnE	Marr-Dodon Complex	15-25% Slopes
20.	MpA	Matapeake Silt Loam	0-2% Slopes
21.	Px	Potobac-Issue	Frequently Flooded
22.	SaB	Sassafras Sandy Loam	2-5% Slopes
23.	UdgB	Udorthents, Reclaimed Gravel Pits	0-5% Slopes
24.	WoA	Woodstown Sandy Loam	0-2% Slopes
25.	WoB	Woodstown Sandy Loam	2-5% Slopes

Forest Stand Description

There were 10 Forest Stands determined on the site that make up the 393.50 acres of forest on-site. The forest is a mixture of upland hardwood which is present outside of the floodplain and lowland evergreen and hardwood mix which is present in and near the floodplain. In addition, several pine forests are found in upland regions of the site. Great species diversity is found in the upland hardwood forests and the lowland evergreen and hardwood forests. Retention potential is high for both of these forest types.

The canopy of the upland hardwood forest is composed of Southern Red Oak, White Oak and Sweet Gum. The understory of the upland hardwood forest is composed of Beech and American Holly. The canopy of the lowland evergreen-hardwood mix is composed of Yellow Poplar, Red Maple, and Chestnut Oak. The understory of the lowland evergreen-hardwood mix is composed of American Holly. The pine forests on site are composed of a Virginia Pine canopy and a Sweet Gum and Eastern Red Cedar understory.

Rare, Threatened & Endangered Species

No rare, threatened or endangered species or critical habitats were found during the field investigation. Letters with the project location and description have been sent to Maryland Department of Natural Resources and the U.S. Fish and Wildlife Service. Correspondence from the agencies will be provided upon receipt.

Wetlands and Floodplain

There are wetland areas and floodplains throughout the site along Swanson Creek, as determined by Prince George's County GIS data and from Floodplain information as provided by DPIE. Wetlands are also delineated as shown on the Preliminary NRI.

Streams and Drainageways

There are streams associated with the property, also as provided with the Prince George's County GIS data layers, totaling 22,174 linear feet. The site lies within the Swanson Creek watershed. The water use category is I.

Circulation

Site vehicular access to the Orme building from Aquasco Road is sufficient for day campers. There may be a general lack of parking for other events that may occur at this building. The radii at the existing entrance appears to be undersized for adequate school bus maneuvering. Fire Access appears to be sufficient. Although there is sidewalk adjacent to the building, an adequate accessible route from the public right-of-way is not provided.

The gravel driveway that enters the site from Aquasco Road that goes to the Administration Building, Pavilion, and Villages appears to be sufficient for the facility use. However, this is a narrow road that does not meet the current standards for Fire Access. In addition, due to the material, is not ideal to use during poor weather, especially in the winter. There are a number of areas where the road is eroding and should be amended/ repaired. Per the County GIS, this road actually shows as crossing outside of the property. As ongoing field run topography and boundary work on the project continue, we hope to resolve this in the final narrative. There is currently no safe pedestrian access along this gravel road that provides an adequate accessible route from the public right-of-way. It is noted that approximately 400 feet of the end of the road past the Pavilion is a dirt road.

Archaeological and Cultural Resources

MHT files indicate that a mid-19th century tobacco barn (individually recorded in the Maryland Inventory of Historic Properties as PG:87A-8) was once located in the southern portion of the project area that was outlined on an aerial photograph that was included with the project submittal. While this particular barn may no longer be extant, current aerial photographs indicate that this portion of the property contains additional agricultural buildings and other structures that are likely to be older than 50 years in age. In addition to the presence of these buildings and the site of the mid-19th century tobacco barn, MHT files also indicate that a multicomponent archaeological site (18PR979) has been identified just east of the property on the other side of Aquasco Road. This site has yielded a variety of prehistoric materials as well as the remains of an 18th-19th century farmstead.

Given the proximity of this archaeological resource and the presence of the mid-19th century tobacco barn site and the remaining agricultural buildings, it is believed that the Schmidt Environmental Center project area (as outlined in the project submittal) has a moderate to high potential for containing archaeological resources that have not yet been identified and that the development of this property could have an effect on significant cultural resources. For these reasons, cultural resources

investigations (including archaeological survey work) may be needed prior to any site development or ground-disturbing activities, depending upon the location and extent of the proposed impact areas.

Regulatory Framework

All development greater than 5,000 s.f. of disturbance is subject to regulations promulgated by MDE related to Stormwater Management and Sediment Control. Permitting with DPIE and Prince George's Soil Conversation District will be required for any disturbance greater than 5,000 s.f. It is noted that 100 year storm attenuation is required by DPIE, which will warrant a control pond or underground control facility.

Any development greater than 40,000 s.f. of disturbance is subject to the MD DNR's Forest Conservation Act. It is noted that a TCP-2 (Tree Conservation Plan) is currently on file for the subject property (TCP-067-98) with MNCPPC. Development of the subject property may require a revision to the current TCP 2 on file.

As part of the development for the property an NRI (Natural Resource Inventory) must be provided to MNCPPC. It is noted that a preliminary NRI is being prepared. Please refer to the attached plans.

Any development greater than 1 acre of disturbance will require a General Discharge Permit to be filed with MDE (Maryland Department of the Environment).

Any expansion of the existing septic fields or the addition of any wells will be required to be permitted through DPIE with the Department of Health. It is noted that the existing facilities on the site may not be capable of handling any additional improvements. In addition, if septic facilities are expanded or new ones are installed, they will need to be design/constructed per the current MDE regulations, which require a BAT (Best Available Technology) system, which are much more involved that traditional septic systems.

Development on this property will require a submission of a Mandatory Referral with MNCPPC. A public hearing is likely to be required, depending on the amount of development that occurs for the project.

As indicated previously, if public roadway improvements are required by DPIE, then all improvements in the right-of-way will need to be permitted through DPIE Road Division.

A Floodplain Study or a revision to the current study as provided by DPIE will need to be revised as part of the development for the subject site. This will be reviewed/approved by DPIE. It is likely that a FEMA study may also be required due to the drainage area.

Any stream crossings or grading/disturbance to the streams, as well as wetlands on the site, will require permitting with MDE/ACOE.

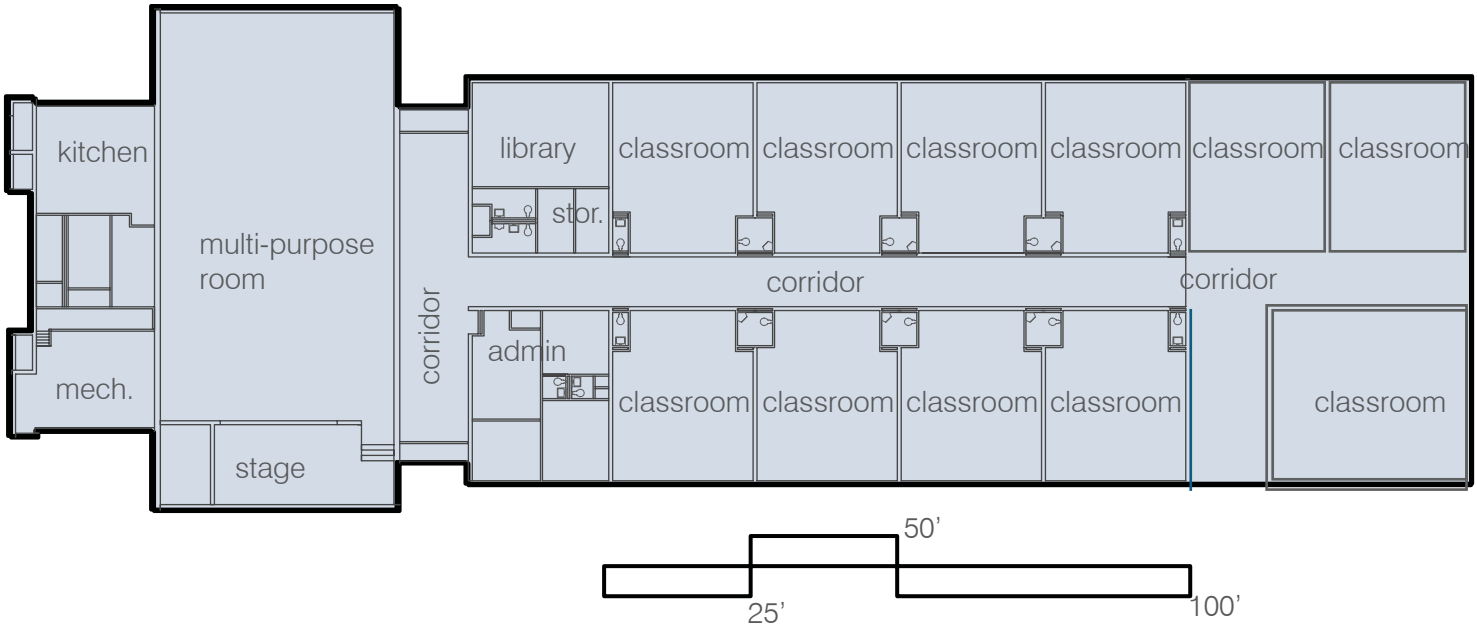
Any new or upgraded power service will need to coordinated with SMECO (Southern Maryland Electric Company).

Easements and Covenants:

As previously indicated, a title search for the subject property and adjacent unnamed road is suggested. No publicly available easements or covenants have been located.

existing conditions assessment

Building Conditions:
Orme Building



Architectural

History

The Orme Building is located at 18501 Aquasco Road in Brandywine, MD and is the largest building in use by Camp Schmidt. It was originally constructed in 1956 and operated until 1979 as Orme Elementary School. The original school design was done by architects Paul H. Kea Associates, located in Hyattsville, MD. Paul H. Kea was a founding member of the locally prominent firm Kea, Shaw, Grimm + Crichton, which specialized in educational architecture and was the precursor to Grimm + Parker Architects, currently operating in Prince George's County. Paul H. Kea was noted for his dedication to the profession of architecture and is remembered today by the Paul H. Kea Medal given by the Potomac Valley chapter of the American Institute of Architects and a Distinguished Professorship at the University Of Maryland School of Architecture. This medal is given to architects or other leaders for their dedication to architectural advocacy.

The building sits on a cleared site directly adjacent to Aquasco Road and is the only building used by Camp Schmidt currently visible from any road. It is approximately 14,772 gross square feet plus an addition of approximately 3,000 square feet built in 1959. The site is located on the north eastern edge of the total 450 acres property that forms the environmental center and currently used as a residential building for the fifth grade student program.

Building Organization

The building, though smaller in size then most, is typical for school construction of its time. It is a single story structure with a large public gathering space at the head of a double loaded corridor classroom wing. Likely due to the small size of the school, the building has a large cafeteria with a large stage but does not have a gymnasium. The support services for the building are all located to the south end of the building beyond the dining room and consist of a small kitchen and serving area, a receiving area, boiler room and storage. Throughout the building, piping from the boiler room is run under the building and through the corridor in crawl spaces.

The classroom bar consists of modules separated by bearing walls lined up on either side of a central corridor. The first modules to the front of the building contains office and admin spaces currently being used by Camp Schmidt as the operations office and overnight accommodations for a Program Specialist for the 5th grade overnight program. The first module on the back side of the building was originally the library with associated storage space and now is used for a classroom space by Camp Schmidt. The remaining modules on both the front and back of the building are the original classrooms spaces. These spaces are currently

used as residential rooms for the overnight program. The rooms share an adjoining toilet room between each pair of rooms. The six toilet rooms that are between two classrooms also have a shower stall.

The building currently serves as the dining services for all campers (both overnight and the day program), as the residential building for the overnight program, and as a large meeting room for public, community and school system events. It remains largely unchanged from its original configuration.

Exterior Walls and Windows

The structure of the building is a bearing wall system, but unlike most bearing wall school structures, the structure runs between the classrooms and across the dining room in a way that eliminates all structural loads from the exterior walls. A majority of the exterior wall consists of a steel frame infill system. A majority of the current infill is glass block with smaller sections of clear glass within the glass block. The original drawings indicate the existence of subframing that might have provided a much greater expanse of clear glass. It is likely that the glass block was added at a later time to reduce headload and glare from the expansive glass but evidence of this has not been found.

Orme Building: Exterior Walls

In the classroom wing of the building, CMU forms a base for the glass block with a sill height of 3'-4". Operable aluminum hopper windows form a band the full width of the classroom and sit on top of the CMU base. The remainder of the wall above that band consists of glass block infill up to a small metal panel and metal soffit at the roof overhang. The dining room exterior wall is similar but with less clear glass and glass block run to the floor. The remaining walls are exposed painted CMU around the perimeter of the building.

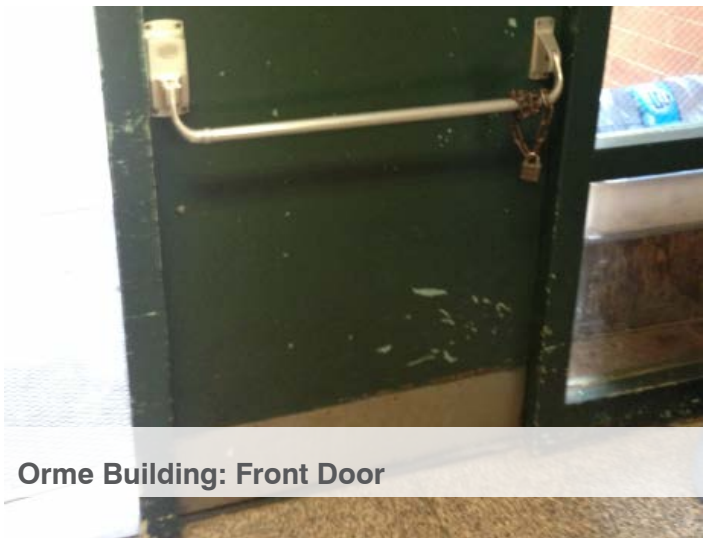
The entire building exterior is uninsulated. There does not appear to be any current leaks but evidence of leaks and moisture penetration exist throughout the building. It appears that care has been given to the maintenance and upkeep of the exterior skin but the exterior walls are far below current standards. Great care and expense will be required to improve the exterior skin of the building to meet current energy code requirements if this building is renovated. If not renovated, the building exterior will continue to allow moisture penetration and will rely heavily on the sealants systems to prevent water leaks.

Entrances

The main entrance to the building is off a small parking lot and drop off lane at the front of the building. There is a canopy that extends from the side walk to the building entrance but does not connect to the building so there is a gap in coverage which allows rain to enter. The entrance has a pair of steel doors in a steel frame that do not meet current accessibility standards. The sidewalks leading to the entrance are concrete and are in need of repair.

The remainder of the doors around the building are similar to the front doors. They are painted hollow steel doors

Orme Building: Glass block Wall



Orme Building: Front Door

in steel frames in either a glass framed opening at the end of a corridor similar to the front door or in a masonry wall. They all have similar wear and accessibility issues, including thresholds that are too large and antiquated hardware that does not meet current requirements.

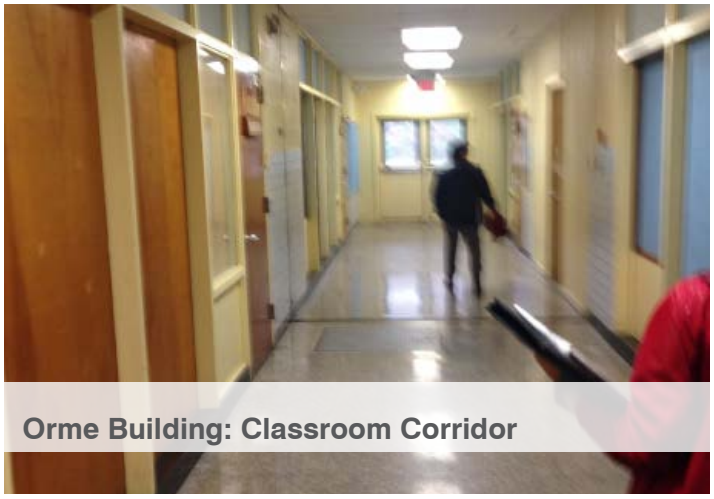
There is only one stair in the building and that is the stairway entrance to the lower level of the boiler room. This is a concrete stair with a steel handrail. The handrail is rusted and does not meet current safety requirements.

Circulation

The main corridors form a simple T shaped circulation with the double loaded classroom corridor being the base of the T. The main corridor that leads from the entrance to the back of the school is comfortably wide at 12'-0" but is being used for some storage that makes the circulation pathway smaller. The classroom corridor is also a comfortable width at 8'-6" with no obstruction. With the small size of the school these corridors are more than adequate for the regular circulation of students but do get congested at major transition times for the overnight program including drop off and pick up.

The walls of the corridors are similar to the exterior walls as they are free from any bearing structure due to the use of the walls between the classrooms as bearing walls. They consist of a combination of metal frame with infill at the classroom and glazed CMU wainscot with painted CMU above at the toilet room corridor wall. Much of the infill panel in the corridor are the exposed back side of built-in casework in the classroom. The wood and glazed CMU are in good condition and the corridor frames, while having multiple coats of paint, also appears to be in good shape.

At the top of the corridor frames at the classrooms, above the doors are wooden infill panels with opaque plastic infill panels. These were likely original clear glass clerestories that allowed the abundant natural light from the exterior walls to filter into the corridor. Evidence of this cannot be found but is typical for construction of this type during the same time period.



Orme Building: Classroom Corridor

Floor Finishes

The original floors are in place throughout the school and are terrazzo in all corridors and asbestos tile in all classrooms, dining room and on the stage. The terrazzo floors are worn but remain in good shape and are well maintained. Throughout the building there are patches of varying color where the asbestos tile has been replaced by vinyl composition tile. The remaining asbestos tile is in fair condition with no evidence of current breaks or cracks that aren't sealed. The asbestos must be removed from the building and all the floor finish must be replaced if the building is going to be renovated for continued use.

Interior Doors & Hardware

The typical doors throughout the interior of the building have solid core wooden doors with steel frames. Some hardware has been replaced but many doors within the building have round door knobs. The doors and hardware are largely original to the building and are in poor repair. The door hardware is not ADA compliant. Many of the door configurations are not ADA compliant as the required clearances are not provided. Several of the doors including all the doors into the rest rooms are much smaller than the required 3'-0" clear width and will require both the steel frame and door to be replaced.

Interior Walls

Interior walls other than the corridor walls described above are primarily painted CMU. This includes the load bearing walls which consist of both the long walls of the dining room as well as all of the demising walls between classrooms and all the walls for the toilet rooms and service areas. Evidence of moisture exists throughout the building due to the lack of cavity wall construction; this is evident as several places on the masonry walls. The building is well cared for and most of the walls are in good shape for their age. There is some evidence of small cracking at the joints but these cracks do not appear structural in nature and are expected given the building's age. It appears that most walls are regularly cleaned and painted.

Ceilings

The ceilings throughout consist of fiber acoustic panels between the structural framing installed on the structural purlins. In the main corridor and dining room, the

structural wood framing is exposed and in the dining room it is painted. In the classrooms, the framing, which is likely to be wood joists, appears to be covered by wood panels which are also painted. In many cases the paint is peeling off the wood that appears to be covering the actual framing.

Due to the limited insulation in the roof and the lack of insulated cavity walls throughout, the ceilings show evidence of frequent moisture problems. During a renovation investigations will have to be made to ensure

Orme Building: Existing Ceiling

that the moisture in the ceiling has not supported the growth of mold and mildew which would require remediation.

Bathrooms

The bathrooms are finished with floor tile that is primarily the original asbestos tile, glazed CMU to wainscot height or full height of the space, painted CMU and gypsum board ceilings. Most of them have steel stalls constructed to either provide separation for the shower or separation between a single stall and the hand washing area. The building's bathrooms are original and have had only very minor renovations over their lifetime. All bathrooms are far below the standards for accessibility and will need to be replaced if the building is renovated. This will include replacement of entrances, passageways, doorways, stalls, screen walls and all fixtures. The resulting renovation will significantly increase the area required for toilet rooms and it will likely need to reduce the total number of rest rooms provided in the facility.

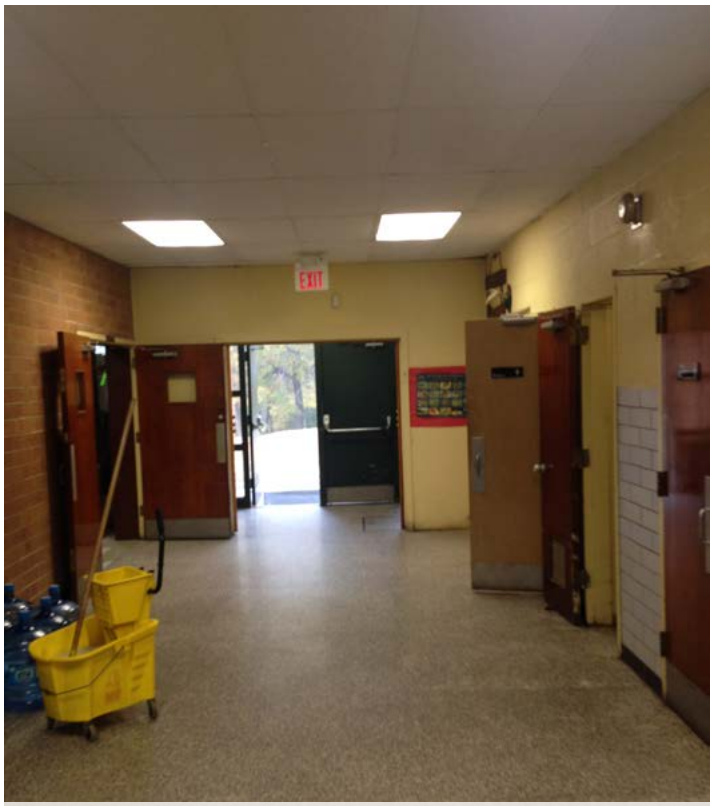
Casework and Equipment

The casework in the Orme building primarily consists of custom designed and built cabinetry in the classrooms. The cabinetry is unique and well-crafted but original to the building and shows evidence of wear. There are also many of the original chalk boards located on the walls of the classrooms. Since the building has not functioned as a school for some time, the fit out in the classrooms is not up to current classroom requirements. If this building is renovated for use as classroom space it will require upgrades in both furnishings and equipment.

Food Service

The dining hall and kitchen are in poor condition and are primarily equipped with all original equipment. The dining room is fairly large sized for the number of classroom spaces but the kitchen is undersized to support the dining room. Additionally, the kitchen has only one serving line which likely would cause congestion during meal times. Finishes in these spaces are all well maintained but aged from continuous wear. The dining hall is finished in the same manner as the general building described above with original asbestos tile floors, painted CMU walls and painted exposed ceiling structure with infill panels. The rear wall of the dining room is primarily glass block and lets in a significant amount of natural light but it limits views to the outside to a few small clear glass windows.

The kitchen has worn tile flooring with glazed CMU walls. The equipment in the kitchen is well maintained but most of the equipment is very old and in need of replacement.



Orme Building: Classroom Corridor

existing conditions assessment

If the building is renovated, additional space will be needed to provide an adequate kitchen as well as to provide appropriate clearances for accessibility.

Code Analysis
The existing building does not have an automatic sprinkler system. Installing a sprinkler system is highly recommended for several reasons, including: 1) Safety of the building occupants, 2) Protection of property, 3) Dramatic reduction in the cost of other fire protection measures needed throughout the building to comply with code.

The doors throughout the building have their original hardware. Many of the doors show substantial damage and are due for replacement. The doors have knobs which do not meet current accessibility standards and the closers on many doors do not function properly.

Accessibility Analysis
The age of the Orme building means that accessibility issues were not a primary concern at the time the building was built. No major renovations have occurred in the building, since the enactment of the Americans with Disabilities Act. Therefore few elements have accessible features, and many elements of the building do not conform to ADA requirements.

All toilet rooms throughout the building are non-compliant in many ways as detailed above. Most hardware including both exterior doors, toilet room doors and classrooms doors are non-compliant. Several exterior thresholds are too high to be ADA compliant. There are many doorways that are less than 3'-0" clear as required by ADA. The stage does not have ramp access and is therefore not ADA compliant.

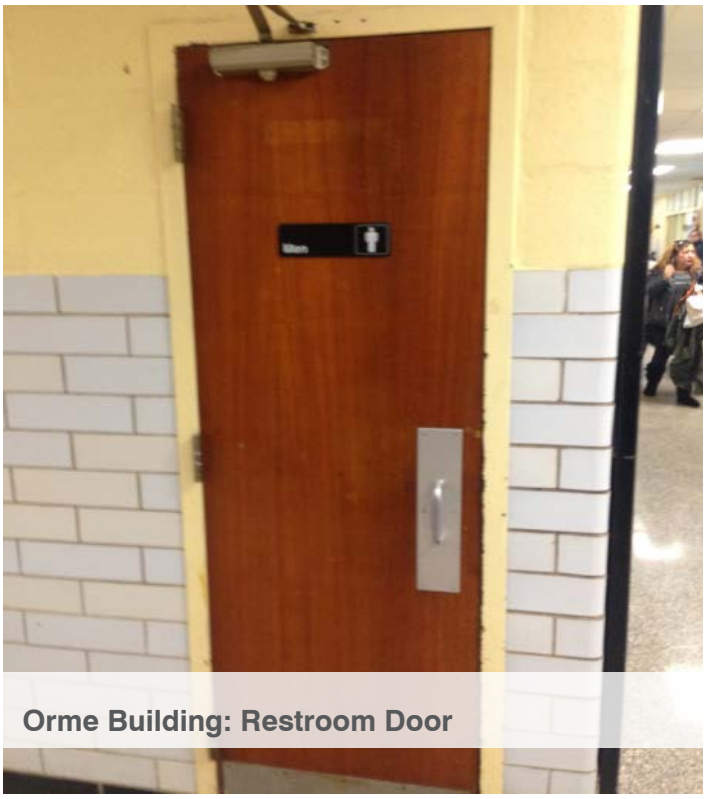
Significant modifications will be required to make this building ADA compliant and available to serve the population of students, parents and teachers who require accommodations.

Structural

The Orme building is a one-story building with a crawl space below the corridor. The roof deck is visible in most of the building and the beams are covered by drywall. Original drawings are not available.

Year Built: 1956 with addition in 1959

Building Code: Unknown

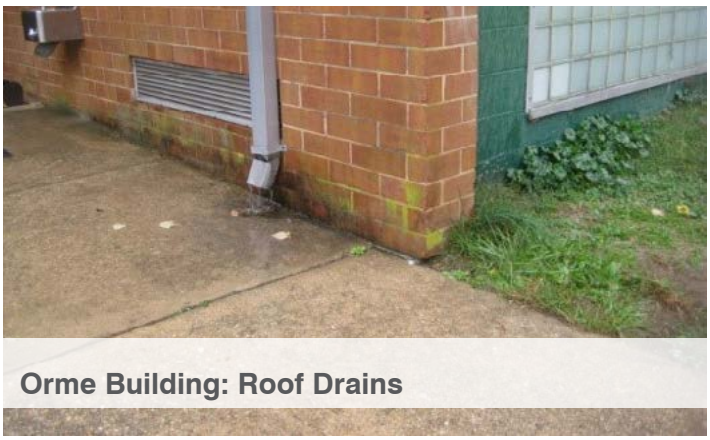


Orme Building: Restroom Door

Foundation:
Original soil bearing capacity: Unknown
Foundation type: Unknown

First Floor:
Corridor: Floor slab: 6" concrete slab with metal deck (total thickness) with 2" terrazzo deck.
Corridor floor framing system: Not visible
All other areas: Slab on grade.

Roof
Roof deck: Insulated concrete with bulb tees.
Roof framing system: Steel beams at 8'-0" oc



Orme Building: Roof Drains

Exterior Walls
Mix of CMU, brick with CMU back up and glass block.

Design Loads
Roof: Unknown
Snow Drift: Unknown
Lateral Design: Unknown

Visual Assessment (10/28/15)
Exterior CMU Walls: Good condition. Roof drains empty directly at the walls, causing standing water at foundations.

Interior Walls: Good condition.
Slab on Grade: Minor cracks in slab.
Crawlspace: Standing water in the dirt floor.

Orme Building: Main Mechanical Room

Mechanical

The Orme building uses a steam and condensate HVAC system with terminal hydronic units. Traditional unit ventilators provide heating to the classroom and flexible spaces. The multipurpose space is served via its own steam heating and ventilating unit as is the kitchen area. The building was originally built in 1956, and has seen various HVAC renovations over the years.

Heating:
The main mechanical room has two (2) natural gas/oil Burnham Industrial boilers. Each boiler is 103 MBH and is served via an oil tank that is buried outside next to the building.

Orme Building: Existing Boiler

Existing Boiler Data:
Boiler 1
- Manufacturer Burnham Industrial
- Model number: 4F-54-50-O-3P
- Oil input: 9.2 GPH No. #2
- Steam output: 1325 lbs/hr
- Heat Output: 103 MBH

Boiler 2
- Manufacturer Burnham Industrial
- Model number: 4F-54-50-O-3P
- Oil input: 9.2 GPH No. #2
- Steam output: 1325 lbs/hr
- Heat Output: 103 MB

The water required to make the steam is pumped in via wells on site. The boilers and the oil tank were replaced in 2002 and the piping connecting the oil tank to the boilers was replaced in 2013. Each boiler has a dedicated oil pump serviced by a Baldor motor. The pumps show signs of rust and do not look like they were replaced when the rest of the equipment was. Existing steam and condensate piping is run under the slab out to terminal units.

Exterior through wall terminal unit ventilators are located in each of the classroom and flexible spaces. Each of these units is connected to an outdoor air louver that provides the required ventilation. The admin office suite at the front of the building is serviced by wall radiators.

Orme Building: Typical Terminal Heating Unit

existing conditions assessment

Existing Terminal Unit Data:

- Typical Unit Ventilator
- Outside Air: 1260 CFM
- Total Capacity: 269 MBH
- Heating Capacity: 117 MB

The multipurpose room/cafeteria is serviced by its own suspended heating and ventilating unit. The unit gathers fresh air from an exterior louver and mixes it with return air which is then heated via steam. The air is then ducted from the unit and supplied via two sidewall grilles located on either side of the stage. This unit is from the original construction.

Orme Building: Suspended Unit Heater

The kitchen is serviced by a suspended unit heater that is served via steam. This unit is part of the original construction.

There is no installed Building Automation System (BAS) in the building, and all equipment is run on pneumatic or built-in. thermostats. The boilers have their own self contained controllers.

Cooling:

There was no installed cooling during original construction or any renovation/replacement work.

Ventilation:

Outside air is provided to the classroom and flexible spaces via the unit ventilators. The multipurpose/ cafeteria space is ventilated via the suspended heating and ventilation unit. Roof mounted fans exhaust the multipurpose/cafeteria room, kitchen and the restrooms and classroom spaces. The air from the classrooms and flexible spaces is transferred via a grille into the plenum space above the corridor. The roof was not accessible so the condition of the rooftop fans could not be determined. There are also other smaller individual exhaust fans used to exhaust the office restrooms and other locations.

Electrical

Electrical service for the building, which was up-graded in recent years, is provided by SMECO utility company via an outdoor pad-mounted transformer. Building utilization voltage system is 208Y/120V, 3-phase and capacity of the existing electrical service is 1200 Amps. Electrical power to the building from the utility transformer is provided by the existing underground conductors, conduits and wire-through to the existing main distribution panel located inside the boiler room. Power from utility overhead lines to the transformer, then from the transformer to the building is provided through underground primary and secondary ductbanks. The existing main distribution panel (MDP) includes a service rated main breaker, which functions as the building's main service disconnecting means.

This building does not have a secondary source of power as a back-up for emergency loads. All emergency loads in the building such as emergency light fixtures, exit lights, the fire alarm control panel, etc include back-up batteries as the secondary source of power.

Based on the requirement of the existing electrical and mechanical loads in the building, the capacity of the existing electrical service seems sufficient. In case of any modification/renovation in the building, the existing electrical service should be evaluated and up-graded if necessary.

Orme: Utility Service Conductors to MDP

Existing Power Distribution System

Utility power from the outdoor transformer with secondary voltage of 208Y/120V, 3-phase is connected to the building's main distribution panel (MDP) via underground secondary ductbank/conductors. A wall mounted MDP panel from 'Square D', with a capacity of 1200 Amps includes a main breaker, 7 feeder breakers and several spaces for future use. The MDP panel is located inside

the boiler room on the building's lower level. Branch panelboards, which are located in different locations inside the building are panels 'A', 'B', 'C', 'D', 'BR' and also panels in the main office. Panel 'BR' which feeds all mechanical equipment is located inside the boiler room. Copper wires in EMT conduits are used for panel feeders and equipment power wiring. Branch circuits for lighting and receptacles are provided with wires in EMT conduits or in some cases, MC cables.

The building was originally built in 1956. In recent years the building electrical service has been upgraded, a new MDP panel with higher capacity was provided, some new branch panelboards were installed and some new wiring for the panels and equipment were provided. However, there are some panelboards and related wiring inside the building that are very old and need to be replaced.

Also, as mentioned before, there is no source of emergency power for equipment other than egress lighting and the fire alarm system. Power for refrigerators, the PA system, the Data/Telecom system, the security system, and select heating devices may require back-up power in case of a utility power outage.

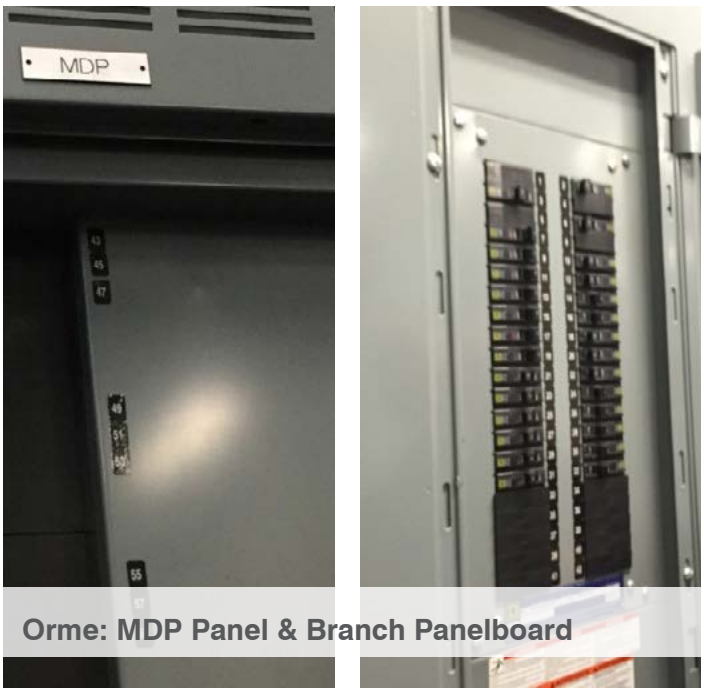
Existing Lighting System

Existing light fixtures inside classrooms and the multipurpose room are mostly 1X4 surface-mounted ceiling fixtures with fluorescent lamps and prismatic lenses. Existing fixtures in corridors are recessed mounted 2X4 fixtures with fluorescent lamps and prismatic lenses. Also there are few ceiling mounted spot lights in the main corridor and also in the multipurpose room for stage lighting. Wall switches are used to control existing lighting in different locations of the building.

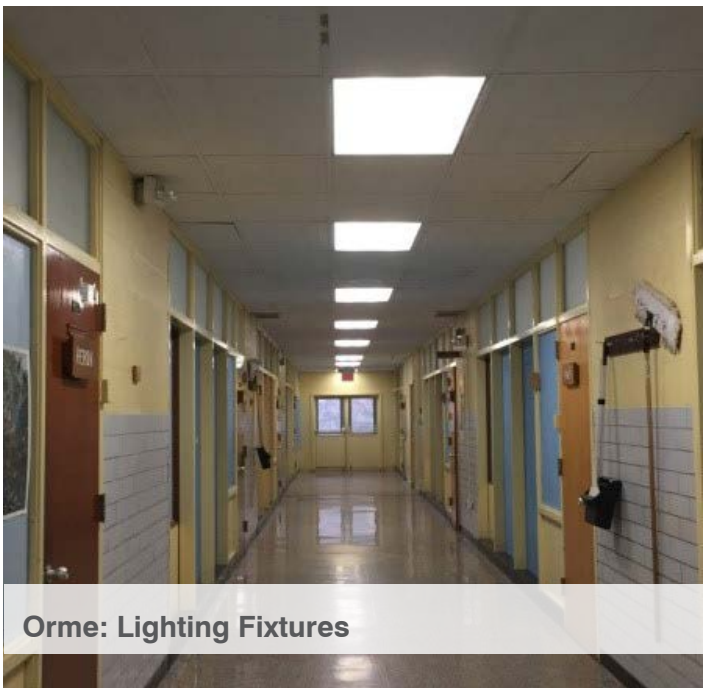
Double-head wall mounted fixtures with back-up batteries are used for emergency lighting in egress pathways/corridors and the multipurpose room. Ceiling/ wall mounted exit lights with battery back-ups are used at the exit doors and exit pathways. In some locations, combination exit lights with double-head emergency fixtures are installed. These fixtures are also equipped with back-up batteries. Emergency fixtures and exit lights which appear to have been installed in recent years are in fair condition.

A few light poles in the front area of the building provide limited exterior lighting.

Existing light fixtures in the building have T8 fluorescent lamps. Light fixtures in the building are mostly old and their efficiency is low. There is no multi-switching for controlling light fixtures and also control devices such as occupancy sensors or photo sensors for efficiently controlling lighting are not provided. Regarding the age of the installation, most of the wiring for the lighting system is old and needs to be replaced.



Orme: MDP Panel & Branch Panelboard



Orme: Lighting Fixtures

existing conditions assessment

Orme: Emergency Wall Pack

Existing Fire Alarm System

The existing fire alarm system in the building is very old. The system includes pull stations and smoke detectors as initiation devices and strobes and bells as notification devices. Pull stations are controlled by a control box (from Cerberus). This control box is located inside the boiler room next to the MDP panel. All the existing strobes and smoke detectors are battery powered. Smoke detectors are installed in all classrooms; strobe devices and alarm bells are located in the multipurpose room.

The existing fire alarm system/devices in the building are not in compliance with ADA requirements. All devices are old. There is no fire alarm annunciator panel in the building. There is no appropriate audio or visual alarm notification coverage. Any renovation project should involve installing a new fire alarm system with a new main control panel, that includes full coverage with alarm initiation and notification devices to meet current code requirements.

Orme: Control Box for Fire Alarm Pull Stations

Existing Tel/Data System

Access point/outlets for telephone/data connection are provided for the office area. Tel/data devices and components are located in the main office.

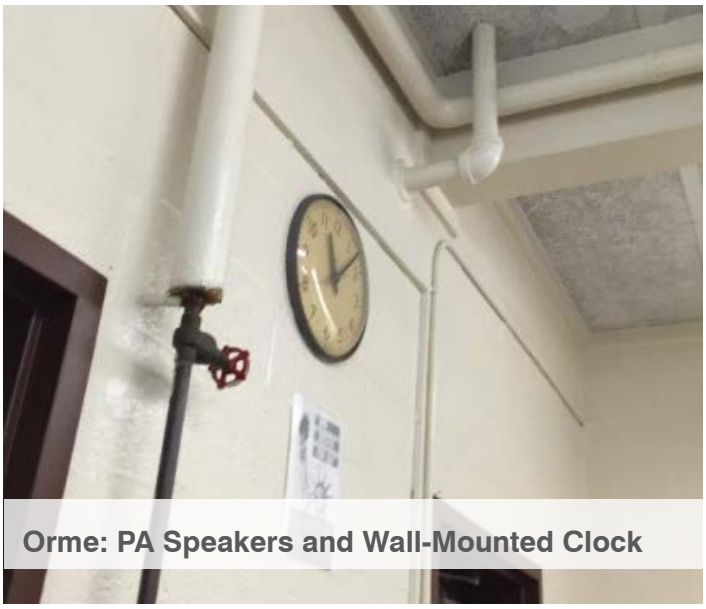
Orme: PA Speakers

Public Address System

The existing PA system includes a main control panel and speakers. The existing main PA control is from BOGEN (model panel MCP35A). It has a capacity of 25 communication zones. The PA system main control equipment is located in the main office. Speakers in the corridors are the ceiling mounted recessed type. Speakers in classrooms are the surface wall-mounted type.

Existing Clock System

There is an existing central clock system in the building. Master clock from LATHEM is located in the main office. Secondary clocks are located in locations such as corridors and the multi-purpose room.



Orme: PA Speakers and Wall-Mounted Clock

Plumbing

The water supply system for this site is from a well located on site. Water quality from the well serving the campus has been tested each of the last three years; the results of these tests has determined the water quality to be unsuitable for drinking. The main mechanical room has a vault underground containing an abandoned well head and tank head of abandoned underground hydropneumatic tank. That system was at some point replaced with a remote well and parallel bladder tanks and a pressure switch for the well pump.

Hot water is provided by a propane fired copper fin-tube water heater with separate vertical glass-lined storage tank. The heater is an RBI model 335W0200PEOASSS with 199000 btuh input. The storage tank has 200 gallons capacity. It is difficult to make a determination of condition of this equipment by visual inspection. The data plate on the heater looks old, spattered by welding, obviously stood upon. The serial number is 020227021 which could represent a date of 2002 but that would need to be verified.

The distribution piping is in pipe tunnels under the floor slab.

Plumbing fixtures are apparently functional but many are mismatched. Water closets are generally 1.6 gpf floor mounted flush valve type. Lavatories are wall hung enameled cast iron and vitreous china, some are widespread with individual hot and cold manual metering faucets, some are centerset with manual mixing faucets, either single or two handle.

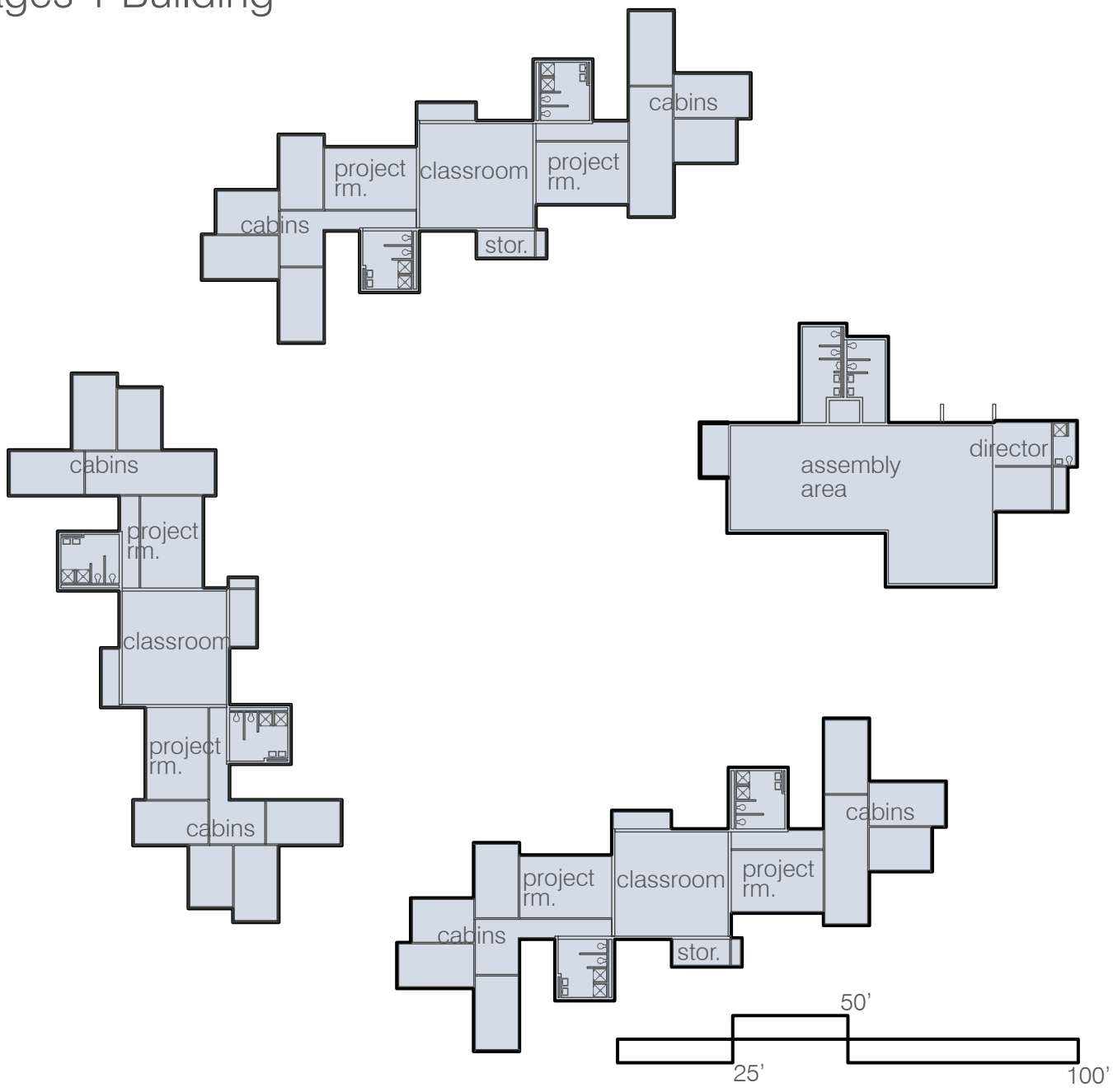
Service sinks are trap standard enameled cast iron type. In the former classrooms are some classroom sinks, stamped enameled steel with rim and manual two handle faucet and bubbler. Urinals are 1.0 gpf wall hung washout type. Between some classrooms are child height floor mounted flush valve water closets, and corner style enameled cast iron lavatories with manual metering faucets. One shower was noticed in the classroom wing. The drinking fountains appear to no longer be in use as there are bottled water dispensers available.

This building is served by an above ground propane tank with underground distribution to service regulator at the building.

This building is unsprinklered with the exception of a limited area sprinkler system in the main boiler room.

Orme: Bathroom Sink

Building Conditions:
Villages 1 Building



Architectural

History

The series of buildings known as Village 1 are located in the heart of the 450 acre Camp Schmidt property, on the southeast quadrant. The complex contains three cabin buildings each with two dormitory portions connected through an assembly area and the Center Building that serves community building that service as lunch room, gathering space and classroom.

The buildings were begun in the mid 1970’s but construction stalled out locally due to issues with funding. Records indicate that they were completed in 1980 and replaced a series of temporary trailers installed on site when these projects failed to move forward. The buildings were designed by Edwin F. Ball Architects, a prominent local architect working in Riverdale. Edwin Ball held several local positions in professional organizations and was considered a leader in local public architecture. Along with multiple well-respected schools, churches and government buildings, his most notable structure

was the Maryland National Capital Park and Planning Commission regional headquarters in Prince George's County.

The Villages are located in a small clearing that originally existed as one of the farming fields on the property when it was acquired by PGCPS. The four buildings surround an outdoor gathering space which is currently asphalt paved. The Villages are at the end of one of the on-site access roads with a small amount of graveled area for parking and a turnaround loop.

The buildings were built to house the students and chaperones for the environmental educational overnight program and remain in use today for that function. The program now services the fifth grade students who arrive in the morning and spend a little more than 24 hours on the camp property.

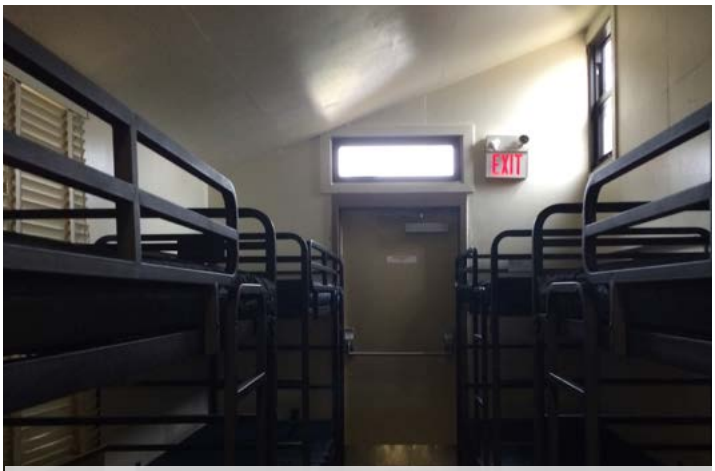
Building Organization

Each of the three cabin structures are built to house boys in half the structure and girls in the other half with a central assembly/instructional area. The two halves of the cabin are identical but are rotated 180 degrees from each other around the central space. Each half contains three dormitory rooms for students, a counselor or chaperone room, a toilet room and a project area that can be entered from either the dormitory portion of the building or the central activity room. The dormitory rooms currently have 4 sets of bunk-beds to house 8 students per dormitory room. With three dormitory rooms in each half and three total cabins, the total capacity of students in the Villages is 144. There are also two beds for adults in each half of the cabin with a total adult capacity of 12.

The assembly/instructional rooms in each cabin appear to be empty and functioning as both gathering space and educational space. Most of the project areas in the three cabins appear to be used for storage areas. The original building drawings indicated that each dormitory and counselors room has a window but there are currently doors in these locations. Light is let into these rooms by small windows covered with blinds in the side walls and clerestory windows in the high part of the sloped ceilings.

The fourth building in the complex is the camp assembly building. This building is primarily a large L shaped gathering space used as a lunch room for packaged lunches and for educational purposes. The room is too small to comfortably sit the complete population when the Village cabins are filled to their maximum so other accommodations are sometime required. In addition to

Villages 1: Assembly Area



Villages 1: Typical Dorm Room

Villages 1: Typical Exterior

the main room, there are two rest rooms, a custodial closet and storage room located directly off the main space. There is also a small suite of rooms that include a bedroom, office, toilet room and storage room that serves the overnight accommodations of the Camp Schmidt overnight supervisor.

Exterior Walls and Windows

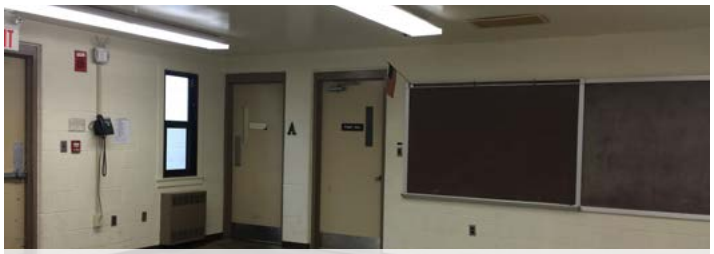
The structure of the cabin building consists of both CMU and wood frame exterior walls with wood frame roof beams and joints. The CMU walls are painted on both the inside and outside and appear to be in fair shape despite the obvious moisture issues with uninsulated single Wythe masonry walls. The wood framed exterior walls were originally covered with wood-slat siding. When that siding began to fail, new vinyl siding was installed over top of the deteriorating wood. The appearance of the vinyl siding is good but the walls remain uninsulated and any improvements would be best served by removing the existing siding and replacing the original wood with insulated panels before reinstalling the vinyl siding.

The exterior walls of the community building are similar with almost all of them being single 8" CMU walls both painted on the inside and outside. This building appears to be well cared for but likely requires continuous maintenance due to the likely moisture penetration allowed in uninsulated exterior walls without a cavity. A few small portions of the building, including the office and storage room, are wood frame structures with siding similar to the cabin buildings.

The windows in all four structures have been recently replaced and are in good shape. They are primarily single hung insulated glass aluminum window systems. The sealant around the windows and in the various joints between materials on all four buildings appear to be well maintained and will continue to require maintenance to prevent water infiltration.

Entrances

One of the many challenges of these buildings are the number of entrances and exits in each building. The cabins consist of a main entry door that goes directly into the centralized assembly room as well as 12 additional doors directly to the outside from each of the separate central cabin rooms and from every dorm room. Each of these doors are steel doors in steel frames. The doors are all adequate size for egress and accessibility but the passages leading to these doors are not compliant. The doors are in good condition and have functioning



Villages 1: Cabin Assembly Room

Villages 1: Main Assembly Area

Villages 1: Assembly Area Toilet Room

Villages 1: Project Room

and complete hardware sets but the hardware does not meet the latest accessible hardware requirements.

The doors in the community room are of the same type, metal doors in metal frames, but appear to have updated hardware.

Each building has plenty of egress capacity to meet requirements.

Roof

The roof of all buildings are sloped wood construction with asphalt shingles. They all appear to be in fairly good condition with little sign of leakage or wear. All shingles are in place but the shingles are lifting in multiple places. It appears that ongoing maintenance has been done to match the existing roofing for repair in some locations but this is difficult to verify visually.

Flashing seems to be in reasonably good shape and it appears that sealant has been repaired or replaced in several places.

Corridors

The corridors in these four buildings are limited to a stretch of corridor on either side of the assembly space that links to the dormitory areas. These corridors are of similar construction and finishes listed below. The corridors are extremely narrow and though likely to satisfy egress capacity requirements, are too small to accommodate accessibility requirements.

Floor Finishes

The original floors are in place throughout the school and include VCT and polished concrete. The cabins have polished concrete in the assembly room, project areas, toilet rooms and the corridors leading to the dorm areas and VCT in the dorm ante room as well as each of the four dorm rooms. The entire Center Building is polished concrete floor which creates a long term durable surface. These floors are in good shape and are well maintained.

Interior Doors & Hardware

Similar to the exterior doors, the interior doors are painted hollow steel doors in steel hollow metal frames. All the doors except the storage or custodial closet doors are 3'-0" doors and meet minimum accessibility requirements. The hardware on the doors varies slightly but for the most part is in good condition. Exit doors are for the most part outfitted with compliant hardware and there few interior doors, most of which do not have compliant hardware on them.

Interior Walls

Similar to the exterior walls, the interior walls are also a combination of CMU and wood stud construction. The dorm room areas and the corridors leading to these areas are painted gypsum wall board on wood studs throughout. The central assembly space, the project rooms and the rest rooms of each cabin are all painted CMU walls. The entire Center Building consists of painted CMU walls. The walls appear to be adequate and in good shape for their age. They are well maintained with little evidence of moisture or damage from water penetration in the building.

Ceilings

The ceilings throughout the Villages' four buildings are gypsum board. Most of them are flat ceilings but some sloped ceilings exist in the dorm rooms that allow light in through high windows. All the ceilings are in good condition with little or no evidence of water damage. The ceiling in the main assembly room of the Center Building does have some sagging which could be a part of the original construction or the result of past water damage.

Bathrooms

The bathrooms are finished with polished concrete floors, painted CMU walls and gypsum board ceilings in all four buildings. Most of them have steel stalls doors for privacy but the stalls are separated by 4" CMU walls. The bathrooms are original and have had only very minor renovations over their lifetime. There are some considerations for accessibility accounted for in the design of the toilet rooms but they are all below current standards for accessibility. The toilet room fixtures and fittings are minimum and are in fair condition but appropriate for the camp like setting. There are some signs of long term moisture in the toilets which should be tested and cleaned to ensure that there is no growth of mold or mildew.

Equipment

All the buildings in the Villages have learning spaces with some equipment to support that use. The cabin buildings have chalk boards and marker boards in the center assembly space as well as the two project areas. In addition to those, the Center Building also has Wi-Fi available and projection capability for presentations. The current facilities seem to support the limited amount of indoor education required at an outdoor education center.

existing conditions assessment

Structural

Camp Center Building (Villages)

The building is a one-story building. Several interior ceilings are sloped with the structure. The walls are a mix of CMU and studs. Original drawings are not available.

Year Built: 1982

Building Code: Unknown

Foundation:
Original soil bearing capacity: Unknown
Foundation type: Unknown

First Floor: Slab on grade

Roof:
Roof deck: Not visible.
Roof framing system: The roof structure is not visible. We assume wood trusses or wood joists supported by bearing walls.

Exterior Walls: Mix of CMU and wood studs.

Design Loads:
Roof: Unknown
Snow Drift: Unknown
Lateral Design: Unknown

Visual Assessment (10/28/15):
Exterior Walls: Good condition
Interior Walls: Good Condition
Slab on Grade: Minor cracks in slab.

Villages Dorm Building (Nottingham, Mattaponi, Bladensburg)

Each dorm is a one-story building. All three are identical. Several interior ceilings are sloped with the structure. The walls are a mix of CMU and studs. The sleeping rooms are supported on exposed wood beams. Original drawings are not available.

Year Built: 1982

Building Code: Unknown

Foundation:
Original soil bearing capacity: Unknown
Foundation type: Unknown

First Floor:
Sleeping areas: Wood joists supported by 3-ply 2x12 beams. The beams are on 12”x16” CMU piers. The joists are above a hard soffit, but the beams are exposed. Based on preliminary calculations of the beams only, the floors are designed for 90 psf total load.
All other areas: Slab on grade.

Roof:
Roof deck: Not visible.
Roof framing system: The roof structure is not visible. Based on first floor construction, we assume the roof structure is made up of wood trusses or wood joists supported by bearing walls.

Exterior Walls: Mix of CMU and wood studs.

Design Loads:
Roof: Unknown
Snow Drift: Unknown
Lateral Design: Unknown

Visual Assessment, typical all buildings (10/28/15):
Exterior CMU Walls: Good condition, some moss growing on the CMU.
Exterior Stud Walls: OK condition, some moisture damage to drywall in sleeping rooms.

Villages 1: Visible Damage at drywall walls

Framed Floors: There is noticeable buckling in floor tiles and warped floors in nearly all sleeping rooms. The soffit on the underside of the floor is warped in several areas. The visible portions of the exposed floor beams are in good condition, but the beams are covered in soil in some places (typically recommend 8” between grade and exposed wood).

Villages 1: Visible Damage in Floors

Slab on Grade: Minor cracks in slab.
Overall: Moisture is evident in all of the framed floors. The extent of damage will not be known until demolition.

Mechanical

The Village 1 site consists of a central building (named Center Building) and three (3) identical bunk buildings named Nottingham, Mattaponi and Bladensburg. Along with the Center Building, the Nottingham bunk building was surveyed. Village 1 was constructed in 1981-82. All existing HVAC equipment is original unless otherwise noted.

Existing HVAC load information:
Center Building:

- Installed Heating:
  - Electric: 19 kW
  - Gas (Propane): 24 MBH

Village Cabin (Typical)

- Installed Heating:
  - Electric: 28 kW
  - Gas (Propane): 26 MBH

Neither building was constructed with cooling equipment.

Heating:
The Center Building uses six (6) electric wall heaters in the main open area space and two (2) in the staff sleeping/office area with a propane heater used in the boys and girls restrooms as well as the private staff restroom. The three (3) cabins all use electric wall heaters in the dorm, living room/classroom and hallway areas with propane heaters being used in the bathrooms and showers areas. All heaters in both buildings are controlled via pneumatic wall thermostats or temperature controls built into the units themselves.

Villages 1: Electric Water Heater (Center Building)

Cooling:
The only cooling equipment present in Village 1 is a through wall air conditioning unit in the staff sleeping quarters/office. This unit was installed at some point after construction.

Villages 1: AC Unit in Center Building

Ventilation:
In the Center Building, outside air requirements are achieved by natural ventilation via the windows throughout the main area. There is an inline exhaust fans for each restroom in the ceiling that directly exhausts air from the restrooms to the outdoors via a louver. The mechanical room adjacent to the Center Building also has an exhaust fan tied to a louver for ventilation of the space.

In the cabins, there are exhaust fans as well as transfer fans. Air is exhausted via louvers from fans located in the boys and girls restrooms/showers. Air transferred via a series of two (2) fans (one set for each side of the cabin). Air is transferred from the main assembly/foyer area to the project learning rooms, then transferred again out in the adjacent hallway. This helps facilitate airflow throughout the cabin.

existing conditions assessment

Electrical

Electrical service for all the Village (1) buildings (Center building, Nottingham Building, Bladensburg building and Mattaponi building) is provided by SMECO utility company via an outdoor pad-mounted transformer. Utilization voltage system in all buildings is 208Y/120V, 3-phase and capacity of the main service is 1200 Amps. Electrical power to all building's from the utility transformer is provided by existing underground conductors and wire-through to the existing main distribution panel (MDP) located inside the water/ utility room of village center Building. Power from utility overhead lines to the utility transformer and from the transformer to the building is provided through underground primary and secondary ductbanks. The main service disconnect for the building is located inside the main distribution panel (MDP).

Presently, the village buildings do not have a secondary source of power as a back-up for emergency loads. Power for emergency loads in these buildings is provided by a feeder which is tapped ahead of the service main disconnect switch in the building main distribution panel (MDP).

Based on the requirement of the existing electrical and mechanical loads in all buildings, the capacity of the existing electrical service seems sufficient. In case of any modification/renovation in the building, the existing electrical service should be evaluated and upgraded if necessary.

Villages 1: Connection of Utility Service to MDP

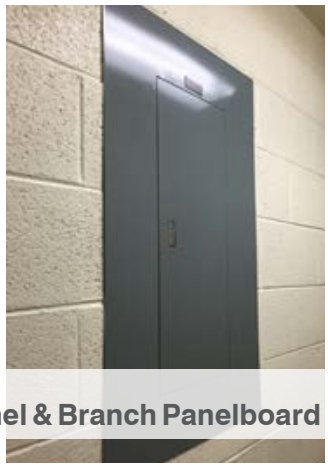
Existing Power Distribution System

Utility power for the Center building, Nottingham, Bladensburg, and Mattaponi buildings is from one outdoor transformer with a secondary voltage of 208Y/120V, 3-phase and is connected to the main distribution panel (MDP) via underground secondary ductbank/conductors. An MDP panel with a capacity of 1200 Amps is a pad-mounted type switchboard model 'Power Style' from 'Square D', which includes a main service disconnect switch, 6 feeder breakers and a few spaces for future use. The MDP panel is located inside the water/utility room of the Center building which is accessible from the outside. The existing MDP panel feeds all the branch panelboards in the Center building and also distribution panels located in utility rooms of other buildings. Branch panelboards inside each of Nottingham, Bladensburg and Mattaponi buildings are connected to the related distribution panel located in each building.

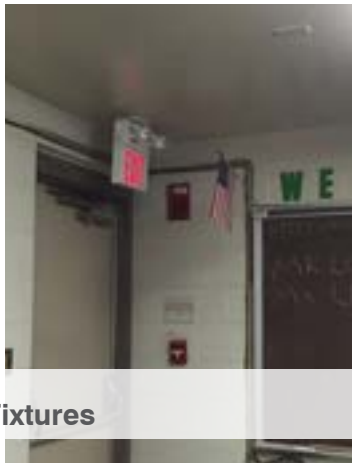
Emergency loads in each building are connected to panel EM in the Center building and panel E in each other buildings. Panel EM in the Center building feeds all other emergency panels (panel E's) inside the other buildings. All emergency panels are surface mounted, 100A and 208Y/120V, 3-phase. The emergency panel in each building is located inside a closet accessible from outside of the building. Power to the panel EM is provided by a tap feeder and disconnect from the MDP panel. The following diagram shows the existing power distribution system diagram related to all buildings in the village.

In each building copper wires in EMT conduits are used for panel feeders and equipment power wiring. Branch circuits for lighting and receptacles are mostly provided with MC cables. Based on our observation, the existing power distribution system including the main distribution panel (MDP) in the Center building, the distribution panels in other buildings, the branch panelboards and power wiring all seem in fair condition.

Villages 1: Emergency Panel (EM)



Villages 1: Distribution Panel & Branch Panelboard



Villages 1: Emergency Fixtures

Existing Lighting System

Existing light fixtures inside all buildings are mostly 1X4 surface-mounted ceiling fixtures with fluorescent lamps and prismatic lenses. Wall switches are used to control existing lighting in the buildings.

In all buildings double-head wall or ceiling mounted fixtures with back-up batteries are used for emergency lighting in egress pathways. Ceiling/wall mounted exit lights with battery back-ups are used at the exit doors and exit pathways. In some locations, combination exit lights with double-head emergency fixtures are also installed. These fixtures are also equipped with back-up batteries. Emergency fixtures and exit lights which appear to have been installed in recent years are in fair condition.

Villages 1: Double Head Light Pole

Villages 1: Lighting Fixtures

Villages 1: Bollard Type Fixtures

Existing light fixtures in the buildings have T8 fluorescent lamps. Efficiency of the fixtures is relatively low. There is no control system or related devices such as occupancy sensors or photo sensors to control lighting automatically in different locations.

Limited exterior lighting is provided for the village buildings. One double head light pole is installed in the area in the middle of the building. A few bollard type fixtures are provided for some of walkways.

existing conditions assessment

Existing Fire Alarm System

The existing fire alarm system in each village building includes a main control panel, initiation and notification devices. The existing fire alarm control panel (FACP) in each building is a conventional, 2-zone panel from Simplex (model 2001), which at present, only one zone is used and 1 zone left as spare. A back-up battery is provided for each existing FACP as the second source of power for the fire alarm system. The existing FACP in each building is located in a closet next to each building's emergency panel.

In each building pull stations and smoke detectors are used as fire alarm initiating devices and horn/strobes in different locations as fire alarm notification appliances.

The Center Building has a fire alarm annunciator panel (FAAP) which is located inside the cafeteria staff office.

According to our observation, the fire alarm systems in all village buildings are not compliant with ADA requirements. There were no ratings marked on the existing notification appliances, with device coverage areas, device locations and installation heights (in some cases) not compliant with the code.

Villages 1: FACP Device

Villages 1: Fire Alam Devices

Tel/Data/Communication System

The existing telephone/data system which is provided for the Center building includes access points/outlets in different locations in the building, main incoming line/ terminals, telephone network interfaces and telephone control equipment, which are all located inside the water/utility room. This room is accessible from the outside.

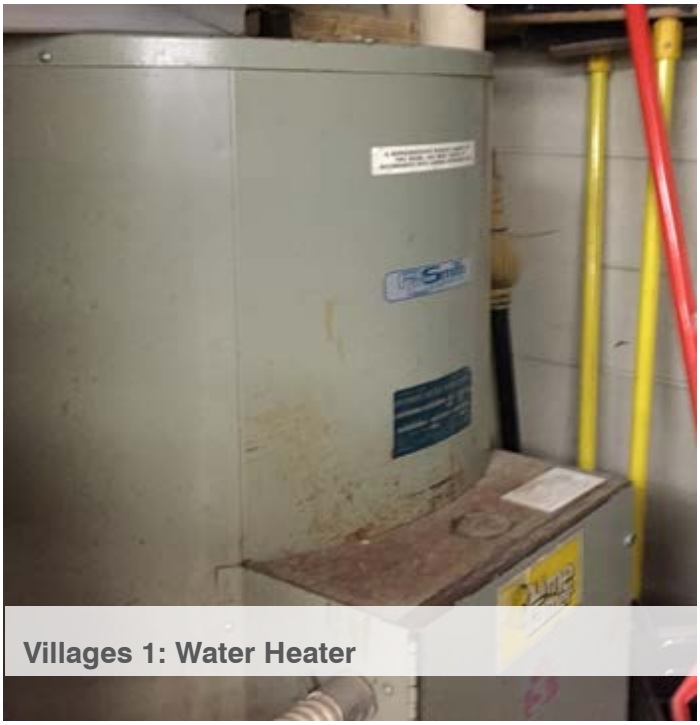
Villages 1: Tel/Data Component

Plumbing

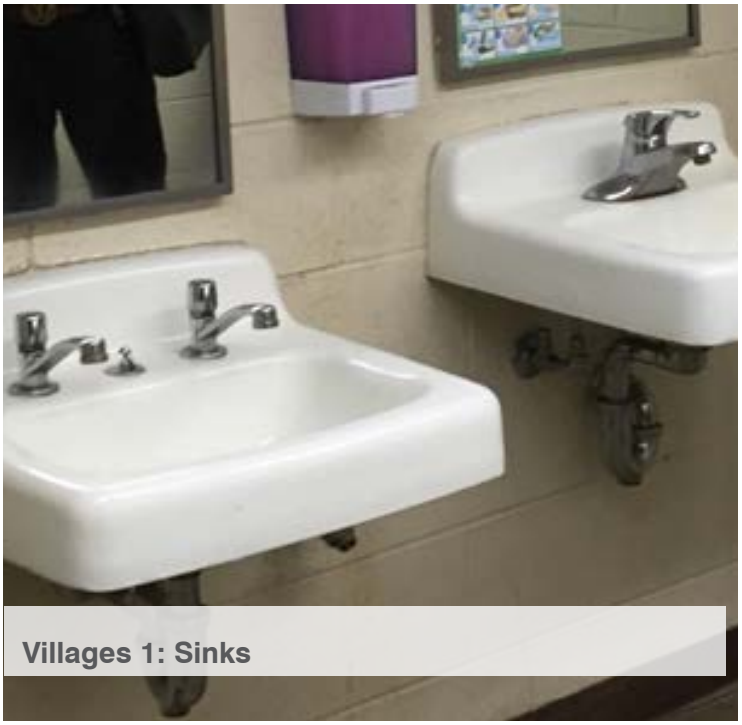
The local site consists of the Center Building, and three other buildings, Nottingham, Mattaponi, and Bladensburg, referred to as the bunk buildings. The bunk buildings are reported to be identical to each other, thus we surveyed Nottingham only.

The water distribution system for this site is from a well located on site. The Center Building has a mechanical room accessible from outdoors which contains a hydropneumatic tank and air compressor. The tank is dated 1981 and is 72" diameter x 120" oal (1873 gallons). Hydropneumatic tanks are generally 1/3 of the tank capacity or 625 gallons storage. Water is distributed from there to the center building and the three bunk buildings.

Hot water is provided by electric storage type water heaters located in each building. The water heater in the center building looks old and has surface rust, indicating near end of life.



Villages 1: Water Heater



Villages 1: Sinks

The water heater in Nottingham appears to have been replaced relatively recently.

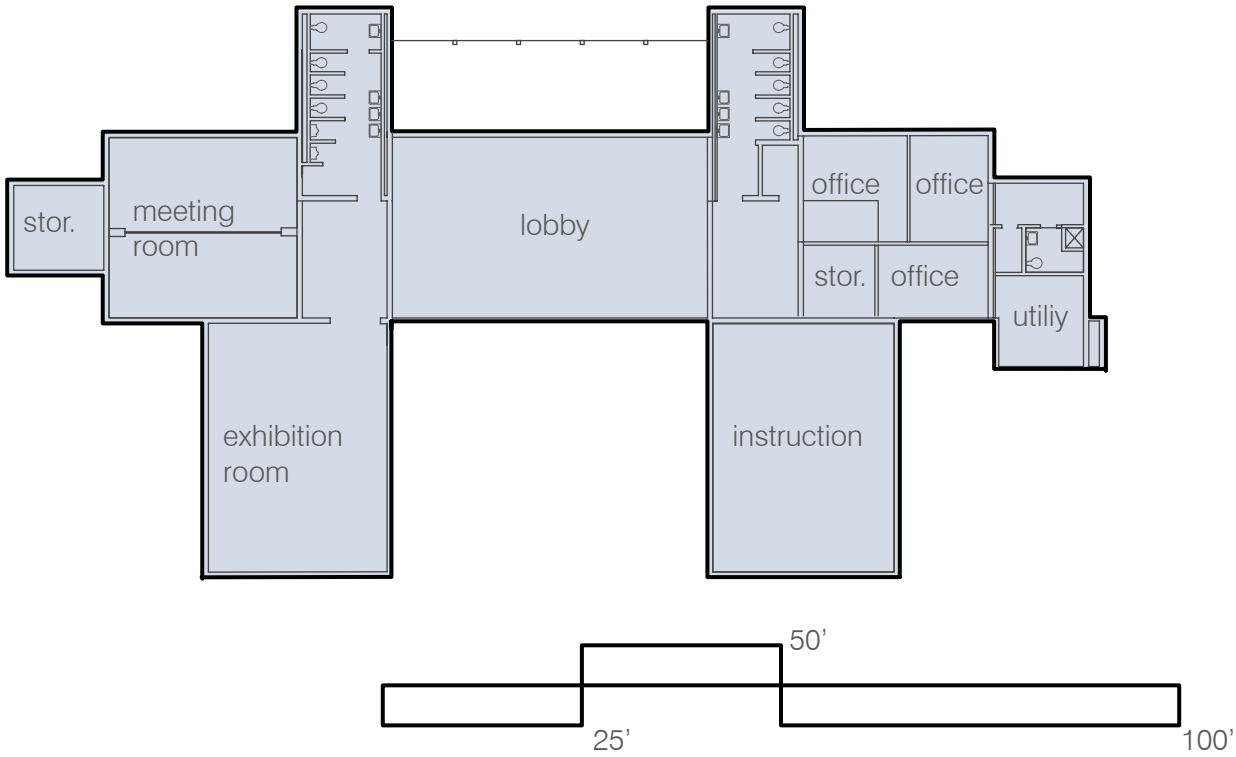
The distribution piping is under the floor slab. There is what appears to be a non-functioning drain-down pit in each of the three "bunk" buildings with solenoid valves and a manual valve.

Plumbing fixtures are apparently functional but many are mismatched. Water closets are generally 1.6 gpf floor mounted flush valve type. Lavatories are wall hung enameled cast iron and vitreous china, some are widespread with individual hot and cold manual metering faucets, some are centerset with manual mixing faucets, either single or two handle. The urinal in center building appears to be 1 gpf wall hung manual flush valve type. Service sinks are trap standard enameled cast iron type. In the center building is an adult quarters with a tank type water closet, wall hung lav, and a shower.

This group of buildings is served by an above ground propane tank with underground distribution to service regulators at each building. Unit heaters are propane fired.

These buildings are unsprinklered.

Building Conditions:
Neville Administration Building



Architectural

History

The design for the Neville Administration Building was completed in 1979 and it appears that the building was built and opened in 1980 according to records. The project was part of a bigger effort in the 1970’s to provide comprehensive outdoor education to the students of Prince George’s County Public Schools. Similar to the Villages, the project appeared to be initiated several years prior to it was completed. The Neville Building was designed by Edwin F. Ball Architects, the same architectural firm that was hired for the design of the Villages, and was completed the year prior to the completion of the villages design. It is likely that the aesthetic of the Neville Building drove the future design of the buildings of Village 1.

The Neville Building is the first building approached when driving on the gravel entrance road on the Camp Schmidt property. It is situated up a slight incline on a loop road that provides for drop off and a small amount of parking. Similar to the other building on site, it sits in clearing that was likely part of the original clearing on the property.

Building Organization

The building is organized around a central entrance lobby and exhibit area. This space is entered directly from the sheltered porch at the front of the building. On either side of this space is access to additional spaces designed to be specialized teaching spaces, as well as offices, storage area and rest rooms.

The specialty rooms include two full size classrooms that were designed to be a hands-on exhibit room, which is currently home to many of the displays and exhibits in the Camp Schmidt educational collection, and an audio-visual instruction room which houses additional exhibits and is currently used for storage and office space. The building also has a seminar room with a large storage room attached. The seminar room as an operable partition to allow it to be divided into two spaces. On the opposite side of the building is the office suite which holds the director’s office and the administrative functions for Camp Schmidt. The building has large toilet rooms to serve the student pollution as well as a toilet room off the director’s office, storage and utility spaces.

Exterior Walls and Windows

The structure of the Neville Building consists primarily of CMU walls with wood roof framing. The walls are

single wythe 8" CMU with no insulation or cavity. This construction type is similar to other buildings on the property. There are a few small annex structures adjacent to the building that are stud wall framing with exterior sheathing and siding. The exterior CMU walls are painted on both the interior and exterior of the walls. As is typical in this type of construction, there is evidence of wear due to moisture penetration.

There are few exterior windows to the structure, the largest section of fenestration includes a set of translucent panels in a wood framed system that lets natural light into the central exhibit area of the building. These panels have colored over time and are likely to be nearing the end of their useful life. The interior of the CMU in the main exhibit room is covered by painted vertical wood paneling.

Entrances

The main entrance way is located under the covered exterior porch and consists of a pair of hollow metal doors in a hollow metal frame. The doors appear to be in good shape and have a complete set of egress hardware but the hardware is dated and does not meet current standards.

There are a second pair of doors exiting the main exhibit space as well as single doors connecting the classroom spaces at the back of the building. All doors and frames are of the same construction and with similar hardware. The building has plenty of egress capacity to meet requirements.

Roof

The roof of the building is a series of sloped wood construction with asphalt shingles sections over the different spaces of the building. It appears to be in fairly good shape with little sign of leakage or wear. There appear to be no missing shingles, however, there are locations where the shingles appear to be lifting. It appears that ongoing maintenance has been performed to patch and repair the roof in some locations and there is no evidence of current leaks.

Flashing seems to be in reasonably good shape and it appears that sealant has been repaired or replaced in several places.

Floor Finishes

The flooring includes VCT and polished concrete. The main exhibit area is polished concrete and appears to be original construction. The classroom spaces, seminar rooms, office and other support spaces on either side of the main exhibit room are all VCT. The VCT does not appear to be original and is in very good condition with little separation or wear.

Interior Doors & Hardware

Similar to the exterior doors, the interior doors are painted hollow steel doors in steel hollow metal frames. All the doors except the storage or custodial closet doors are 3'-0" doors and meet minimum accessibility requirements. The hardware on the doors varies slightly but for the most part is in good condition. Exit doors for the most part are outfitted with egress hardware which is compliant and there few interior doors, most of which do not have compliant hardware on them.

Interior Walls

Similar to the exterior walls, the interior walls are also a combination of CMU and wood stud construction. There are very few interior walls except within the office suite. The walls in this area are painted gypsum wall board on wood studs. The walls appear to be adequate and in good condition for their age. They are well maintained with little evidence of moisture or damage from water penetration in the building.

Ceilings

The ceilings in the Neville Building are either painted gypsum board or exposed wood trusses. The main exhibit room has fairly complex wood truss system that primarily bears on the CMU walls below the roof line and allows for the installation of the translucent panel clerestory. This truss system has been painted and also includes the wooden panel ceiling above the truss.

All of the remaining ceilings in the building are gypsum board and most are in good condition. There is evidence of sagging in some locations which could be there from the time of original construction or the sign of some previous water damage.

Bathrooms

The bathrooms are finished with polished concrete floors, painted CMU walls and gypsum board ceilings. The group toilets have steel stall doors for privacy but the stalls are separated by 4" CMU walls. The bathrooms are original and have had only very minor renovations over their lifetime. There are some considerations for accessibility accounted for in the design of the toilet rooms but they are all below current standards for accessibility. The toilet room fixtures and fittings are in fair shape and appear to be functioning adequately.

existing conditions assessment

Structural

The building is a one-story building with a high volume space in the lobby. Several interior ceilings are sloped with the structure. The walls are a mix of CMU and studs. Original drawings are not available.

Year Built: 1981-1982

Building Code: Unknown

Foundation:
Original soil bearing capacity: Unknown
Foundation type: Unknown.

First Floor: Slab on grade

Roof:
Roof deck: Wood plank decking in lobby. Not visible in other areas.

Roof framing system: Wood trusses at roof in lobby spaced at ± 2'-0" on center. The roof structure is not visible at other areas. We assume wood trusses or wood joists in all other locations. Framing, where visible, is supported by bearing walls.

Admin: Upper walls in lobby volume

Exterior Walls: Mix of CMU and wood studs. Upper walls in lobby volume area are made of translucent materials.
Design Loads:
Roof: Unknown
Snow Drift: Unknown
Lateral Design: Unknown

Visual Assessment (10/28/15):
Exterior Walls: Good condition
Interior Walls: Good Condition
Slab on Grade: Minor cracks in slab.

Mechanical

The Administrative and Interpretive Center (Admin Building) was constructed in 1981-82. The building has a mixture of HVAC equipment and has had minor renovations over the years.

Existing HVAC load information::

- Installed Heating:
  - Electric: 41 kW
  - Gas (Propane): 35 MBH
- Installed Cooling:
  - Electric: 1 3/4 Tons

Heating:
The two (2) exhibition spaces as well as the front offices are heated via electric wall heaters. These heaters are all from the original construction. The back cubicle office spaces have electric wall mounted heat pump units manufactured by Amana that provide heating and cooling. These units were installed in 2013. Propane gas heaters are used in the boys and girls restrooms as well as the private office restroom. The conference room has its own dedicated electric heat pump unit that provides heating and cooling.

Admin: Electric Wall Mounted Amana Heat Pump

Admin: Electric Heat Pump Unit

Cooling:
The electric heat pumps in the back office space as well as the conference rooms provide cooling to those spaces. The two front offices have through the wall air conditioning units that were part of the original construction. The electric heat pump units are controlled via built in thermostats. The original electric wall heaters are controlled via pneumatic thermostats.

Ventilation:
Ventilation is achieved via natural means through window openings throughout the building. All three (3) restrooms are exhausted via ceiling fans through sidewall louvers. The adjacent mechanical room is exhausted through a sidewall louver as well.

Electrical

Electrical service for the building is provided by SMECO utility company via an outdoor pad-mounted transformer. Building utilization voltage system is 208Y/120V, 3-phase and capacity of the existing electrical service is 1200 Amps. Electrical power to the building from the utility transformer is provided by the existing underground conductors and wire-through to the existing main distribution panel located inside the water room. Power from utility overhead lines to the utility transformer and from the transformer to the building is provided through underground primary and secondary ductbanks. The main service disconnect for the building is located inside the main distribution panel (MDP).

Presently, the administration building does not have a secondary source of power as a back-up for emergency loads. Power for emergency loads in the building is provided by a feeder which is tapped ahead of the service main disconnect switch in the building main distribution panel.

Based on the requirement of the existing electrical and mechanical loads in the building, the capacity of the existing electrical service seems sufficient. In case of any modification/renovation in the building, the existing electrical service should be evaluated and up-graded if necessary.

Existing Power Distribution System
Utility power from the outdoor transformer with secondary voltage of 208Y/120V, 3-phase is connected to the building main distribution panel (MDP) via underground secondary ductbank/conductors. MDP panel with capacity of 1200 Amps is pad-mounted type switchboard model 'Power Style' from 'Square D', which includes a main service disconnect switch, 7 feeder breakers and several spaces for future use. MDP panel is located inside the building water/utility room which is accessible from outside of the building. Branch panelboards which are located in different locations inside the building are 'A', 'B' and 'OL'.

Building emergency loads are connected to panel EM with capacity of 100A and voltage 208Y/120V, 3-phase. This panel is located inside a closet accessible from outside of the building. Power to this panelboard is provided by a feeder and disconnect from the MDP panel. See the following diagram for the building's existing power distribution system.

Copper wires in EMT conduits are used for panel feeders and equipment power wiring. Branch circuits for lighting and receptacles are provided with MC cables. The building was built in 1982. Based on our observation, the existing power distribution system including the main distribution panel (MDP), branch panelboards and power wiring seem in fair condition.

Admin: Existing Pad Mounted Transformer

Admin: MDF Panel & Emergency Panel (EM)

existing conditions assessment

Existing Lighting System

Existing light fixtures inside the building are mostly 1X4 surface-mounted ceiling fixtures with fluorescent lamps and prismatic lenses. Wall switches are used to control existing lighting in the building.

Double-head wall mounted fixtures with back-up batteries are used for emergency lighting in egress pathways. Ceiling/wall mounted exit lights with battery back-ups are used at the exit doors and exit pathways. In some locations, combination exit lights with double-head emergency fixtures are installed. These fixtures are also equipped with back-up batteries.

A few light poles are installed in the front area of the building to provide limited exterior lighting.

Existing light fixtures in the building have T8 fluorescent lamps. Efficiency of the fixtures is relatively low. There is no control system or related devices such as occupancy sensors or photo sensors to control lighting automatically in different locations.

Admin: Lighting Fixtures

Existing Fire Alarm System

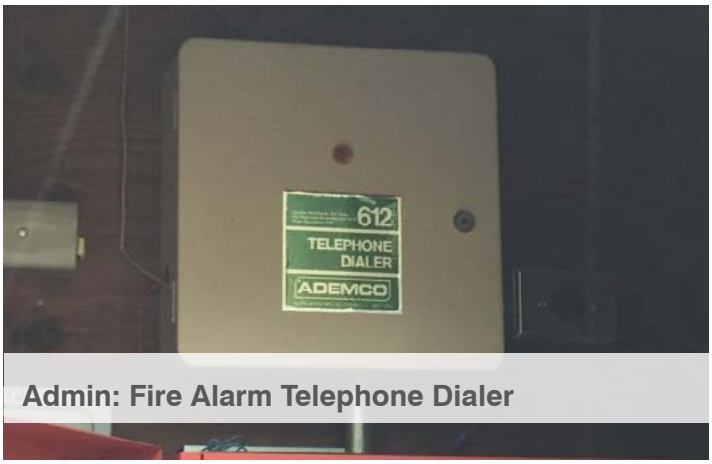
The existing fire alarm system in the building includes a main control panel, initiation and notification devices. The existing fire alarm control panel (FACP) is a conventional, 4-zone panel from Simplex (model 2001), which at present, uses only one zone with 3 zones left as spare. A back-up battery is provided for the existing FACP as a second source of power. The existing FACP is equipped with a telephone dialer that is located in the closet next to panel 'EM', which is accessible from outside of the building.

Pull stations and smoke detectors are used as fire alarm initiating devices with horns/strobes being utilized as notification appliances.

The building has a fire alarm annunciator panel (FAAP) which is located inside the main office.

According to our observations, the existing fire alarm system in the building does not appear to be ADA compliant. There were no ratings marked on the existing notification appliances, with device coverage areas, device locations and installation heights (in some cases) not compliant with the code.

Admin: Fire Alarm Control Panel (FACP)



Admin: Fire Alarm Telephone Dialer

Admin: Tel/Data Components in Utility Room

Admin: Tel/Data Components in Utility Room

Existing Tel/Data system

The existing telephone/data system in the building includes access points/outlets in different locations, main incoming line/terminals, telephone network interfaces and telephone control equipment, all located inside the water/utility room. This room is accessible from outside of the building.

There are few wireless modems installed in different locations to facilitate access to the internet network.

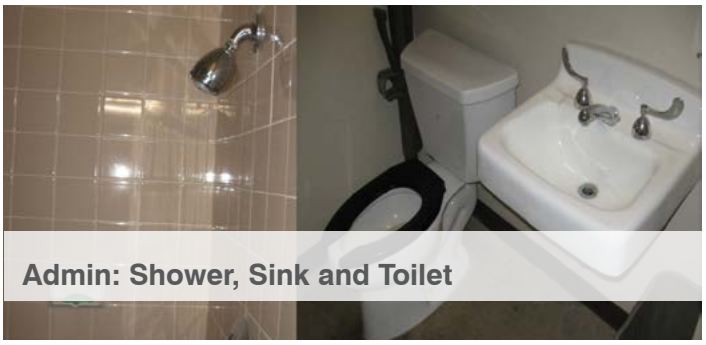
Plumbing

The water distribution system for this building is from a well located on site. Water quality from the well serving the campus has been tested each of the last three years; the results of these tests has determined the water quality to be unsuitable for drinking. The building has a mechanical room accessible from outdoors which contains a hydropneumatic tank and air compressor. The tank is dated 1981 and is 72" diameter x 120" oal (1873 gallons). Hydropneumatic tanks are generally 1/3 of the tank capacity or 625 gallons storage. Water is distributed from there to the throughout the building.

Hot water is provided by an electric storage type water heater located in a mechanical closet by the main toilet rooms. The water heater looks old and has surface rust, indicating near end of life.

The distribution piping for this building appears to be overhead.

Plumbing fixtures are apparently functional but many are mismatched. Water closets are generally 1.6 gpf floor mounted flush valve type. Lavatories are wall hung enameled cast iron and vitreous china, some are widespread with individual hot and cold manual metering faucets, some are centerset with manual mixing faucets, either single or two handle. The urinals appear to be 1.6 gpf wall hung manual flush valve type, and one is mounted at a lower height for barrier free use. Service



Admin: Shower, Sink and Toilet

sinks are trap standard enameled cast iron type. In the building is a private toilet room with, in fair condition, a tank type water closet, wall-hung lavatory, and a shower.

Fixtures appear to meet ADA standards for barrier free use in this building. The drinking fountain appears to no longer be in use as there is a bottled water dispenser adjacent to it.

This building is served by an above ground propane tank with underground distribution to service regulator at the building. Unit heaters are propane fired.

This building is unsprinklered.

Building Conditions: Pavilion Building

The pavilion was constructed in 1972 and houses restrooms as well as showers. It has heaters in the restrooms as well as small mechanical/electrical closet that houses all necessary MEP equipment to operate.

Mechanical

Heating:
Each restroom has a ceiling hung electric unit heater. The heaters look new and in good condition. The small mechanical room has a wall mounted electric heater with a built-in thermostat.

Cooling:
There is no installed cooling in the pavilion

Ventilation:
There are exhaust vents located in the showers as well vents along the wall.

Pavilion: Ceiling Hung Unit Heater in Restroom

Electrical

The electrical service for the existing Pavilion building is provided by SMECO utility company via an outdoor pad-mounted transformer. The building utilization voltage system is 208Y/120V, 3-phase and the capacity of the existing electrical service is 200 Amps. Electrical power to the pavilion is from a utility transformer by the existing underground conductors and wire-through to the existing main distribution panel located inside the utility room. Power from overhead utility lines to the utility transformer and from the transformer to the pavilion is provided through underground primary and secondary ductbanks.

Emergency power for emergency lighting fixtures is provided with back-up batteries inside the fixtures.

Based on the requirement of the existing electrical and mechanical loads in the building, the capacity of the existing electrical service seems sufficient.

Power Distribution System
Utility power from the outdoor transformer with a secondary voltage of 208Y/120V, 3-phase is connected to the pavilion building's 2-section main distribution panel via underground secondary ductbank/conductors. A main distribution panel with a capacity of 200 Amps is a wall-mounted type panel from Square 'D', which includes main breaker and several feeder/branch breakers to feed the existing loads. Existing electrical loads on the main distribution panel are: Pavilion lights (interior and exterior), receptacles, the refrigerator, hand dryers and the electric water heater. See the following diagram for power distribution in the Pavilion building.

Pavilion: Main Distribution Panel

Pavilion: Main Distribution Panel

Existing Lighting System

Existing light fixtures inside the pavilion are recessed type weather proof, ceiling-mounted fixtures.

Existing emergency fixtures are double-head wall-mounted fixtures with back-up battery.

Existing exterior lighting for the pavilion building is provided by outdoor spot light fixtures installed on the pavilion building walls/structure.

Plumbing

The water supply system for this site is extended from the Village site.

Hot water is provided by an electric water heater in a closet between the toilet rooms. The heater appears to be near the end of its life. There is a master mixing valve in this closet to control the temperature of water to the toilet/shower rooms.

The distribution piping is apparently overhead in this building.

Plumbing fixtures are apparently functional but many are mismatched. Water closets are generally 1.6 gpf floor mounted flush valve type. Lavatories are wall hung enameled cast iron and vitreous china, some are widespread with individual hot and cold manual metering faucets, some are centerset with manual mixing faucets, either single or two handle. One faucet was observed with a standard single handle hot and gooseneck cold faucet. Service sink is trap standard enameled cast iron type. Two standard height urinals in the boy's toilet room. There is a single shower at the end of each toilet room. Showers are single handle control and appear to be in need of replacement. None of the fixtures seem to meet ADA standards for barrier free use. The drinking fountains appear to no longer be in use as there are bottled water dispensers adjacent to them.

Pavilion: Lighting Fixtures

Pavilion: Water Heater

this page is intentionally left blank

section three

masterplan concepts

this page is intentionally left blank

masterplan concepts

Site Analysis

The Design Team collected research and information regarding the Camp Schmidt property and conducted on-site field survey and investigations in an effort to establish a Site Analysis and associated diagrams to help focus the masterplan study. This goal of this analysis is to identify the physical constraints of the site and best opportunities for future development. Since the 450-acre site is much larger than required for the building and site program included in the Educational Specifications, the Design Team was able to focus on optimal areas for site and building development within the identified constraints. Some of the physical features that contribute to defining the Optimal Buildable Areas of the site include the following, which are delineated on the Site Analysis diagram:

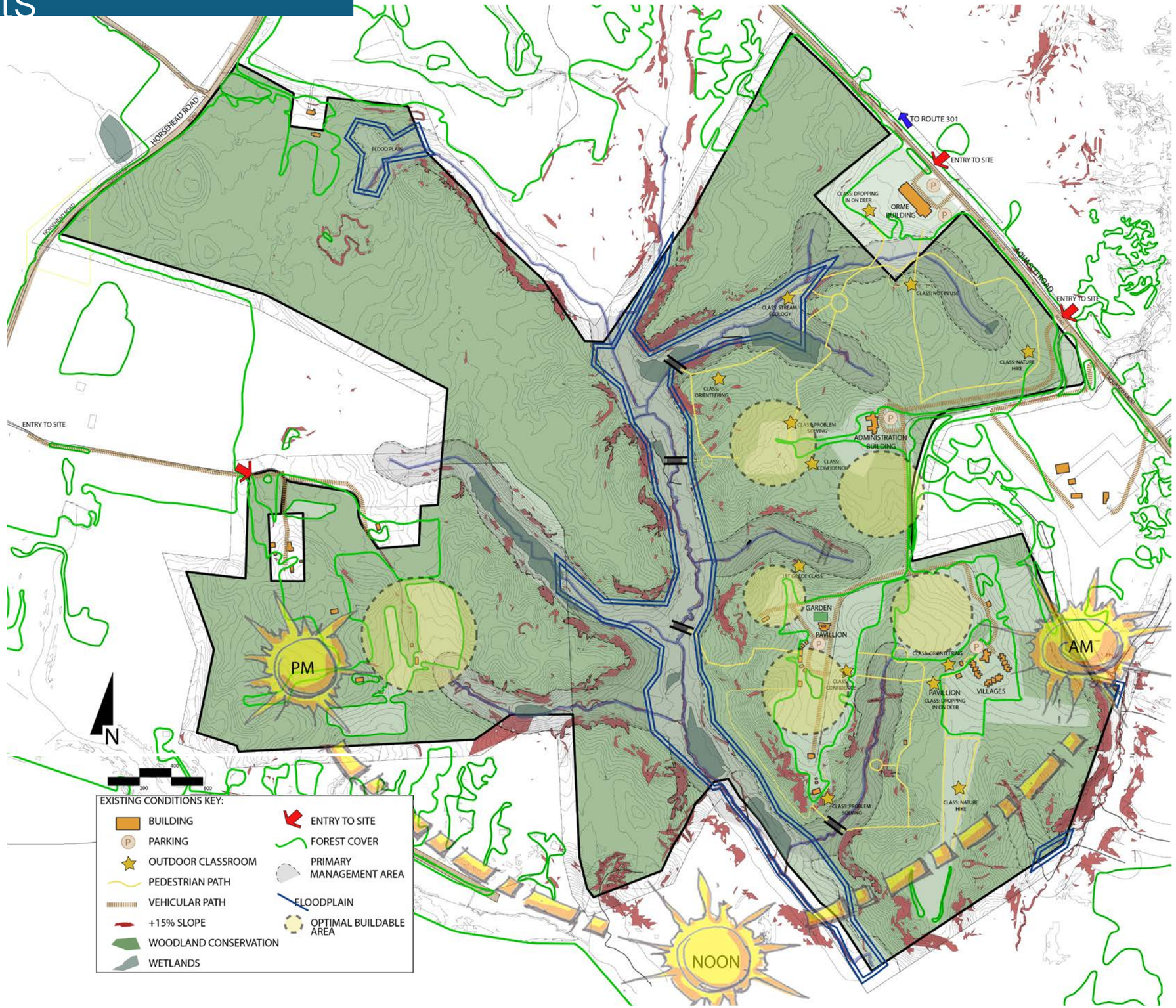
- Property Lines and setbacks
- Stream Valleys and associated buffers
- Wetlands and associated buffers
- Site Topography of greater than 15% slopes
- Tree Conservation Area
- Existing site and building features to remain

The Optimal Buildable Areas shown on the site analysis are by no means the only areas of possible development on the property; they represent the areas that generally avoid the constraints listed above and address additional optimal relationships on the site, including but not limited to the following:

- Proximity to entrance drive(s)
- Proximity to existing buildings and/or site features
- Location in or near clearings of trees/vegetation to minimize forest impact
- Areas with manageable slopes less than 15%
- Views to stream valleys

As noted in the Site Narrative, the Camp Schmidt property is part of the Tree Conservation Plan (TCP) for PGCPS. While much of the development proposed in the masterplan options avoids conservation areas, some development likely will fall within the conservation boundaries which will require future adjustments to the TCP.

Existing entrances from Aquasco Road to the east side of the Camp Schmidt site and the Orme Building are intended to be utilized/reconditioned in their existing locations in the masterplan options. Options 2A and 2B explore the addition of a new site entrance from Horsehead Road to the west side of the property.



this page is intentionally left blank

Masterplan Design Rationale

The following design rationale was developed by the Design Team as a response to discovering physical design elements and user experiences that would embody the Guiding Principles for the project. The content and elements contained in this design rationale apply to each of the Masterplan options included in Section 3 of this report, and therefore are not repeated for each scheme.

Overarching Design Principle for enhancing the student experience at Camp Schmidt: Environment as Teacher

- The site *is* the educational experience
  - Visible environmental management measures: forestry, hydrology, low impact development, habitat and stewardship
  - Sustainable, naturalizing materials throughout
- Create opportunities for spontaneous moments of wonder
  - Inclusion of plant materials that attract indigenous wildlife and beneficial insects
  - Allow for intersection of student movement and wildlife activity

Gateway / Entrance

- Statement of identity and character of the site: guests are 'leaving' the man-made world and 'entering' the natural world
- Create sense of arrival and entrance into a special place

Drive/Sequence

- Experiential approach; the wilderness experience begins at the gate and is fully embraced along the approach
  - Create multi-sensory experiences right away, for example, masses of Clethra and Asclepias to attract swarms of butterflies that startle into the air when the bus passes, other plant materials that attract birds, deer other wildlife
- Create anticipation and a sense of journey
  - Glimpse views to destination - not a continuous view and straight approach.
  - Driveway of natural material; sinuous path through woods
  - Create sequence of naturalized views

Vehicular Movement and Presence:

- Design vehicular circulation system and parking to minimize visual impact. Keep vehicular influence away from participants completely during their stay
- Locate parking in areas that will not be visible to pedestrians
- Use topography to allow tiers of parking to drop away from view
- Integrate landscaping into parking lot to reduce visual impact
- All buildings will include required accessible parking areas and access for emergency and service vehicles; natural, permeable surfaces will be utilized where possible

Pedestrian Movement

- Immerse participants in natural environment as they move through the site
- Design circulation system to capitalize on special places (maximize existing, create new)
- Create at least one accessible route that offers a similar experience, preferably integrated with other participants
- Provide signage along pedestrian routes to maximize learning opportunities for environmental education

Buildings: Administration, Dining, Environmental Research Center (ERC)

- Create a hierarchical system of wilderness immersion: communal buildings most public
  - Cluster of rustic buildings with strong relationship to each other and to natural setting
  - Maximize views from buildings
- Maximize teaching opportunities with the buildings and surrounding site
  - Disconnect all downspouts, use rain barrels, bioretention areas, cisterns
  - Recycling and composting facilities
  - Photovoltaics for potential Net Zero energy
- Create opportunities for students to use the land for their own care and sustenance
- Edible gardens; students pick food for their meals
- Apiary

Buildings: Villages I and II

- Next level in the wilderness hierarchy: deeper sense of wilderness immersion than communal area
  - Integrate small-scale buildings into natural setting
  - Minimize vehicle presence: bus pull-off in rear, buildings oriented away from approach and loading area
- Strong indoor-outdoor relationship, attention to views from all rooms
  - Maximize sense of community and camaraderie
  - Cluster buildings around central gathering area

Outdoor Learning Areas

- Create authentic experiences
- Integrate elements into natural settings; make use of existing topography and vegetation
- Provide a variety of challenge levels and active vs. passive activities.
- The natural environment offers quiet, contemplative spaces and rigorous challenges.

masterplan concepts

Masterplan Design Rationale

The elements described and depicted above are illustrated on this site plan diagram to demonstrate the sequence of experiences on the site.

this page is intentionally left blank

masterplan concepts

Masterplan Concepts

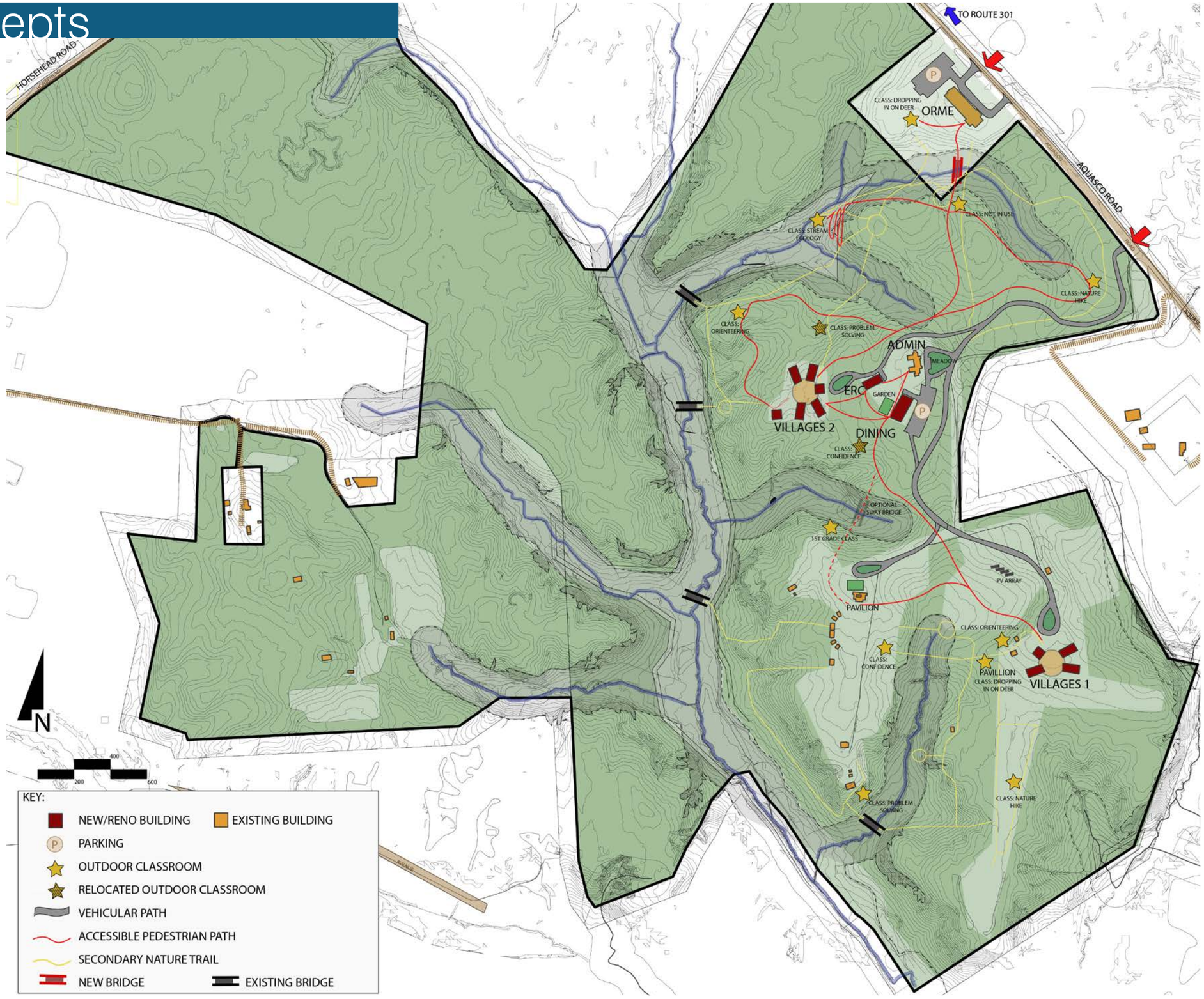
option 1a

Masterplan Option 1A focuses on the following objectives:

- Compact arrangement of buildings to reduce overall impact on the site
- Create a central core of shared buildings
- Buildings embedded within the natural landscape of the site

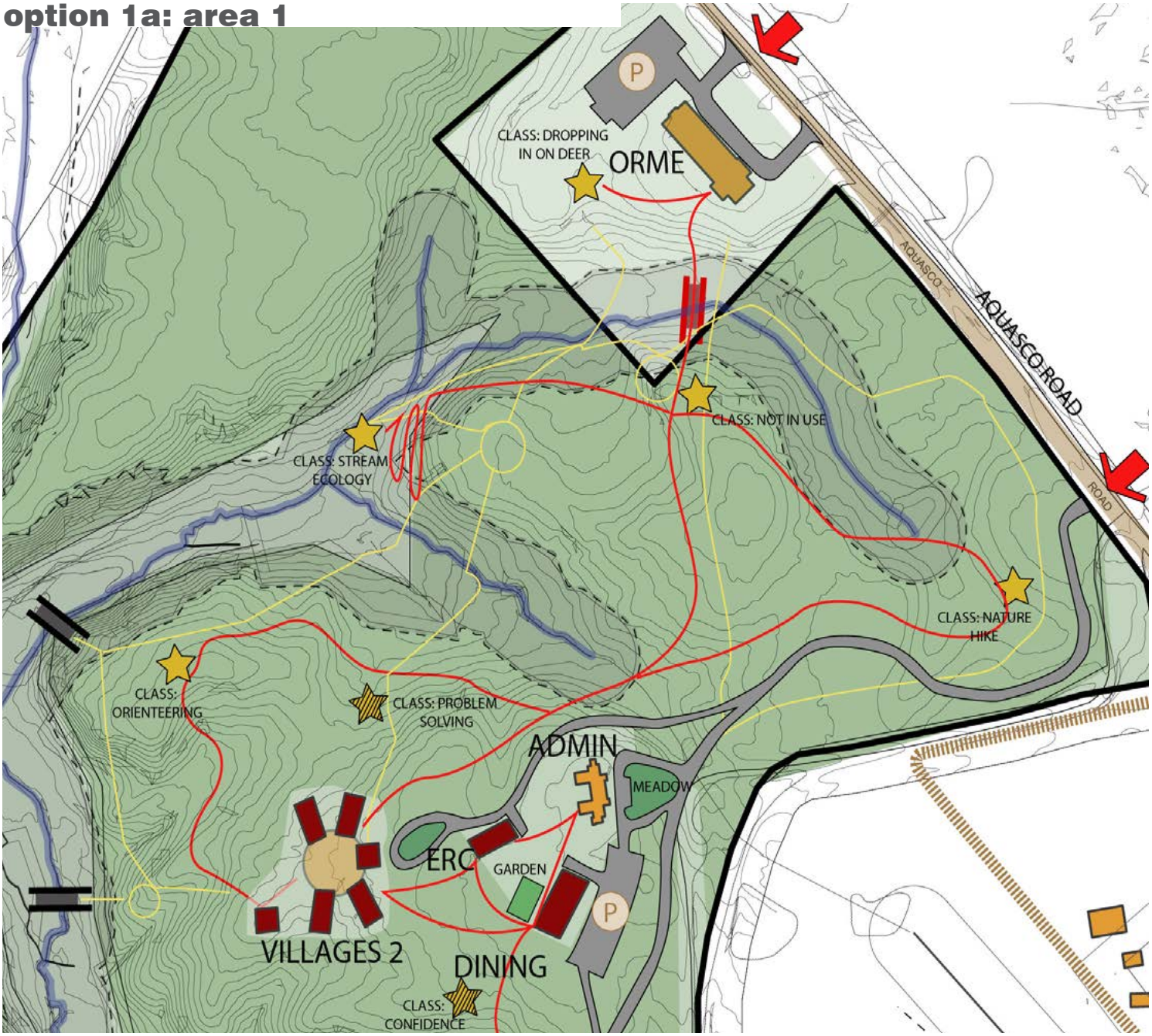
Option 1A positions the new Dining Hall and the new ERC (Environmental Research Center) at the center of the east side of the site near the renovated Neville Administration Building forming a “service cluster” for the campus. Between these three buildings is a common greenspace that contains an edible garden for the Dining Hall. The Villages II cluster is located to the west of the central core, with new cabins, a camp center and pavilion. Villages II will reuse the northern outdoor activity circuit currently used by students staying at the Orme Building dorms, with a new network of ADA-compliant trails connecting the outdoor classrooms.

A parking area for approximately 50 cars is located to the east of the Dining Hall, providing parking for the ERC and Neville Building as well for special events and outside groups. Vehicular drives extend south to connect to the Villages I cluster and the existing Service Building/Pavilion. Villages I includes options for renovation of the existing cluster or new construction on the adjacent site, both utilizing the existing south trails circuit connecting the outdoor classrooms and activity areas.



this page is intentionally left blank

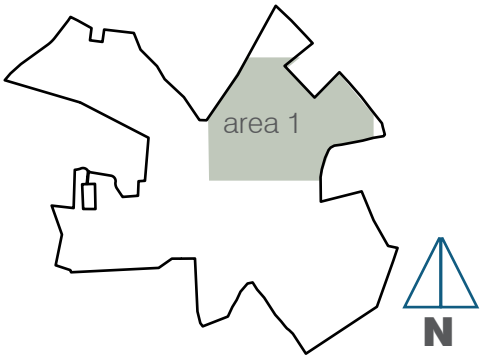
option 1a: area 1



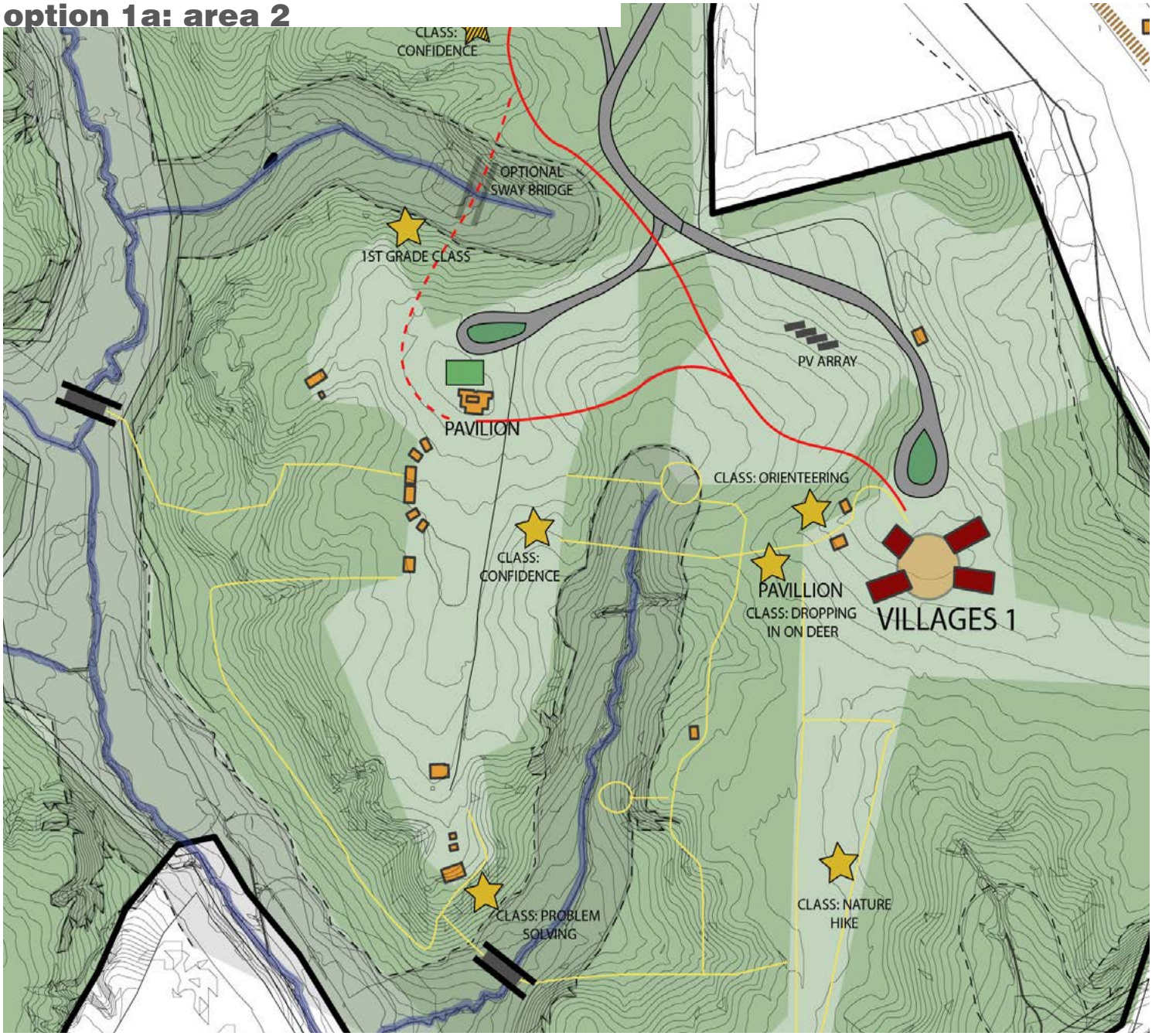
Pros:

- Compact overall footprint
- Close buildings relationships provide easy for staff and student access
- More efficient layout; less pathways and roadways
- Keeps existing site entry points, easier to supervise for security
- Retains existing outdoor learning areas for Villages I & II
- Environmental Research Center (ERC) integrates day program into campus
- Dining Hall/Admin Building/ERC cluster lends itself to use by outside groups
- Lower infrastructure costs

option 1a keyplan



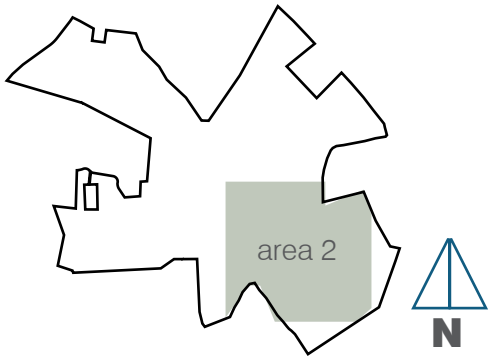
option 1a: area 2



Cons:

- Villages 2 close to Dining Hall
- Does not utilize available space on west side of the property
- Walking is reduced due to the compactness of the buildings
- Alternate access drive to Horsehead Road may not be achievable due to absence of easement or dedicated right of way

option 1a keyplan



masterplan concepts

Masterplan Concepts:

option 1a phasing

Phase 1

Priority 1: Villages II, pavilion, bus loop, entrance drive/ gateway, ADA paths

Priority 2: New Dining Hall, parking area, road extension, garden area, meadow

Priority 3: New Environmental Lab

Priority 4a: New Villages 1 and pavilion, new road and bus loop, ADA paths

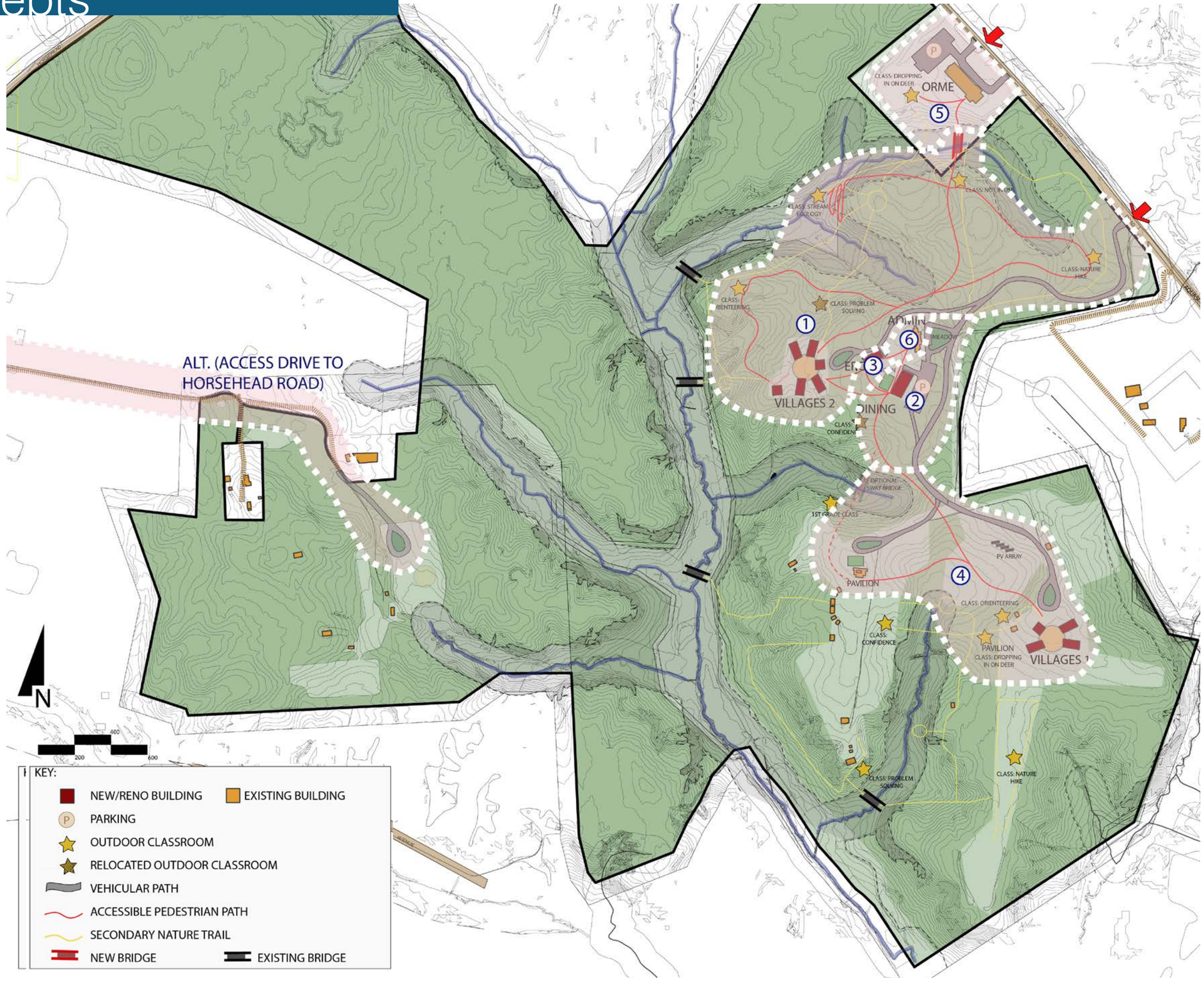
Priority 4b: Renovate Villages 1 and pavilion, new road, ADA paths

Phase 2

Priority 5: Renovate Orme Building, ADA paths, bridge

Priority 6: Renovate Neville Admin Building

Alternate Phase: Build west entrance drive from Horsehead Road



this page is intentionally left blank

masterplan concepts

Masterplan Concepts:

option 1b

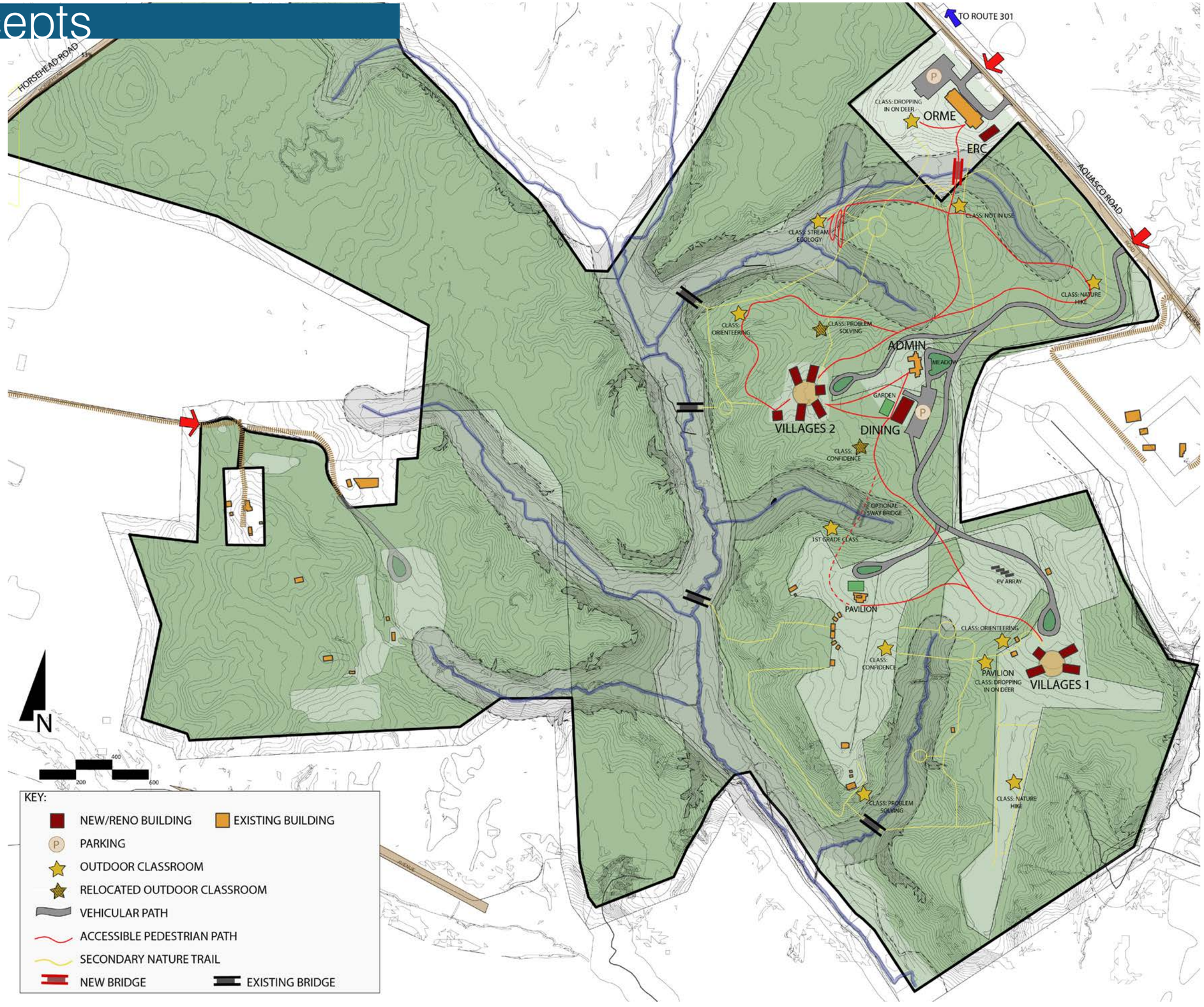
Masterplan Option 1B focuses on the following objectives:

- Compact arrangement of buildings to reduce overall impact on the site
- Create a more inviting public image of Camp Schmidt with location of ERC near Orme
- Create a central core of shared buildings

Option 1B positions the new Dining Hall at the center of the east side of the site near the renovated Neville Administration Building forming a “service cluster” for the campus. The Villages II cluster is located to the west of the central core, with new cabins, a camp center and pavilion. Villages II will reuse the northern outdoor activity circuit currently used by students staying at the Orme Building dorms, with a new network of ADA-compliant trails connecting the outdoor classrooms.

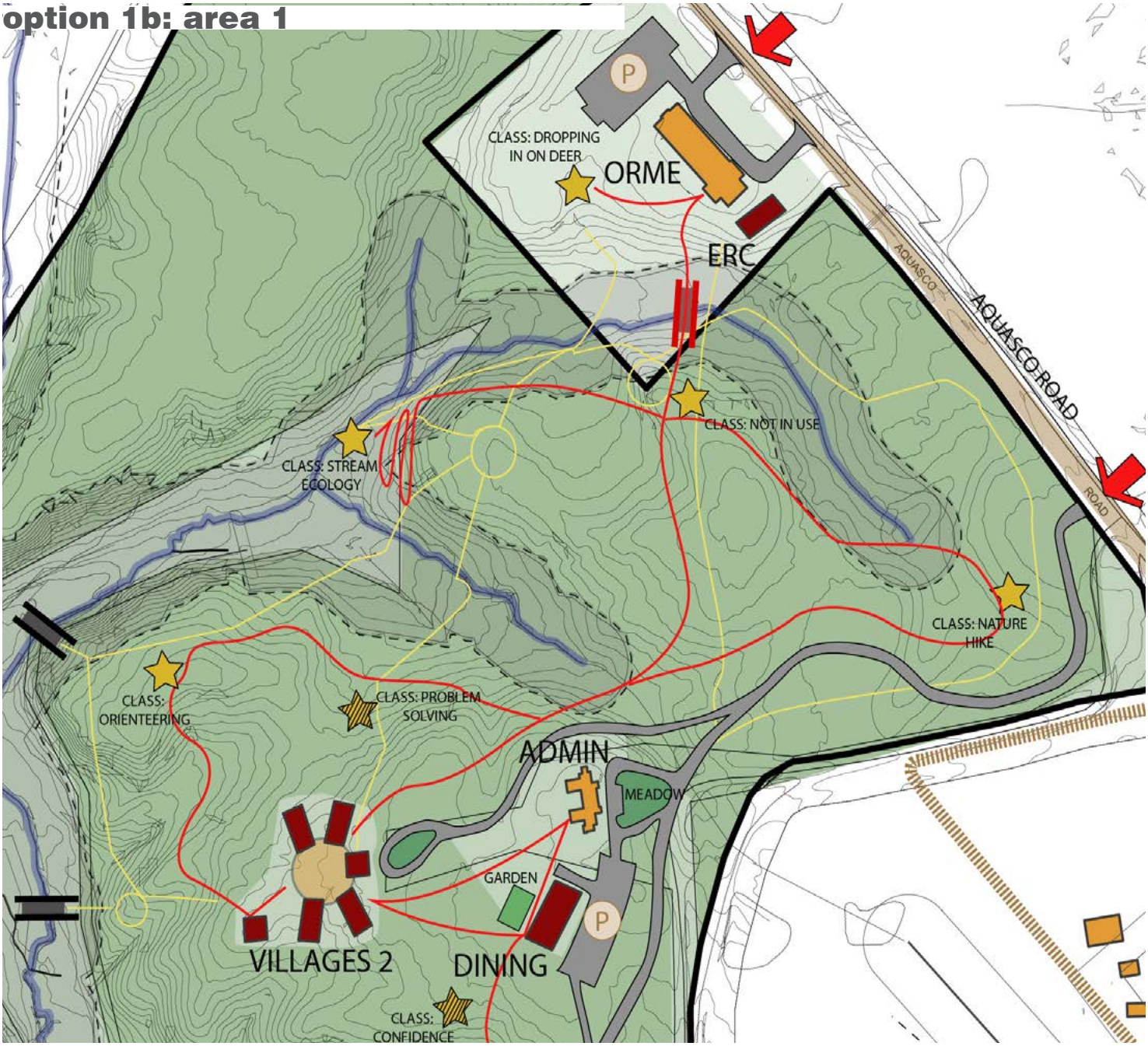
The Environmental Research Center (ERC) is located adjacent to the renovated Orme Building to provide visibility and public access from Aquasco Road. Parking and bus drop-off for day programs will be shared between Orme and the ERC with an accessible trail connecting these buildings with others located in the center of the campus.

A parking area for approximately 50 cars is located to the east of the Dining Hall, providing parking for Neville Building as well for special events and outside groups. Vehicular drives extend south to connect to the Villages I cluster and the existing Service Building/Pavilion. Villages I includes options for renovation of the existing cluster or new construction on the adjacent site, both utilizing the existing south trails circuit connecting the outdoor classrooms and activity areas.



this page is intentionally left blank

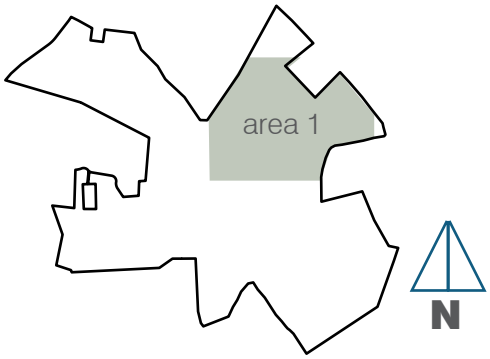
option 1b: area 1



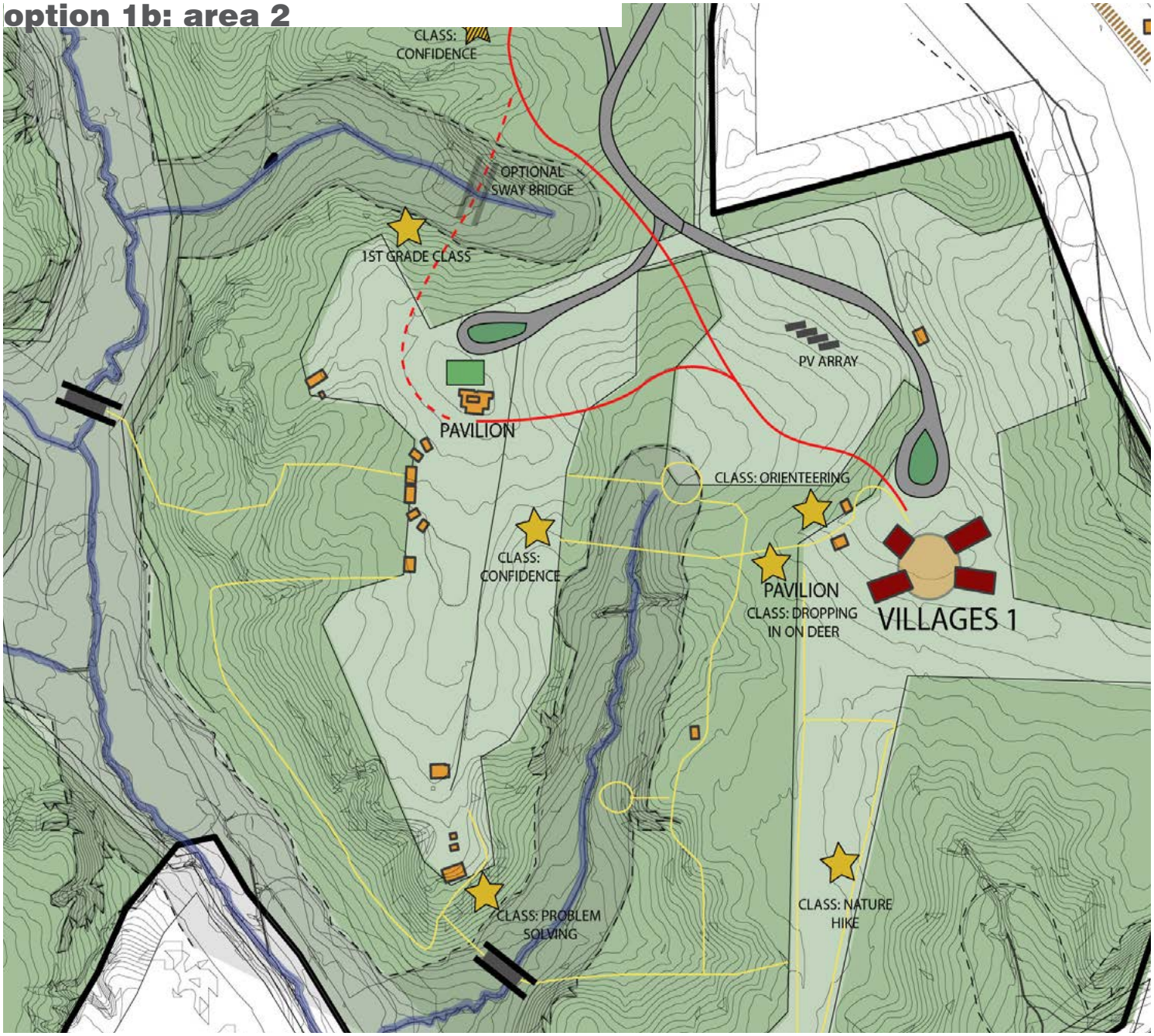
Pros:

- Environmental Research Center (ERC) has street-front prominence and public access
- 5th graders separate from day programs at the ERC
- Compact overall footprint
- Retains existing outdoor learning areas for Villages I & II
- More efficient layout; less pathways and roadways
- Lower infrastructure costs

option 1b keyplan



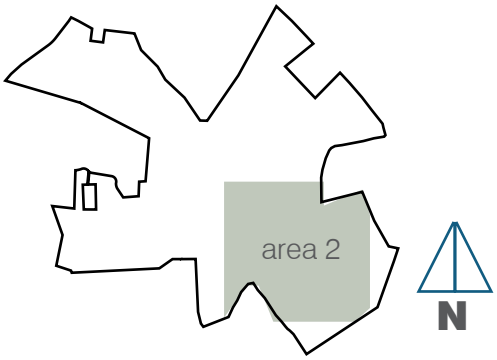
option 1b: area 2



Cons:

- ERC not in "natural" setting; more road noise at Aquasco Rd
- Villages 2 close to Dining Hall
- Does not utilize available space on west side of the property
- The existing Confidence Course would be impacted and most likely would have to be moved
- Alternate access drive to Horsehead Road may not be achievable due to absence of easement or dedicated right of way

option 1b keyplan



masterplan concepts

Masterplan Concepts:

option 1b phasing

Phase 1

Priority 1: Villages II, pavilion, bus loop, entrance drive/ gateway, ADA paths

Priority 2: New Dining Hall, parking area, road extension, garden area, meadow

Priority 3: New Environmental Lab

Priority 4a: New Villages 1 and pavilion, new road and bus loop, ADA paths

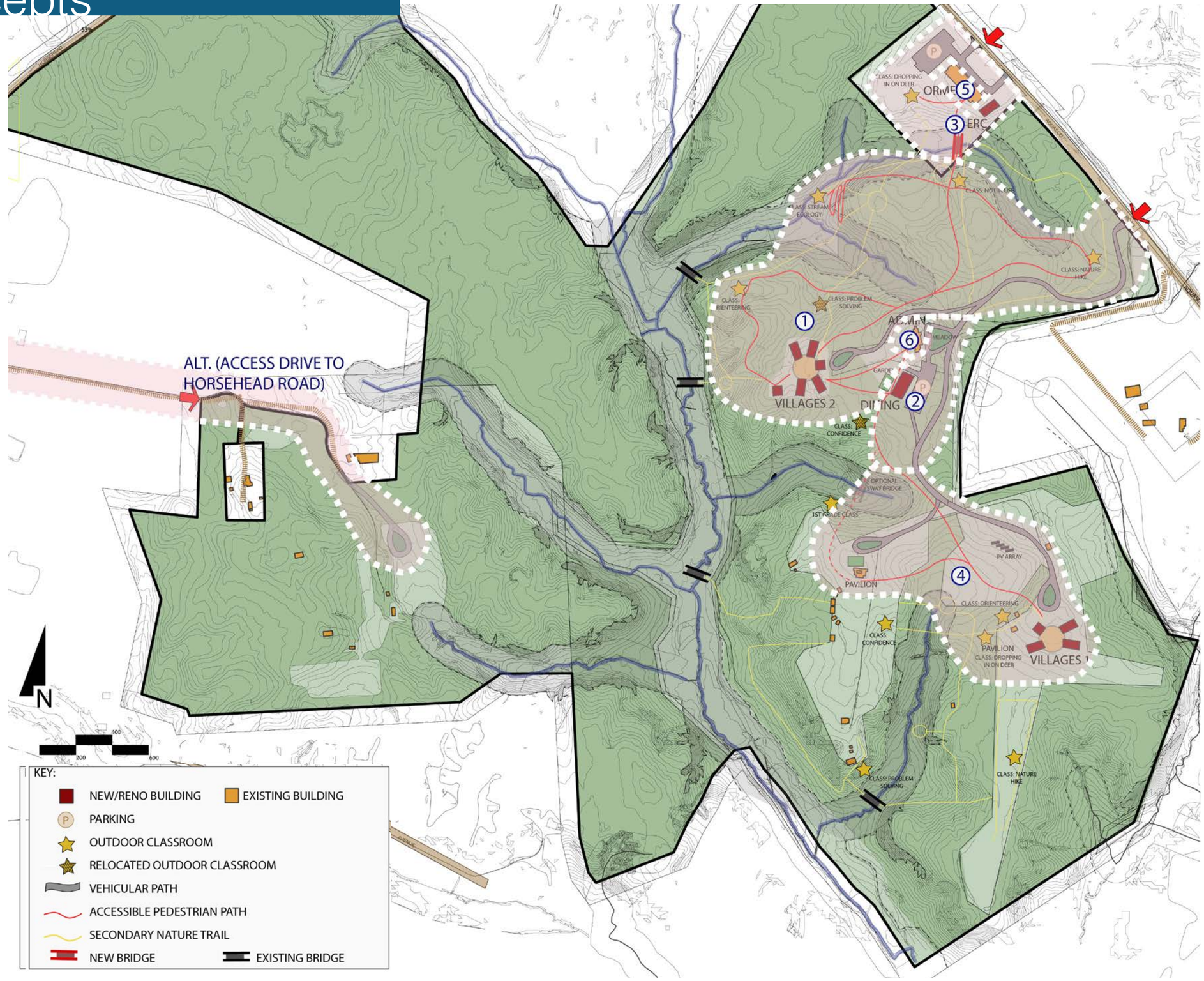
Priority 4b: Renovate Villages 1 and pavilion, new road, ADA paths

Phase 2

Priority 5: Renovate Orme Building, ADA paths, bridge

Priority 6: Renovate Neville Admin Building

Alternate Phase: Build west entrance drive from Horsehead Road



this page is intentionally left blank

masterplan concepts

Masterplan Concepts:

option 2a

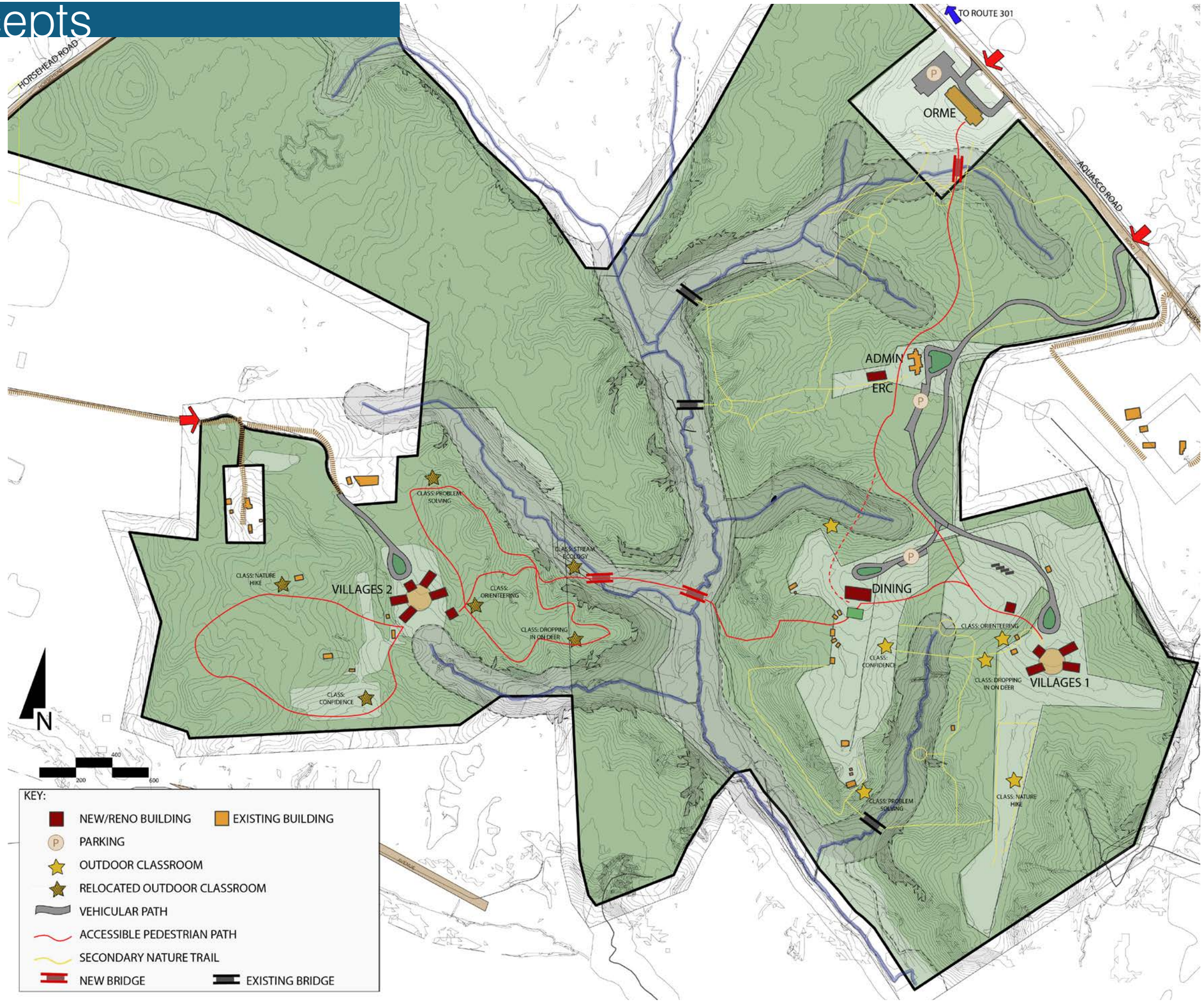
Masterplan Option 2A focuses on the following objectives:

- Buildings distributed further across site to encourage natural exploration
- New development occupies west side of property
- Buildings embedded within the natural landscape of the site

Option 2A locates the new Dining Hall near the existing Service Building/Pavilion at the south end of the site. A parking area will be provided near the Dining Hall for staff and special events. The Dining Hall will have an adjacent garden space and will be centrally accessible between Villages I to the east and Villages II to the west. Villages I includes options for renovation of the existing cluster or new construction on the adjacent site, both utilizing the existing south trails circuit connecting the outdoor classrooms and activity areas.

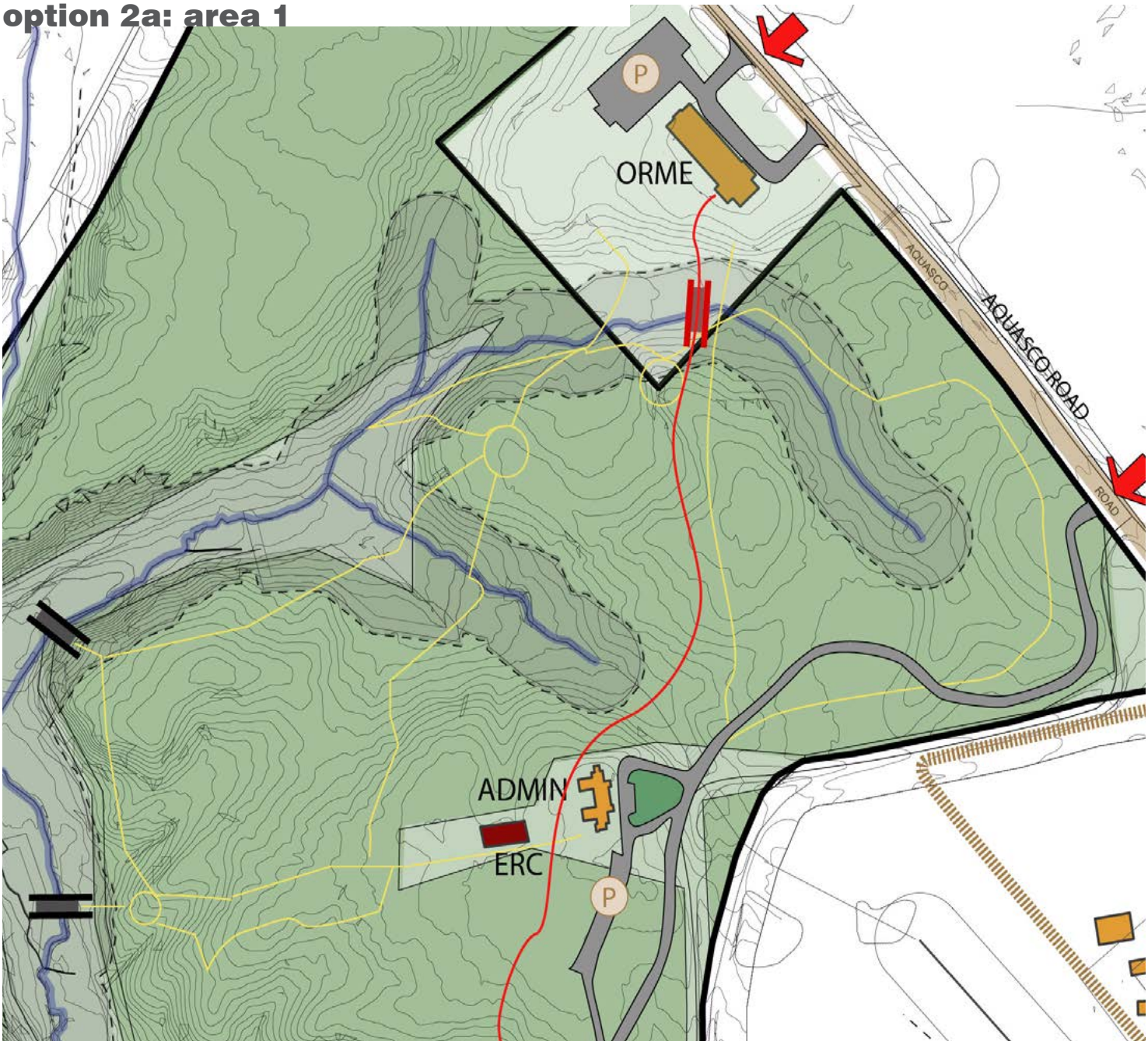
The Villages II cluster will be located on the west side of the property, which is currently undeveloped. This cluster will require a new access drive from Horsehead Road; the legal rights to this access drive are currently being researched by PGCPS and the Design Team. A new system of outdoor classrooms and activity centers will be located around the Villages II cluster, connected by a new network of ADA-compliant pedestrian trails. New bridges and trails will be required to provide an accessible route from Villages II across the stream valleys to the new Dining Hall.

The new Enivronmental Research Center will be located near the existing Neville Administration Building. Additional parking will be provided for joint use by the ERC and the Administration Building. Neville Administration Building will receive a new entrance drive loop around a managed meadow landscape feature. A network of accessible pedestrian trails will connect all new buildings to the new ERC building, renovated Neville building, and Orme Buildings to the north.



this page is intentionally left blank

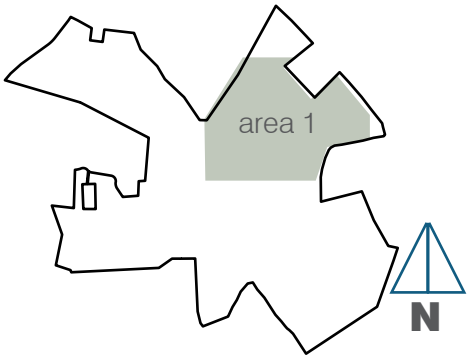
option 2a: area 1



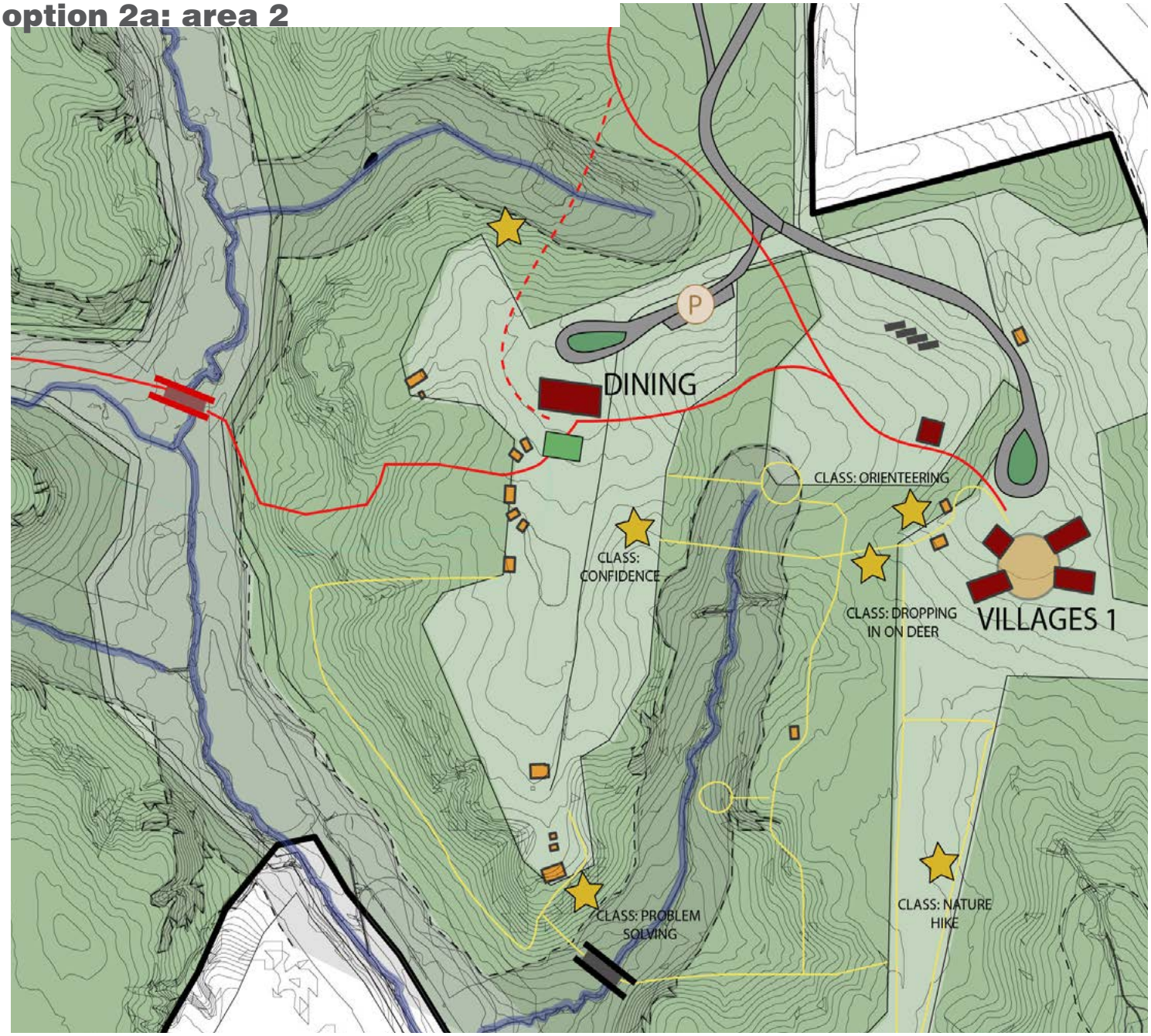
Pros:

- Villages 2 utilizes existing clearing on west side of site, ample space
- Takes advantage of west side of the property
- More separation between Villages I & II
- Broad site footprint encourages student's walking and natural immersion on the site

option 2a keyplan



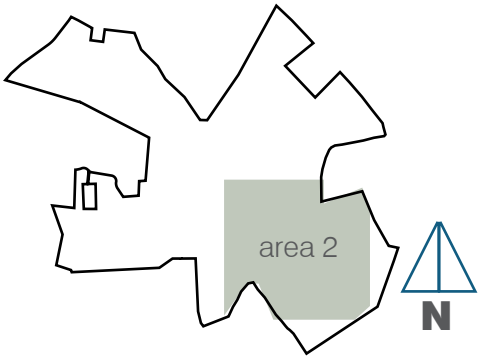
option 2a: area 2



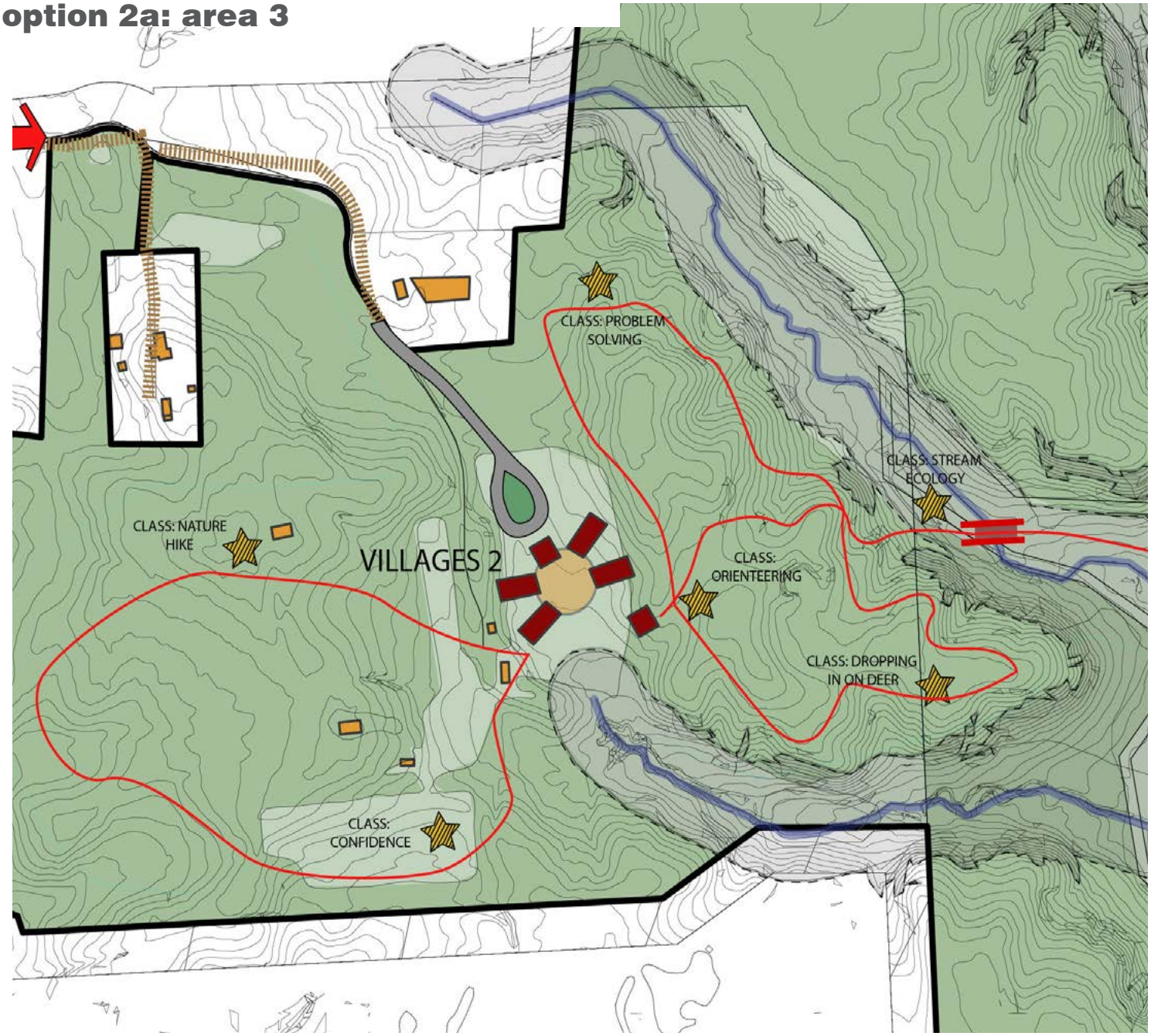
Cons:

- Environmental Research Center (ERC) very close to outdoor activity areas for Villages I
- Villages II remote from Dining Hall, difficult to traverse at night and in inclement weather
- Remote buildings more difficult to supervise, operate and maintain for staff
- Two entry points to campus results in less control
- Cost of additional ADA paths, trails and bridges to connect east & west sides
- Access drive to Horsehead Road may not be achievable due to absence of easement or dedicated right of way

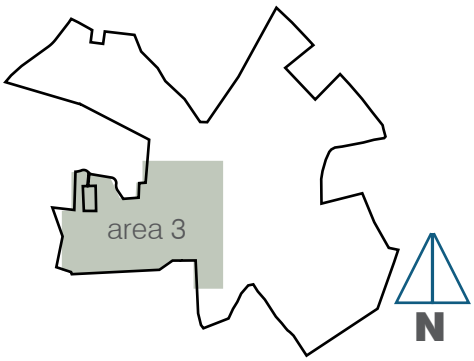
option 2a keyplan



option 2a: area 3



option 2a keyplan



this page is intentionally left blank

masterplan concepts

Masterplan Concepts:

option 2a phasing

Phase 1

Priority 1: Villages II, pavilion, bus loop, West entrance drive from Horsehead Road

Priority 2: Entrance drive/gateway, new Dining Hall, parking area, road extension, garden area, meadow

Priority 3: New Environmental Lab

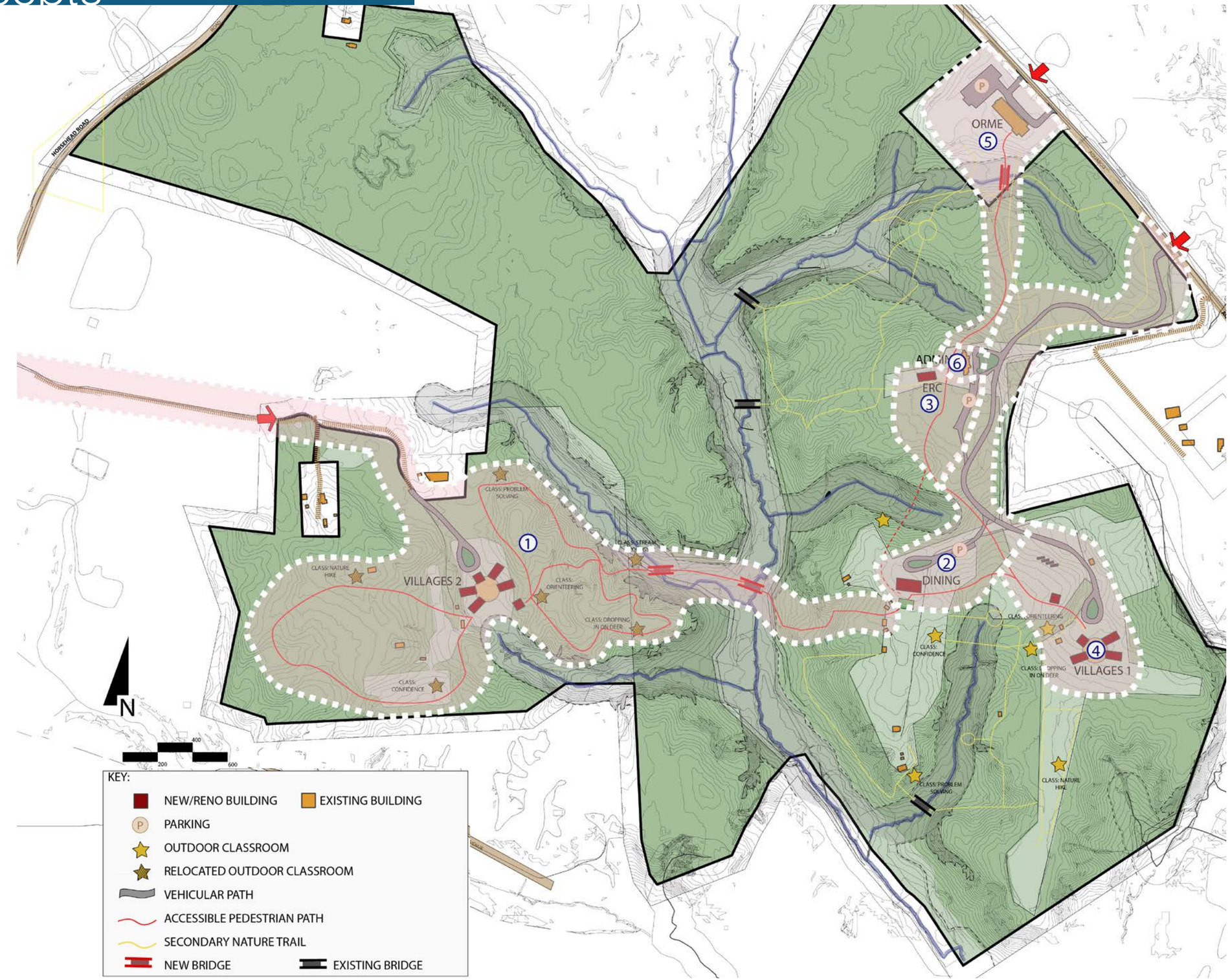
Priority 4a: New Villages 1 and pavilion, new road and bus loop, ADA paths

Priority 4b: Renovate Villages 1 and pavilion, new road, ADA paths

Phase 2

Priority 5: Renovate Orme Building, ADA paths, bridge

Priority 6: Renovate Neville Admin Building



this page is intentionally left blank

masterplan concepts

Masterplan Concepts:

option 2b

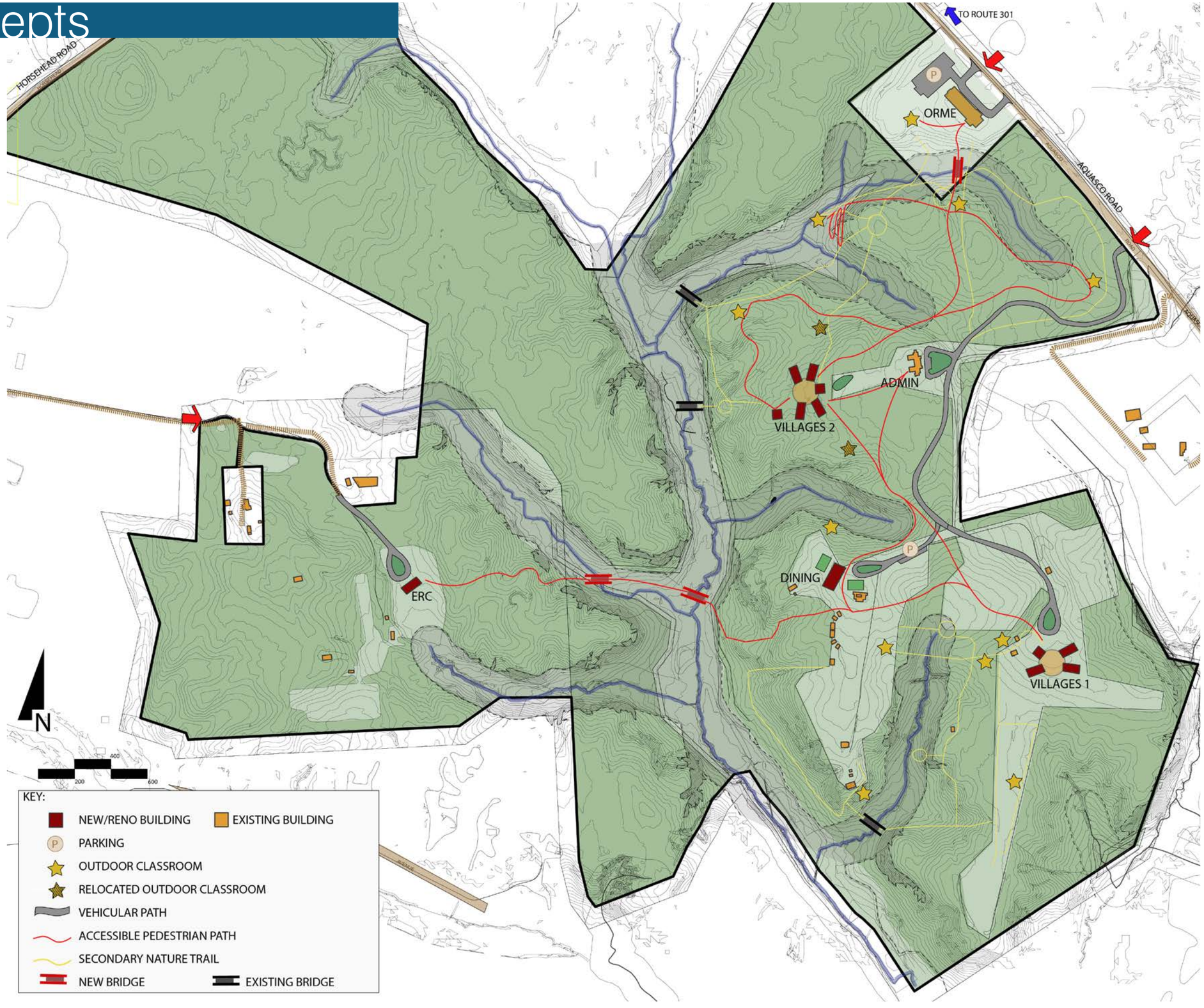
Masterplan Option 2B focuses on the following objectives:

- Buildings distributed further across site to encourage natural exploration
- New development occupies west side of property
- Buildings embedded within the natural landscape of the site

Option 2B locates the new Dining Hall near the existing Service Building/Pavilion at the south end of the site. A parking area will be provided near the Dining Hall for staff and special events. The Dining Hall will have an adjacent garden space and will be centrally accessible between Villages I to the east and the new Villages II to the north. Villages I includes options for renovation of the existing cluster or new construction on the adjacent site, both utilizing the existing south trails circuit connecting the outdoor classrooms and activity areas.

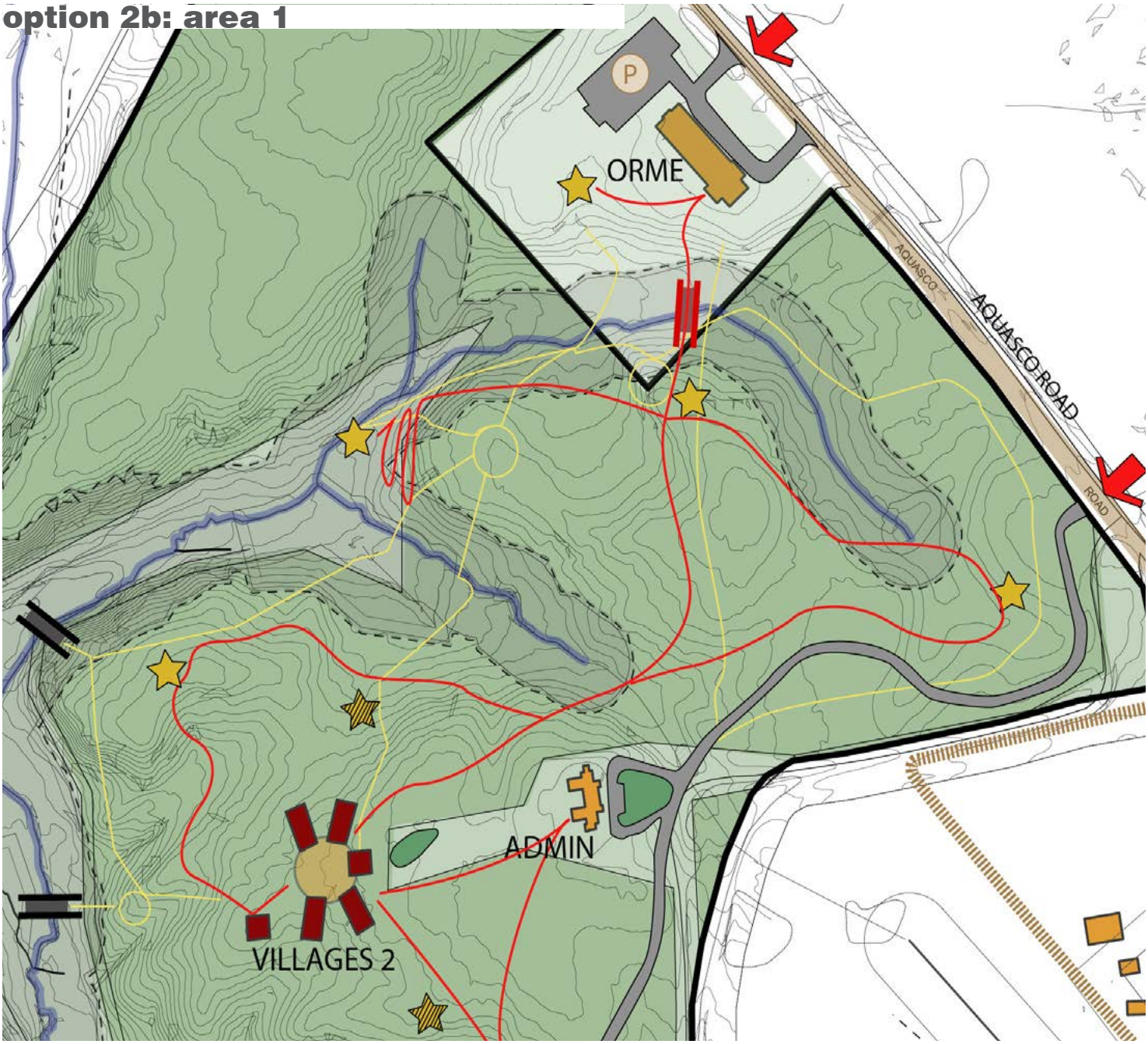
The Neville Administration Building will receive a new entrance drive loop around a managed meadow landscape feature. The Villages II cluster is located to the west of the renovated Neville Building, with new cabins, a camp center and pavilion. Villages II will reuse the northern outdoor activity circuit currently used by students staying at the Orme Building dorms, with a new network of ADA-compliant trails connecting the outdoor classrooms.

The Environmental Research Center (ERC) will be located on the west side of the property, which is currently undeveloped. This ERC will require a new access drive from Horsehead Road; the legal rights to this access drive are currently being researched by PGCPS and the Design Team. New bridges and trails will be required to provide an accessible route from the ERC across the stream valleys to the new Dining Hall.

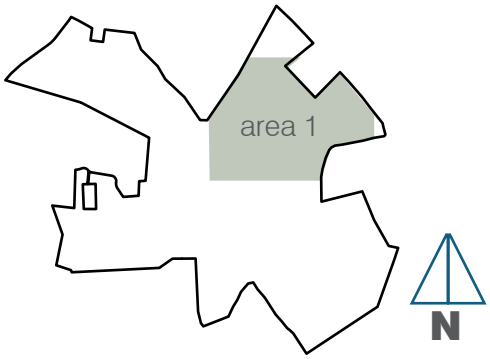


this page is intentionally left blank

option 2b: area 1



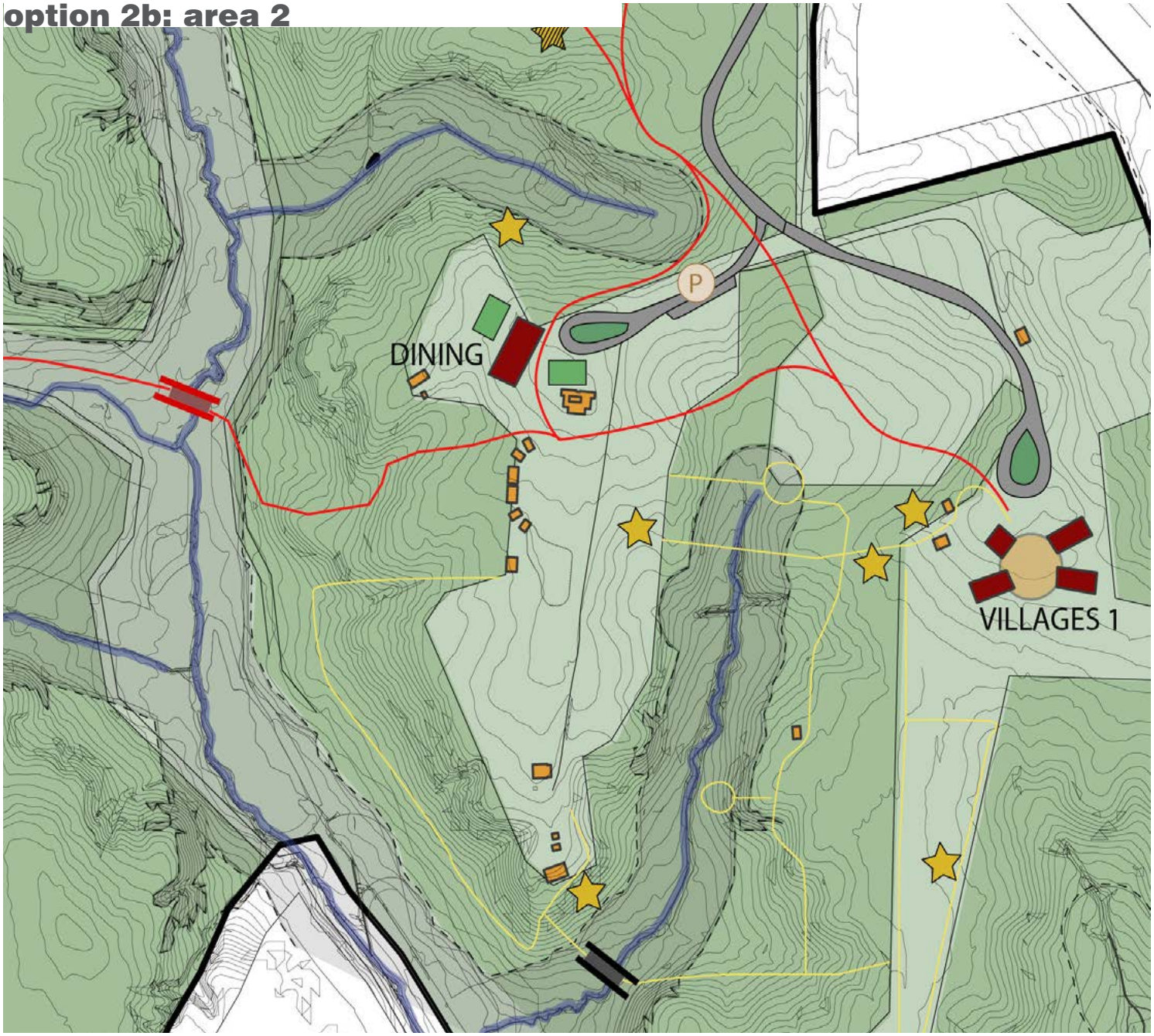
option 2b keyplan



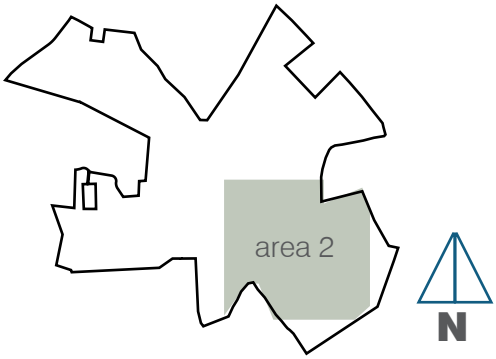
Pros:

- Natural setting for buildings allows for optimal views, seclusion, and connection to the surrounding landscape
- Building locations and separation of activity areas allow for simultaneous programs to be run without interference from other groups
- Environmental Research Center (ERC) location more easy to access for outside groups and day programs
- Provides multiple zones of activity on the site
- Dining Hall central to Villages I & II

option 2b: area 2



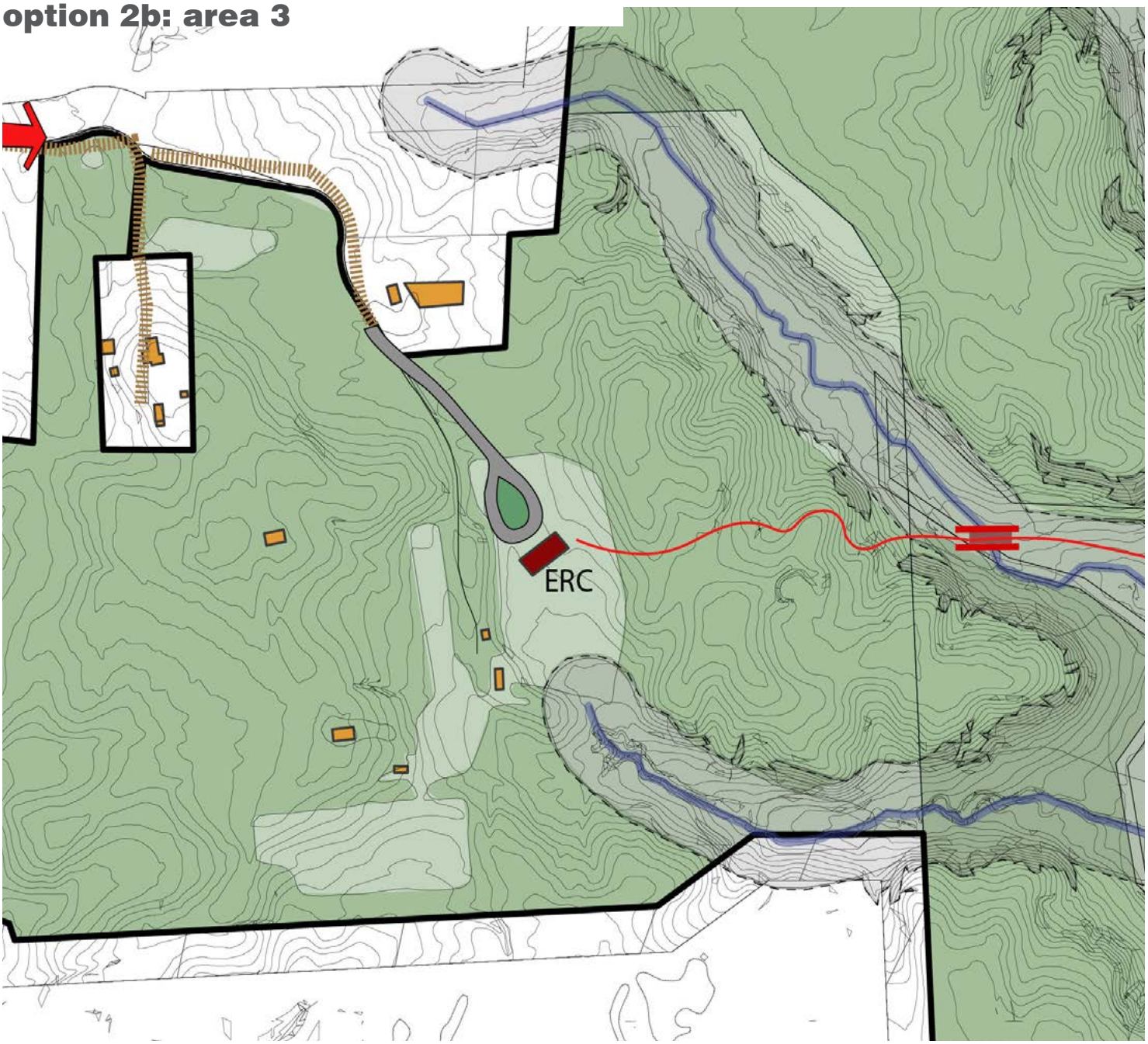
option 2b keyplan



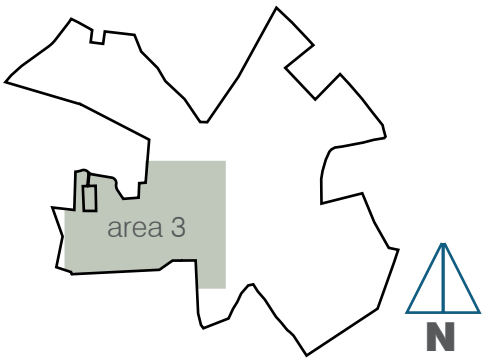
Cons:

- Distance between ERC and other campus buildings
- Cost of additional ADA trails and bridges to connect east & west sides
- Additional well + septic required for west side of site
- Remote buildings more difficult to supervise, operate and maintain for staff
- Two entry points to campus results in less control
- Access drive to Horsehead Road may not be achievable due to absence of easement or dedicated right of way

option 2b: area 3



option 2b keyplan



this page is intentionally left blank

masterplan concepts

Masterplan Concepts:

option 2b phasing

Phase 1

Priority 1: Villages II, pavilion, bus loop, entrance drive/gateway, ADA paths

Priority 2: New Dining Hall, parking area, road extension, garden area, meadow

Priority 3: New Environmental Lab, West entrance drive from Horsehead Road

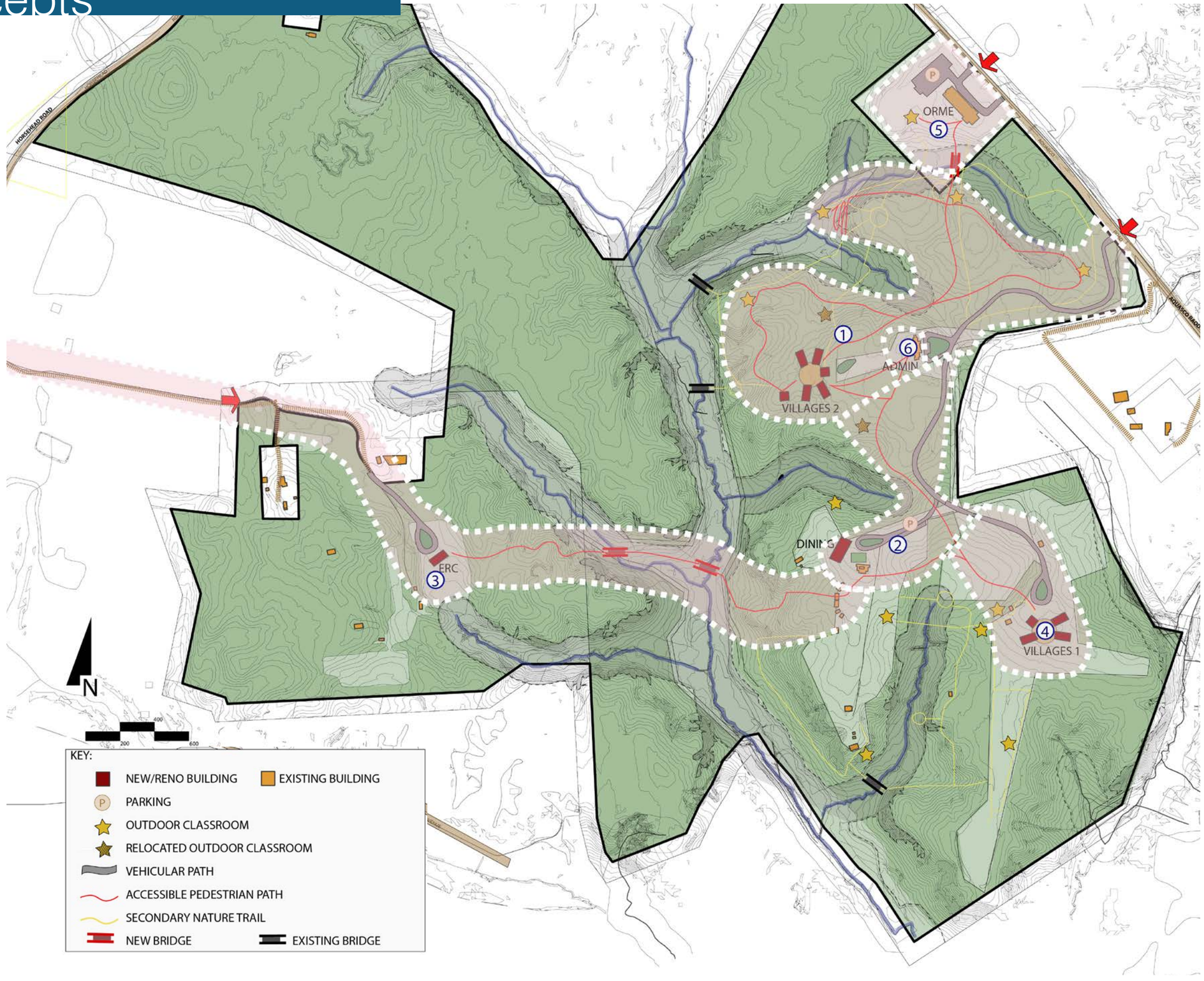
Priority 4a: New Villages 1 and pavilion, new road and bus loop, ADA paths

Priority 4b: Renovate Villages 1 and pavilion, new road, ADA paths

Phase 2

Priority 5: Renovate Orme Building, ADA paths, bridge

Priority 6: Renovate Neville Admin Building

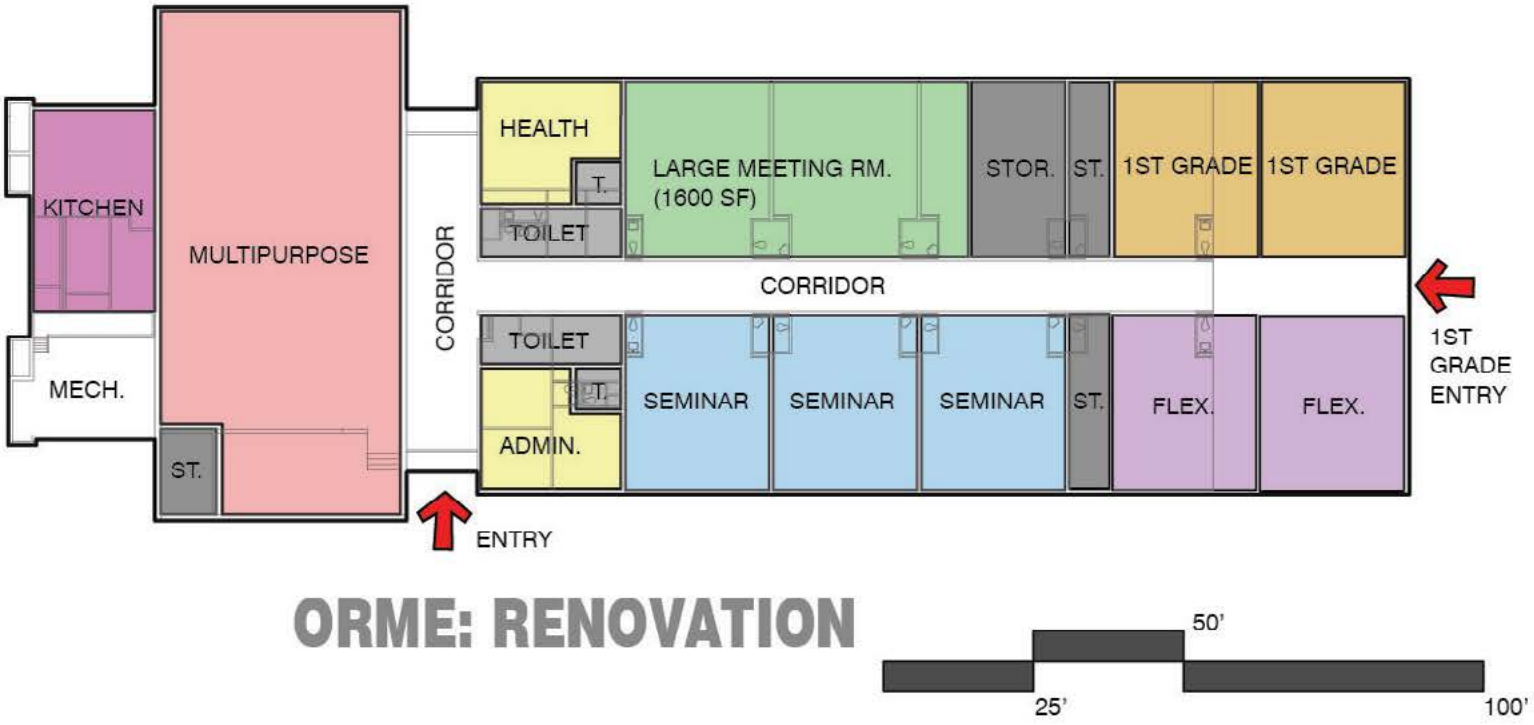


this page is intentionally left blank

section four

building plan concepts

building plan concepts

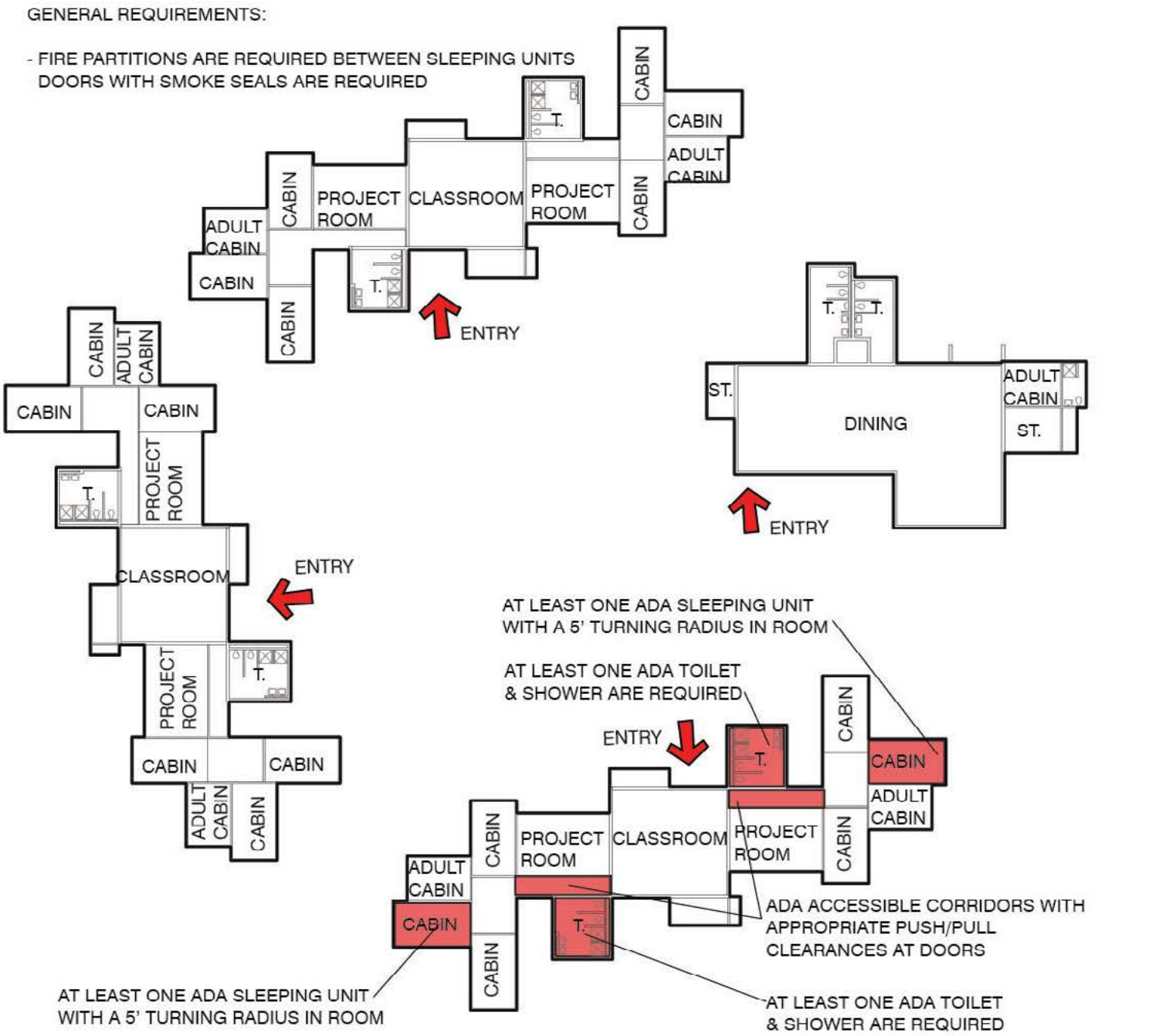


Orme Building Renovation:

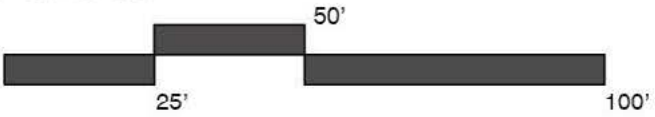
The Orme Building will be renovated to serve two primary functions: providing space for "hands-on" instructional space for first grade day programs and a training center for professional staff development.

The existing cafeteria will be reimagined as a large multipurpose room with a stage for various large group activities. A ramp will be added to the stage for accessibility. The existing kitchen will remain operational for light food service offerings during events. The main circulation space of the building will remain intact, with new Administration and Health offices located directly off the main corridor. The existing central toilet rooms will be updated to meet accessibility requirements and to provide required fixture counts to serve the new occupant loads.

The existing classroom wing, currently used as dormitories, will be renovated to provide a Large Meeting Room and Seminar Rooms for staff development functions. The existing individual toilet rooms in the classroom corridor will be demolished to provide more space for new program areas. A separate entrance at the end of the classroom corridor will provide access for first-graders to two classrooms spaces and two flex spaces; each pair of rooms will be separated by an operable wall for teaching to groups of various sizes. Interior finishes will be updated to provide durable, sustainable and easy-to-maintain materials throughout the building.



VILLAGES 1: RENOVATION OPTION



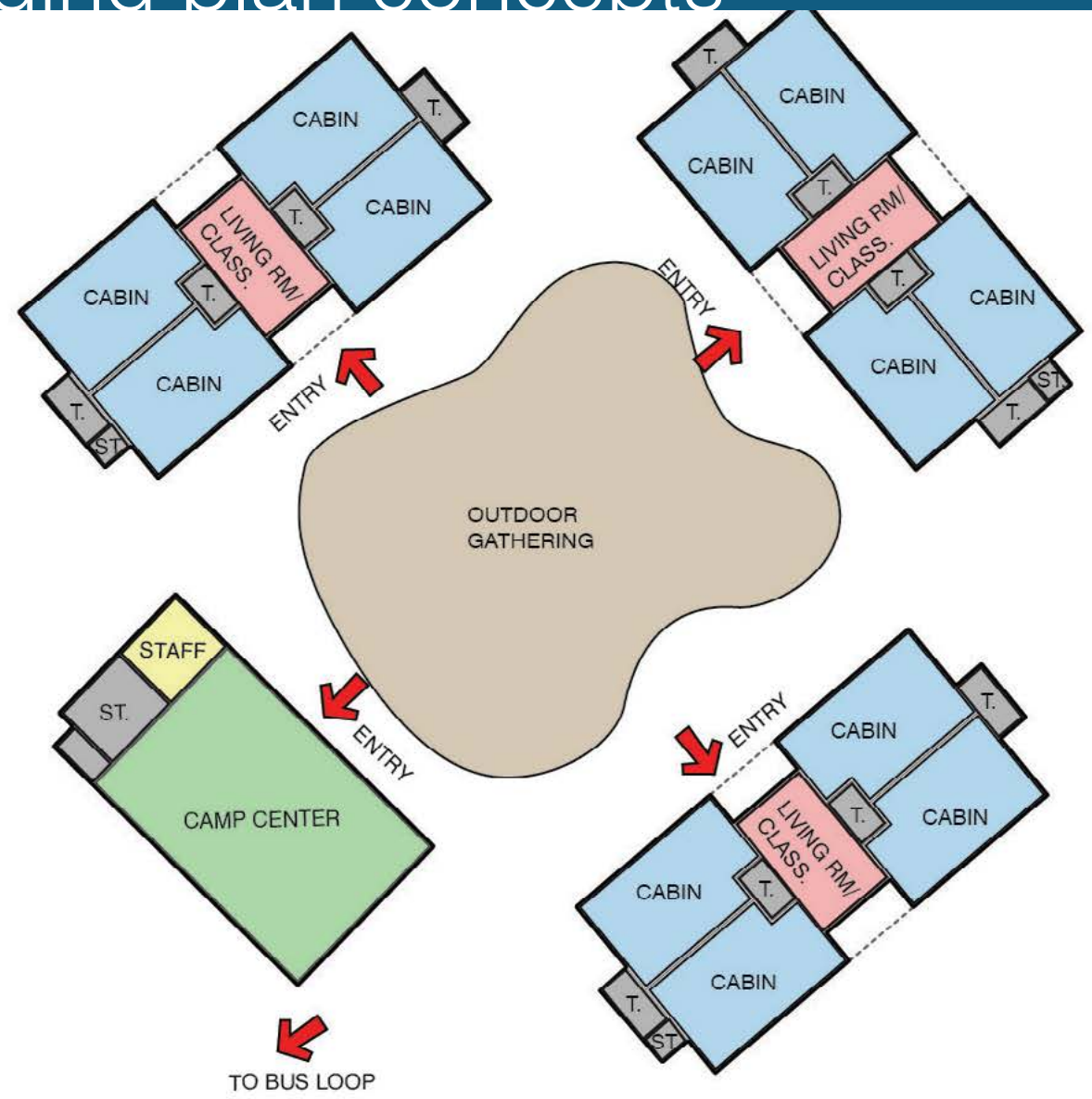
Villages 1 Renovation:

The existing Villages I cluster will require upgrades to bring the building up to current building and accessibility codes, as well as to serve the functional needs stated in the Educational Specifications.

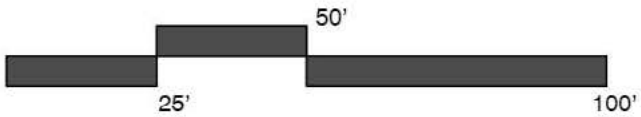
As required by code, one accessible sleeping quarter/ room each for boys and girls must be dedicated in one of the three existing cabin buildings. The existing Project Rooms will be converted to an accessible cabin with a new dedicated, accessible single-user toilet room. The group toilets will also be updated to provide ADA compliance. The corridor connecting the central classroom space to the cabins will be widened to provide adequate clearance for egress and accessibility.

The two remaining cabin buildings, as well as the Camp Center building will receive finish upgrades as well as required accessibility updates. Typical for all buildings in the Villages I cluster: interior finishes will be updated to provide durable, sustainable and easy-to-maintain materials throughout the building.

building plan concepts



VILLAGES 1: NEW BUILDING OPTION



Villages 1 New:

An alternative to renovating the existing Villages I cluster is to construct a new cluster of buildings on the adjacent property to allow the existing cluster to remain operational during construction.

The new Villages I cluster consists of 3 cabin buildings and a camp center building arranged around a central outdoor gathering/classroom space. Each cabin building is entered through a central living room/instructional space with access to the 4 sleeping quarters. All cabins are ADA accessible. Each pair of sleeping quarters accesses a shared student toilet room at one end, as well as a shared adult toilet room at the opposite end.

Each cabin room will accommodate 12 students in bunk beds as well as 2 adult chaperones. Adult sleeping areas may be subdivided from student bunk areas if desired by Camp Schmidt staff during the design phase of the project.

The camp center building provides a large gathering space for lunches and group gatherings, as well as chair & table storage, staff sleeping quarters, and a custodial office. A new outdoor pavilion will also be provided for outdoor instruction and serve as a start and finish point for students embarking on the Villages I outdoor activity circuit.

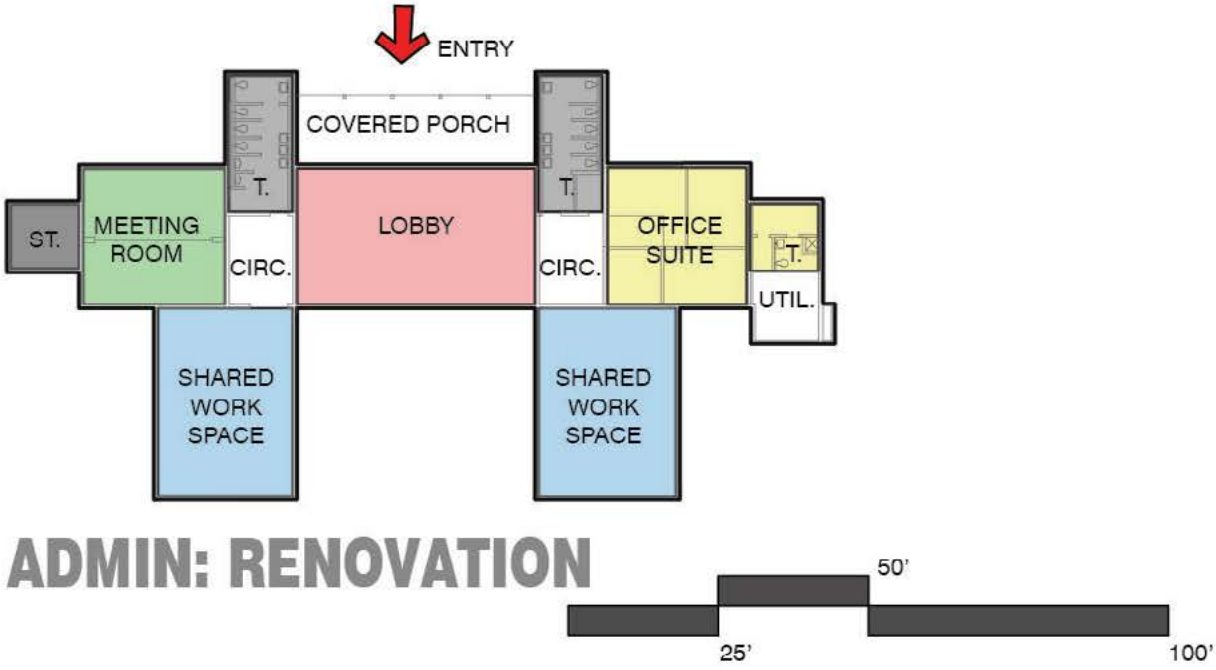
VILLAGES 2: NEW BUILDING

Villages 2 New:

The new Villages II cluster consists of 3 cabin buildings and a camp center building arranged around a central outdoor gathering/classroom space. Each cabin building is entered through a central living room/ instructional space with access to 6 sleeping quarters in two of the buildings and 4 sleeping quarters in the third building. All cabins are ADA accessible. Each pair of sleeping quarters accesses a shared student toilet room at one end, as well as a shared adult toilet room at the opposite end. Each cabin room will accommodate 12 students in bunk beds as well as 2 adult chaperones. Adult sleeping areas may be subdivided from student bunk areas if desired by Camp Schmidt staff during the design phase of the project.

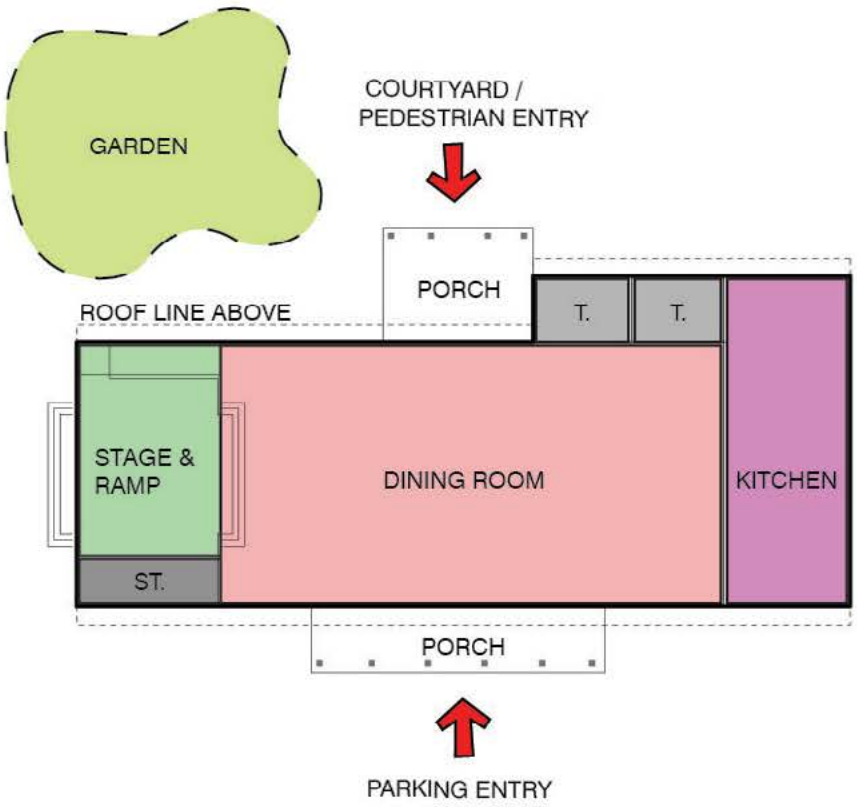
The camp center building provides a large gathering space for lunches and group gatherings, as well as chair and table storage, staff sleeping quarters, and a custodial office. A new outdoor pavilion will also be provided for outdoor instruction and serve as a start and finish point for students embarking on the Villages II outdoor activity circuit.

building plan concepts

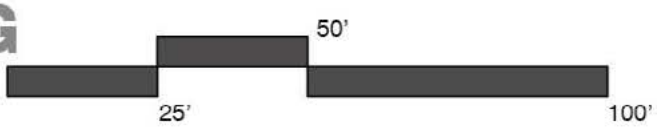


Administration Renovation:

The Neville Administration Building will be renovated to provide staff and administrative space. Reconfiguration of walls or interior space is not required, as the existing building spaces are generally in compliance with the Educational Specifications. The building will require an update of interior finishes, as well as updates to doors and hardware and toilet room for ADA compliance.



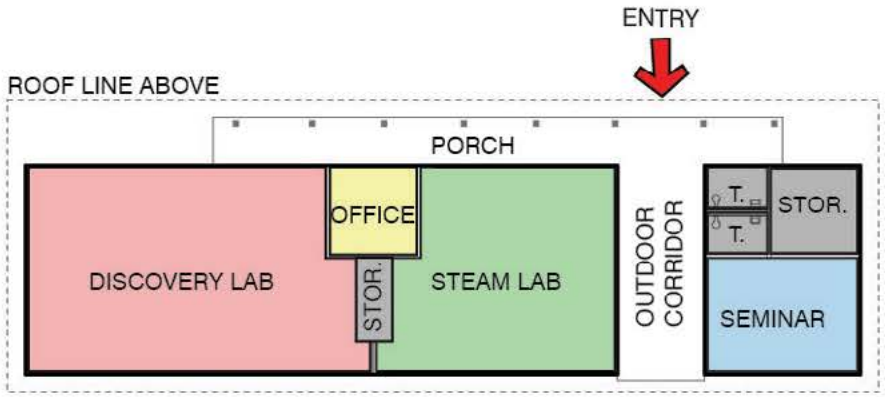
DINING HALL: NEW BUILDING



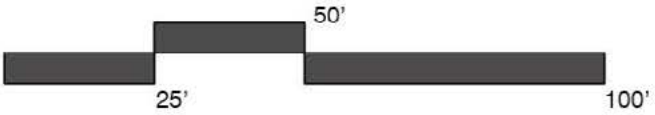
Dining Hall New:

The Dining Hall is intended to serve as the main dining space on the campus. The main dining room is accessed directly from the outdoors via porches on opposite sides of the space that face the courtyard/pedestrian entry and the vehicle/parking sides of the building. The dining room can be subdivided with an operable partition, or can be opened up as one large room with a seating capacity of up to 300 students and 50 adults. A raised platform/stage is provided at one end of the dining room for performances, with an accessible ramp. The outside wall of the stage can also be opened to allow the stage to be used for outdoor performances in an amphitheater setting. A commercial kitchen space will be positioned at the other end of the dining hall to provide serving lines for students, and is located near the service drive for easy access to deliveries and trash/recycling removal. Outdoor space will be provided for students to eat outside when the weather permits. A composting station as well as an edible garden space is planned adjacent to the Dining Hall, allowing students to help plant, grow and harvest food for use in the kitchen.

building plan concepts



ENVIRONMENTAL RESEARCH CENTER: NEW BUILDING



Environmental Research Center New:

The new Environmental Research Center (ERC) will serve as an educational and community resource to reinforce the understanding of sustainability, and will provide hands-on instructional space for students of all ages. Keeping with the theme of the campus, the ERC will contain no interior corridors. Spaces will be accessed by outdoor corridors and entry porches. The central outdoor corridor will access the Seminar Room and toilet rooms. The entrance porch will access the Discovery Lab, Steam Lab and Office.

Consistent with sustainability goals established by PGCPS, all new buildings on the Camp Schmidt campus will be designed to achieve LEED-Gold level certification. The ERC should also strive to achieve Net Zero energy and water use, if feasible, to connect with the building's sustainability program.

section five

appendices

	EVALUATION CRITERIA	POSSIBLE POINTS	OPTION 1A	OPTION 1B	OPTION 2A	OPTION 2B
PROGRAM DELIVERY	**Separation of Villages I+II** - Village clusters have secluded/private feel and are remote from other buidings	5	3	3	5	4
	Proximity of Villages I+II to Dining Hall - equal and managable distances between each of the Village clusters and Dining Hall	5	3	3	2	5
	Overall building connectivity - relationship and proximity of buildings serving simliar programs/groups	5	4	4	2	3
	Access for day programs at ERC - ease of site and bus access for school groups visiting the new ERC	5	3	5	3	4
	Use of buildings by outside groups - ease of site/building access and parking for visiting outside groups	5	3	3	3	3
	Subtotal: Program Delivery Criteria	**25**	**16**	**18**	**15**	**19**
SITE	**Conservation of site** - minimize overall impact to the site, focus building development on optimal buildable areas	5	5	5	2	3
	Safety, security, supervision - siting of buildings, roads and paths allows for safe and effective supervision of students	5	5	4	2	3
	Building access for students and staff - site circulation promotes ease of movement for students, teachers and operations staff	5	5	4	2	3
	Natural settings for buildings - location of buildings allows for seclusion, views and connection to surrounding landscape	8	2	2	5	7
	Reuse of outdoor learning areas - Existing outdoor activity areas will require minimal impact for new Villages I and II clusters	5	5	5	2	5
	Utilizes west side of site - takes advantage of available undeveloped property on west side of site	5	1	1	5	4
	Subtotal: Site Criteria	**33**	**23**	**21**	**18**	**25**
COST	**Cost of masterplan development** - overall cost impact of design option	5	5	5	4	4
	Subtotal: Cost Criteria	**5**	**5**	**5**	**4**	**4**
	TOTALS	**63**	**44**	**44**	**37**	**48**

PHASE / PRIORITY	BUILDING COST				MASTERPLAN OPTIONS (BUILDINGS + SITE)			
	AREA (GSF)	COST/SF ($)	SUBTOTAL	TOTAL COST W/ GC MARKUP	OPTION 1A	OPTION 1B	OPTION 2A	OPTION 2B
Phase 1: New Buildings + Sitework								
Priority 1 - Villages II cluster	21,406	$ 200	$ 4,281,200	$ 5,565,560	$ 7,121,391	$ 7,121,391	$ 7,831,793	$ 7,067,411
Priority 2 - Dining Hall	7,757	$ 260	$ 2,016,820	$ 2,621,866	$ 3,302,665	$ 3,302,665	$ 3,755,461	$ 3,308,780
Priority 3 - Environmental Research Center	5,040	$ 225	$ 1,134,000	$ 1,474,200	$ 1,669,200	$ 1,571,700	$ 1,571,700	$ 2,842,276
Priority 4a - Villages I cluster	11,023	$ 200	$ 2,204,600	$ 2,865,980	$ 4,275,226	$ 4,275,226	$ 3,837,526	$ 3,837,526
Phase 1 Subtotal					**$ 16,368,482**	**$ 16,270,982**	**$ 16,996,480**	**$ 17,055,993**
Phase 2: Renovated Buildings + Sitework								
Priority 5 - Orme Building	17,000	$ 200	$ 3,400,000	$ 4,420,000	$ 5,083,000	$ 5,083,000	$ 5,083,000	$ 5,083,000
Priority 6 - Neville Administration Building	5,050	$ 165	$ 833,250	$ 1,083,225	$ 1,245,709	$ 1,245,709	$ 1,245,709	$ 1,245,709
Phase 2 Subtotal					**$ 6,328,709**	**$ 6,328,709**	**$ 6,328,709**	**$ 6,328,709**
Total Phase 1 + 2				**$ 18,030,831**	**$ 22,697,190**	**$ 22,599,690**	**$ 23,325,188**	**$ 23,384,702**
Alternate: Priority 4b - Renovation of Villages 1 cluster	12,445	$ 135	$ 1,680,075	$ 2,184,098	$ (681,883)	$ (681,883)	$ (681,883)	$ (681,883)
Alternate: West Entrance Road				$ 375,805	$ 375,805	$ 375,805	n/a	n/a
Alternate: Photo-Voltaic Array**				$ 700,000	$ 700,000	$ 700,000	$ 700,000	$ 700,000
Total Cost with all Alternates					$ 23,091,113	$ 22,993,613	$ 23,343,306	$ 23,402,820

Notes

1. Cost estimates include GC mark-up of 30%, overhead+profit and design contingency
2. Cost estimates do not include design team fees, CM fees, permitting or testing fees

**PV array based on output of approx. 175kW

Accessibility

Camp Schmidt is committed to providing a unique and immersive outdoor education experience to all visiting students through its engaged staff and diverse program offerings. Serving the broad population of Prince George's County Public School students, the camp's programs must also endeavor to address standards outlined by the Americans with Disabilities Act (ADA), which are designed to make public spaces accessible to people with disabilities. Meeting these standards can prove to be a challenge for an outdoor education facility like Camp Schmidt, which strives to deliver genuine outdoor experiences for students within in an authentic natural environment.

The existing campus includes a series of outdoor classrooms and activity spaces as part of two "activity circuits", located on the east side of the property, that enable Camp Schmidt to simultaneously operate two overnight residential school programs. These activity circuits are located adjacent to the existing residential communities of Villages I, located on the south side of the site and the Orme Building, located at the north side of the site. The nature of these outdoor areas, and the trails connecting them, is rustic and similar to that of a hiking trail or woodland path. While this condition provides an authentic experience for unencumbered students, negotiating these circuits for students with disabilities can prove challenging, or in some cases is simply not possible. Students requiring special assistance are typically accompanied by a parent or an aide when visiting the campus.

The Design Team met with Camp Schmidt staff, as well as representatives from PGCPS' Special Education and Legal departments, in order to develop a planning strategy that would address issues of accessibility while maintaining the authentic Camp Schmidt experience for all students. The following strategies will apply to each of the masterplan options presented in this report, and should be executed through the design and construction phases of the individual buildings and site elements contained within each option.

1. Provide universal access to all new and renovated buildings on the Camp Schmidt campus to include the following:
- Accessible parking near building (# spaces as required by code)
- Accessible route from parking to building entrance
- Universal accessibility within the building; all buildings are planned as one-story structures
- ADA-compliant restrooms
- Accessible pedestrian pathways connecting each building

2. Provide an accessible, ADA-compliant trail/pathway that connects the outdoor activity classrooms for one of the two "activity circuits" planned to support the Villages I & II residential clusters. Through their scheduling protocol and communication with visiting schools, Camp Schmidt staff typically will know the needs and limitations of students with special needs in advance of the planned visit to the campus. Arrangements will be made to ensure the students needing the accommodations of the accessible activity circuit will be scheduled for the appropriate residential cluster.

3. Provide two accessible cabin spaces (sleeping quarters with accommodations for handicapped/ wheelchair-bound students) and adjacent accessible toilet rooms within each residential cluster. The two accessible cabins will provide for one girl's and one

boy's cabins to be distributed amongst the individual cabin buildings within each cluster.

The following excerpts from 2010 ADA Standards for Accessible Design are provided for reference and helped to inform the strategies presented above:

4.1.2 Accessible Sites and Exterior Facilities: New Construction
An accessible site shall meet the following minimum requirements:
(1) At least one accessible route complying with 4.3 shall be provided within the boundary of the site from public transportation stops, accessible parking spaces, passenger loading zones if provided, and public streets or sidewalks, to an accessible building entrance.
(2) (a) At least one accessible route complying with 4.3 shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.

4.3 Accessible Route
4.3.1* General. All walks, halls, corridors, aisles, skywalks, tunnels, and other spaces that are part of an accessible route shall comply with 4.3.

4.3.2 Location.
(1) At least one accessible route within the boundary of the site shall be provided from public transportation stops, accessible parking, and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance they serve. The accessible route shall, to the maximum extent feasible, coincide with the route for the general public.
(2) At least one accessible route shall connect accessible buildings, facilities, elements, and spaces that are on the same site.
(3) At least one accessible route shall connect accessible building or facility entrances with all accessible spaces and elements and with all accessible dwelling units within the building or facility.
(4) An accessible route shall connect at least one accessible entrance of each accessible dwelling unit with those exterior and interior spaces and facilities that serve the accessible dwelling unit.

4.5 Ground and Floor Surfaces
4.5.1 General. Ground and floor surfaces along accessible routes and in accessible rooms and spaces including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, slip-resistant, and shall comply with 4.5.

Title III of the ADA (28 C.F.R. sect. 36.303)
…"public accommodations shall take those steps that may be necessary to ensure that no individual with a disability is excluded, denied services, segregated, or otherwise treated differently than other individuals because of the absence of auxiliary aids and services, unless public accommodations can demonstrate that taking those steps would fundamentally alter the nature of the goods, services, facilities, privileges, advantages, or accommodations being offered or would result in an undue burden, i.e., significant difficulty or expense."

Sustainable Strategies

Prince George's County Public Schools (PGCPS) has adopted the Prince George's County's 'Go Green Initiative' Executive Order 22-2007 and The High Performance Building Act of 2008, requiring all new schools achieve a rating of Leadership in Energy and Environmental Design (LEED) Silver or equivalent from a nationally recognized accreditation entity. Under the 2009 LEED for Schools New Construction and Major Renovation, PGCPS has set a goal to achieve LEED Gold certification on all new schools. The buildings within the Camp Schmidt masterplan project should be designed in accordance with LEED v3 or v4 for BD+C, New Construction and Major Renovation.

The Camp Schmidt campus presents a unique opportunity to embrace sustainability as a teaching tool and build on the environmental literacy and awareness embedded in the curriculum. As the masterplan development at the Camp Schmidt campus proceeds, each masterplan phase and individual building project will include the opportunity to incorporate sustainable design strategies. While PGCPS has set a minimum goal of LEED Gold certification for the Camp Schmidt buildings, the stakeholder group also expressed interest in exploring LEED Platinum certification and possibly Net-Zero / Net-Positive Energy & Water Design and the Living Building Challenge (LBC).

The scale, size and location of the Camp Schmidt buildings, in addition to the limitless connections with the environmental education program, make these projects ideal candidates to investigate deeper levels of sustainable design. These priorities will need to be evaluated at each phase of masterplan development, and decisions about sustainable design thresholds will need to align with individual project budgets.

During the design phase of these projects, a plan will be developed to incorporate many environmental design elements that significantly reduce or eliminate the building's impact on the environment, while also providing inviting, friendly and comfortable spaces for students, staff, and community users of the facility. These sustainable design features, systems, and materials may include the following:

Site

- Locate buildings to minimize site impacts and existing tree conservation areas
- An erosion control plan during construction to prevent storm water runoff and wind erosion via bio swales, rain gardens, green roofs, etc.
- A storm water management plan that reduces discharge rate and quantity of storm water discharge
- Water efficient landscaping and native, drought-resistant species
- Interpretive signage along pedestrian walks and outdoor activity areas for educational and sustainable site and building features
- Pervious, natural pathway materials for accessible pedestrian paths such as bonded wood carpet, decomposed granite & stabilized crushed stone, and recycled waste tires
- Pervious paving for vehicular drives and parking areas
- Landscaped shading for at least 50% of the site hardscape through the use of trees and other shade devices
- Rainwater harvesting system for landscape irrigation and/or use graywater to flush toilets
- Reserved parking for carpools and for fuel efficient and low-emitting cars

Buildings

- Low flow plumbing fixtures to increase water efficiency
- Composting toilets
- Specify locally-manufactured and harvested building materials where possible
- High-recycled content materials including steel, carpet, acoustical ceiling panels, drywall and concrete
- FSC-certified wood products
- Recycle demolition and construction debris and redirect from landfills to manufacturing process, reuse on site, or at other sites
- Low-emitting materials to protect indoor air quality for occupants such as low VOC carpet and paint
- Large windows to provide views of the outdoors while also allowing for natural daylighting and winter solar heating
- Double or triple-glazed “low e” glass and shading devices on windows to enhance the energy efficiency of the building
- Operable windows for natural ventilation and individual control, particularly near work stations
- Building orientation for new construction to maximize natural daylighting and solar control.
- Energy-efficient LED light fixtures, multiple switching and daylight controls
- Minimize light pollution from the building and site by specifying exterior and site lighting with lower foot-candle output and cutoff shades to reduce light spill on the campus
- High performance building envelope; exterior walls and roof
- Use sloped roofs for photovoltaic arrays and solar water heating
- Use vegetated roofs areas for low slope roofs
- Dedicated areas for composting and for the collection, separation, and storage of materials for recycling
- Onsite renewable energy sources such as geothermal and solar
- Monitoring and control of temperature throughout the building with the use of sensors
- Utilize building commissioning throughout the design and construction process to verify and optimize building systems
- Create a sundial on the grounds (could be in ground, on side of building, incorporated into an awning as an oculus etc.)

Additional costs to the project include retaining a commissioning team that does not include individuals directly responsible for project design or construction management to implement commissioning procedures as outlined to meet LEED requirements. Further supplemental costs that will affect the cost of the project will include Registration and Certification Review fees, costs for retaining a LEED/LBC consultant to complete the requisite documentation for project registration and certification, and most significantly, direct costs to be borne by the Contractor.

Civil Recommendations for new work

Land Use Needs and Priorities

Roadways and Circulation

Current Fire Access requirements mandate a 22' minimum drive aisle with 25' minimum inside radii and 50' minimum outside radii. In addition, a Fire Apparatus requires a minimum 90' diameter area to turn around or a tee turn around with legs that are 60' in length.

School buses require a minimum of 110' turn around diameter. A minimum inside radius of 30' should be provided.

As stated previously, if the main access road to the Pavilion and Villages on the east side of the site encroaches over the property line, then it will need to be reconstructed on PGCPS property.

ADA and accessibility should be provided from the main buildings to the public right-of-way.

Any proposed site access to the west side of the site may require significant new improvements to provide vehicular access to new buildings/amenities.

Trails

Given the steep terrain of the property, it will be very difficult to make every trail accessible per ADA requirements. An equal opportunity shall be provided to all users independent of their physical limitations.

Any trails/paths that are considered accessible shall meet the slope requirements of ADA and shall be constructed of a firm stable surface.

Environmental Education features

Given the requirements for Stormwater Management (SWM) that may be required for the site development, an opportunity to incorporate water resource conservation should be implemented into areas that can be accessed by students.

Land Use Plan

General Land Uses and Strategic Vision

Implementation of SWM for ESD (Environmental Site Design) to the MEP (Maximum Extent Practicable)

Water reuse using rain barrels or cisterns should be considered.

Vegetative Green Roofs or partial Vegetative Green Roofs should be considered.

Solar arrays facing the south direction and on slopes equal to or less than 10% should be considered.

Based on geotechnical reports, if recommended, permeable pavement should be considered.

Sheetflow to buffers shall also be examined, however, the steep terrain may provide difficult to utilize.

Trails and Environmental Education Features: (Refer to previous sections; Provided during design Charettes)

The use of natural materials for trails and roads are warranted. The use of materials such as bonded wood carpet and stabilized stone should be considered.

MEP Recommendations for new work

Mechanical Overview

The proposed mechanical systems for each building will be discussed below. Each proposed system was influenced by the goal of achieving LEED Gold or Platinum status, the desire to implement net zero and renewable energy strategies, and the spatial relationship of the buildings to each other and their surroundings. For buildings with multiple options based upon the masterplans, a few advantages and disadvantages of each system are listed after each proposed design.

A. Masterplan Option 1A/1B

This masterplan provides a opportunity for a common geothermal well field to be incorporated into the mechanical design for four (4) of the (6) proposed buildings. The Dining hall, Environmental Research Center, Village 2 and Admin Building mechanical systems will all utilize the geothermal well field for their heating and cooling demand due to their proximity to each other. Village 1 and Orme building are separated by a large enough distance from the other buildings that they will utilize self contained systems. The geothermal well field is an example of sustainable and energy efficient design that is one of the main focuses of the project.

B. Masterplan Option 2A/2B

Due to the distance and location of all the buildings for this masterplan, each building will have its own self contained system.

C. Village 2

Option 1 (Masterplan Option 1A/1B): Water Source Heat Pump with Terminal heating/cooling Units.

Terminal units (ex. fan coil unit's) heat/cool each cabin space and the main center building. Water from the geothermal well field will be piped to a main water source heat pump, which will then provide hot or chilled water to each terminal unit.

Advantages
- Geothermal well field energy efficient and sustainable design
- Water source heat pump is high efficiency
- Individual temperature zoning control

Disadvantages
- High first cost.
- Need space for geothermal well field
- More complicated design/installation

Option 2 (Masterplan Option 2A/2B): Variable Refrigerant Flow (VRF) System with Air Source Heat Pump

This option provides heating and cooling to each cabin space with an individual heat pump unit however the main heating and cooling is centralized via an outdoor air source heat pump network. A VRF system is highly sustainable and energy efficient. This system is a self contained closed circuit, which works well with the remote location of Village 2.

Advantages
- High energy efficiency
- Closed circuit system is a simpler installation
- Not as high an initial cost as option 1
- Individual temperature zoning control

Disadvantages
- Not as sustainable as geothermal well field
- Air source heat pump not as efficient as water source

D. Dining Hall

Option 1 (Masterplan Option 1A/1B): Water Source Heat Pump with Air Handling Unit for Heating, Ventilation and Air Conditioning

This option provides one (1) single zone, constant volume air handling unit with energy recovery and demand ventilation features. This would allow the unit to limit ventilation based upon actual occupancy. Heating and cooling for the unit would be done by the water source heat pump providing hot or chilled water from the geothermal well field. The kitchen area will have its own supply and exhaust system as well.
Advantages
- Geothermal well field energy efficient and sustainable design
- Water source heat pump is high efficiency
- Control ventilation based upon occupancy

Disadvantages
- Need space for geothermal well field
- Ductwork required to provide supply air
- More complicated design/installation

Option 2 (Masterplan Option 2A/2B): Air Source Heat Pump with Air Handling Unit for Heating, Ventilation and Air Conditioning

This option provides one (1) single zone, constant volume air handling unit with energy recovery and demand ventilation features. This would allow the unit to limit ventilation based upon actual occupancy. Heating and cooling for the unit would be done by the air source heat pump with a modulating valve to be able to heat or cool supply air. The kitchen area will have its own supply and exhaust system as well.

Advantages
- Air source heat pump air handling unit combination is a self contained system
- Not as high an initial cost as option 1
- Control ventilation based upon occupancy

Disadvantages
- Not as sustainable as geothermal well field
- Air source heat pump not as efficient as water source
- Ductwork required to provide supply air

E. Environmental Reserach Center

Option 1 (Masterplan Option 1A/1B): Water Source Heat Pump with Terminal heating/cooling Units.

Terminal units (ex. fan coil units) heat/cool the spaces. The two labs each have their own unit, and the seminar and office space are combined on one unit. Water from the geothermal well field will be piped to a main water source heat pump, which will then provide hot or chilled water to each terminal unit.

Advantages
- Geothermal well field energy efficient and sustainable design
- Water source heat pump is high efficiency
- Individual temperature zoning control

Disadvantages
- Need space for geothermal well field
- High first cost
- More complicated design/installation

Option 2 (Masterplan Option 2A/2B): Variable Refrigerant Flow (VRF) System with Air Source Heat Pump

This option provides heating and cooling to each space with an individual heat pump unit however the main heating and cooling is centralized via an outdoor air source heat pump network. A VRF system is highly sustainable and energy efficient.
Advantages
- High energy efficiency
- Closed circuit system is a simpler installation
- Not as high an initial cost as option 1
- Individual temperature zoning control

Disadvantages
- Not as sustainable as geothermal well field
- Air source heat pump not as efficient as water source

F. Administration and Interpretive Center

Option 1 (Masterplan Option 1A/1B): Water Source Heat Pump with Terminal heating/cooling Units.

Terminal units (ex. fan coil units) heat/cool each space. The shared work spaces and the conference/seminar room area will have their own units, the office area will be controlled by one unit. Water from the geothermal well field will be piped to a main water source heat pump, which will then provide hot or chilled water to each terminal unit.

Advantages
- Geothermal well field energy efficient and sustainable design
- Water source heat pump is high efficiency
- Individual temperature zoning control

Disadvantages
- Need space for geothermal well field
- High first cost
- More complicated design/installation

Option 2 (Masterplan Option 2A/2B): Variable Refrigerant Flow (VRF) System with Air Source Heat Pump

This option provides heating and cooling to each space with an individual heat pump unit however the main heating and cooling is centralized via an outdoor air source heat pump network. A VRF system is highly sustainable and energy efficient.

Advantages
- High energy efficiency
- Closed circuit system is a simpler installation
- Not as high an initial cost as option 1
- Individual temperature zoning control

Disadvantages
- Not as sustainable as geothermal well field
- Air source heat pump not as efficient as water source

G. Pavilion Building

Option (Masterplan Option 1A/1B and 2A/2B): Upgrade Existing Units

There are currently two existing ceiling hung heaters. While the pavilion is rarely used and does not seem to be in need of HVAC upgrades, replacing the units to a newer version or providing electric heat pumps is an efficient way to provide heating or any other conditioning requirements.

H. Village 1

Option (Masterplan Option 1A/1B and 2A/2B): Variable Refrigerant Flow (VRF) System with Air Source Heat Pump

Due to the remote location, Village 1 will incorporate the same system regardless of the masterplan option chosen. This option provides heating and cooling to each cabin space with an individual heat pump unit however the main heating and cooling is centralized via an outdoor air source heat pump network. A VRF system is highly sustainable and energy efficient.

I. Orme Building

The Orme Building has two current approved proposals that have been bid and awarded for renovations on the existing building outside of the masterplans being developed now. These proposals will be taken into account for the renovation of the Orme Building. One proposal is to replace all the existing steam and condensate piping in the 1956 and 1959 portions of the building. The second proposal is an Air Conditioning Initiative (ACI) project. This proposal provides air conditioning to the whole school by installing variable refrigerant flow (VRF) air conditioning units and rooftop energy recovery ventilation units. This proposal also includes any associated costs for controls, structure, etc required to make the design function as intended. These two proposals that have already been bid and awarded provide a thorough and energy efficient solution to the current Orme Building. The ACI project proposes a VRF system that will provide individualized heating and cooling to each space in the school. A separate rooftop unit serves the multipurpose space. Along with providing heating and air conditioning, all steam and condensate piping is set to be replaced as well. Since the boilers and other existing heating equipment are less than 15 years old, replacing the piping leaves a viable and renovated heating system in place. While the VRF system will supply both heating and cooling, the existing steam system can be left in place and utilized in specific heating applications.

Electrical Overview

Following electrical purposed system are based on the design concept s provided by the architect for different buildings. All recommendation/modification indicated in mechanical and plumbing reports are considered in the purposed solutions for power distribution system in each building. Recommendations for Fire Alarm Systems in each building are based on NFPA and ADA requirements. The goal of achieving LEED Gold or Platinum status for will be considered in purposed solutions for lighting system and lighting control system in each building.

A. Electrical Utility Service

I. Master Plan Option 1:

Orme School:
Existing utility service for the renovated school building based on the new load in the building and purposed mechanical/HVAC/plumbing systems will be evaluated and upgraded if necessary.

Administration:
In this master plan option, utility power for new buildings: village (2), Environmental Reserach Center, and Dining Hall will be provided from administration building. Therefore, the existing utility service for the administration building based on the new load in the building, purposed mechanical/HVAC systems in the building and the loads in the new buildings mention before will be upgraded.

Village (1):
Existing utility service for the village 1 buildings based on the new load and purposed mechanical/HVAC/

plumbing systems for all the buildings will be evaluated and upgraded if necessary.

New Village (2)
New feeder for utility power to the new village buildings will be provided from the renovated Administration building.

New Environmental Research Center:
New feeder for utility power to the new ERC building will be provided from the renovated Administration building.

New Dining Hall:
New feeder for utility power to the new Dining Hall will be provided from the renovated Administration building.

II. Master Plan Option 2

Orme School:
Purposed utility service for renovated school will be the same as Master Plan Option 1
Administration: Existing utility service for the renovated administration building based on the new load in the building and purposed mechanical/HVAC and plumbing systems will be evaluated and upgraded if necessary.

Village (1)
Purposed utility service for renovated village (1) buildings will be the same as Master Plan Option 1. Capacity of the new utility service will be specified considering the loads in all the buildings in the village.

Village (2):
A new utility service will be provided for the new Village (2) buildings.

New ERC:
In this option, utility power for new Dining Hall will be provided from ERC building. In this case, a new utility service will be provided for ERC building. Capacity of the new utility service will be specified considering the loads in ERC building and the Dining Hall.

New Dining Hall:
New feeder for utility power to the new Dining Hall will be provided from the new ERC Building.

B. Orme School Building
According the architect design concept plan, this building will be renovated. In this case purposed electrical solutions will be as follow:

1. IDemolition of the existing lighting and related control system. Providing a new lighting system in the building with high efficient light fixture (or LED fixtures). Also installation of a complete lighting control system capable of reduce lighting level and automatically turn off light fixtures by day light harvesting devices and occupancy sensors in different locations.

2. Demolition of the existing fire alarm system and providing a new system including initiation and notification devices and related layout and installation. The new fire alarm system will complies with NFPA and ADA requirements.

3. Upgrading the existing telephone/data system based on the renovation design requirements.

4. In case of utility service upgrade, replacing the secondary conductors with higher rating, and also replacing the existing MDP panel with a new distribution panel with higher capacity and more feeder breakers.

5. Based on new mechanical/HVAC/Plumbing equipment/systems and also new loads required by the renovation/new addition, providing new load centers and panelboards and related wiring to equipment and upstream panels.

6. Upgrade the existing exterior lighting system and related timer/photocell control system.

7. Based on renovation design, provide additional receptacles and wall outlets

8. Upgrading the PA system based on renovation design requirements.

9. Providing a new sound system for multi-purpose room.

10. Upgrade the existing clock system as required by building renovation/new addition design.

11. Perform insulation testing of all existing to remain feeders and panels and also perform complete grounding system testing for the building.

12. Perform lightning risk assessment study and provide Lightning protection system to cover the entire building based on risk assessment study.

C. Administration Building
According the architect design concept plan, this building will be renovated. In this case purposed electrical solutions will be as follow:

1. Demolition of the existing lighting and related control system. Providing a new lighting system in the building with high efficient light fixture (or LED fixtures). Also installation of a complete lighting control system capable of reduce lighting level and automatically turn off light fixtures by day light harvesting devices and occupancy sensors in different locations.

2. Upgrading the existing fire alarm system including initiation and notification devices and related layout and installation so full coverage is provided and the system complies with NFPA and ADA requirements.

3. Upgrading the existing telephone/data system based on the renovation design requirements.

4. In case of utility service upgrade, replacing the secondary conductors with higher rating, and also replacing the existing MDP panel with a new distribution panel with higher capacity and more feeder breakers.

5. Based on new mechanical/HVAC/Plumbing equipment/systems, providing new load centers and panelboards and related wiring to equipment and upstream panels.

6. Upgrade the existing exterior lighting system and related timer/photocell control system.

7. Perform Insulation testing for all existing to remain feeders, and panels and also performing complete grounding system testing for the building.

8. Perform lightning risk assessment study and providing Lightning Protection System to cover the entire building based on the risk assessment study result.

D. Village (1) Buildings
According the architect design concept plan, Village (1) buildings will be renovated. In this case purposed electrical solutions will be as follow:

1. Upgrade lighting system in all buildings using high efficient light fixture (or LED fixtures) and lighting control system capable of reduce lighting level and automatically turn off light fixtures by using occupancy sensors in different locations.

•

2. Upgrading the existing fire alarm system including initiation and notification devices and related layout and installation so full coverage is provided and the system complies with NFPA and ADA requirements.

3. In case of utility service upgrade, replacing the secondary conductors with higher rating, and also replacing the existing MDP panel with a new distribution panel with higher capacity and more feeder breakers.

4. Based on new mechanical/HVAC/Plumbing equipment/systems, providing new load centers or panelboards and related wiring to equipment and distribution panel in each building.

5. Upgrade the existing exterior lighting system and related timer/photocell control system.

6. Perform insulation testing for all existing remaining feeders, and panels and also performing complete grounding system testing for each building

7. Perform lightning risk assessment study and providing Lightning Protection System to cover the entire building based on the risk assessment study result.

E. New Village (2) Buildings
According the architect design concept plan, village (2) buildings will be new construction. In this case purposed electrical solutions will be as follow:

1. Providing a new lighting system in the building with high efficient light fixture (or LED fixtures). Also installation of a complete lighting control system capable of reduce lighting level and automatically turn off light fixtures by day light harvesting devices and occupancy sensors in different locations.

2. Providing a new fire alarm system including initiation and notification devices with the device layout so full alarm coverage is provided in all location in each building. The new system will comply with NFPA and ADA requirements.

3. Providing a new telephone/data system based on the building design requirements.

4. Providing receptacles and outlets in all locations as required.

5. Providing new utility service and related Primary/ secondary ductbanks/conductors and utility transformer. Also providing feeders to each building in order to supply power to the building.

6. Providing complete power distribution system including main distribution panel, branch panelboards and load centers and related feeder and branch circuit wiring for each building.

7. Providing an exterior lighting system and related timer/photocell control system.

8. Providing complete grounding system for each building.

9. Perform lightning risk assessment study and providing Lightning Protection System for each building based on the risk assessment study results.

F. New ERC Building
According the architect design concept plan, this building will be new construction. In this case purposed electrical solutions will be as follow:

1. Providing a new lighting system in the building with high efficient light fixture (or LED fixtures). Also installation of a complete lighting control system capable of reduce lighting level and automatically turn off light fixtures by day light harvesting devices and occupancy sensors in different locations.

2. Providing a new fire alarm system including initiation and notification devices with the device layout so full alarm coverage is provided in all location in each building. The new system will comply with NFPA and ADA requirements.

3. Providing a new telephone/data system based on the building design requirements.

4. IV. Providing receptacles and outlets in all locations as required.

5. Providing new utility service and related Primary/ secondary ductbanks/conductors and utility transformer. Also providing feeders to each building in order to supply power to the building.

6. Providing complete power distribution system including main distribution panel, branch panelboards and load centers and related feeder and branch circuit wiring.

7. Providing an exterior lighting system and related timer/photocell control system.

8. Providing complete grounding system for the building.

9. Perform lightning risk assessment study and providing Lightning Protection System for the building based on the risk assessment study result.

G. New Dining Hall
1. According the architect design concept plan, this building will be new construction. In this case purposed electrical solutions will be as follow:

2. Providing a new lighting system in the building with high efficient light fixture (or LED fixtures). Also installation of a complete lighting control system capable of reduce lighting level and automatically turn off light fixtures by day light harvesting devices and occupancy sensors in different locations.

3. Providing a new fire alarm system including initiation and notification devices with the device layout so full alarm coverage is provided in all location in each building. The new system will comply with NFPA and ADA requirements.

4. Providing a new telephone/data system based on the building design requirements.

5. Providing a new sound system.

6. Providing receptacles and outlets in all locations as required.

7. Providing a new underground utility feeder from main distribution panel in the adjacent building.

8. Providing complete power distribution system including main distribution panel, branch panelboards, load centers and related feeders and branch circuit wiring.

9. Providing an exterior lighting system and related timer/photocell control system.

10. Providing complete grounding system for the building.

11. Perform lightning risk assessment study and

providing Lightning Protection System for the building based on the risk assessment study result.

Plumbing Overview

The proposed plumbing systems are influenced by the goal of achieving LEED Gold or Platinum status, the desire to implement net zero and renewable energy strategies, and the spatial relationship of the buildings to each other and their surroundings.

A. Existing Buildings Domestic Water Distribution
The existing domestic water distribution systems in most buildings are piped under the floor slab. We recommend abandoning those systems and providing a new overhead piping systems. This will provide the ability to detect and repair future system problems while lessening existing slab disruption to modify existing layouts.

B. Existing Buildings Domestic Water Heaters
We recommend replacing the existing water heaters in all buildings except the Village 1 "bunk" houses which appear to be relatively new.

C. Sanitary Piping Systems
For all new buildings, new soil/waste/vent piping will be provided per architectural layout of fixtures. For all existing buildings, existing soil/waste/vent piping will be utilized wherever possible to do so.

D. Plumbing Fixtures
For all new and existing buildings, new fixtures will be provided. Water Closets will be floor mounted flush valve type with auto-sensor flush valves and will operate at 1.28 gallons per flush or less. We recommend one pint per flush urinals over waterless due to maintenance issues associated with waterless urinals. Public lavatories will be as directed by the architect and will have auto-sensor faucets using 0.5 gpm flow controls and 12 second cycle or less.

E. Fuel Gas
An inquiry has been made to the local gas company for availability of natural gas to the various sites (the website indicated that gas may be available in the area). If available and feasible, we recommend use of natural gas. If not, then the existing propane storage and distribution systems will be utilized, modified, added to in order to meet the demands of the proposed facilities and renovations.

Space Summary:

PROGRAM SUMMARY

SPACE	DESIGN GUIDELINES			DESIGN RECOMMENDATIONS			REVISIONS FROM STAKEHOLDER MEETINGS
	Qty.	S.F.	Total	Qty.	S.F.	Total	Comments
Villages I							
Cabins (student)	18	152	2736	12	480	5760	(120 Students + 24 Adults @ 40 sf per person)
Cabins (adult)	6	124	744	0	0	0	(Combined with Student Cabins)
Cabin Toilets/Showers	6	160	960	6	160	960	
Adult/Accessible Toilets	6	100	600	6	100	600	
Living Room/Classroom	3	320	960	3	320	960	
Storage	3	50	150	3	50	150	
Mud Room	3	75	225	3	75	225	
Camp Center	1	1125	1125	1	1584	1584	(144 people @ 11 sf/per person)
Staff Sleeping Quarters	1	200	200	1	200	200	
Staff Toilet w/ Shower	0	0	0	1	100	100	100 SF
Chair/Table Storage	1	150	150	1	150	150	
Custodial Office	0	0	0	1	100	100	100 SF
Subtotal:			7850			10789	
Pavillion	1	2912	2912	1	2912	2912	
Villages II							
Cabins	12	580	6960	16	612.5	9800	(220 Students + 24 Adults @ 40sf per person)
Cabin Toilet/Showers	6	160	960	8	160	1280	
Adult/Accessible Toilets	6	100	600	8	160	1280	
Living Room/Classroom	3	400	1200	3	590	1770	(to accommodate 220 stduent bed count)
Storage	3	50	150	3	50	150	
Mud Room	3	75	225	3	75	225	
Camp Center	1	1800	1800	1	2684	2684	(244 people @ 11 sf/per person)
Staff Sleeping Quarters	1	200	200	1	200	200	
Staff Toilet w/ Shower	0	0	0	1	100	100	
Chair/Table Storage	1	200	200	1	200	200	
Custodial Office	1	150	150	1	150	150	
Subtotal:			12445			17839	
Pavillion	1	1800	1800	1	1800	1800	
Dining							
Dining/Assembly	1	3600	3600	1	4268	4268	(388 people @ 11 sf/per person)
Platform/Stage	1	600	600	1	600	600	
Chair/Table Storage	1	200	200	1	200	200	
Toilets	2	160	320	2	160	320	
Kitchen	1			1			
Food Preperation Area	1	400	400	1	400	400	
Serving Area	1	200	200	1	200	200	
Dry Food Storage	1	150	150	1	150	150	
Freezer and Cooler	1	200	200	1	200	200	
Ware Washing	1	100	100	1	100	100	
Subtotal:			5770			6438	

SPACE	DESIGN GUIDELINES			DESIGN RECOMMENDATIONS			REVISIONS FROM STAKEHOLDER MEETINGS
	Qty.	S.F.	Total	Qty.	S.F.	Total	Comments
Environmental Research Center							
Discovery Lab	1	1800	1800	1	1800	1800	
STEAM Lab	1	1200	1200	1	1200	1200	
Seminar Room	1	700	700	1	700	700	
Office	1	100	100	1	100	100	
Toilets	2	100	200	2	100	200	
Storage	1	200	200	1	200	200	
Subtotal:			4200			4200	
Orme Orientation & Staff Devleopment							
First Grade Hands-on Center	2	800	1600	2	800	1600	
Large Meeting Room	1	1600	1600	1	1600	1600	
Seminar Rooms	3	800	2400	3	800	2400	
Flexible Rooms	2	800	1600	2	800	1600	
Offices	2	400	800	2	400	800	
Health/Waiting Room	1	400	400	1	400	400	
Multipurpose Room/Stage	1	2400	2400	1	2400	2400	
Kitchen	1	600	600	1	600	600	
Storage	1	1000	1000	1	1000	1000	
Toilets	2	250	500	2	250	500	
Toilets	2	100	200	2	100	200	
Subtotal:			13100			13100	
Neville Administration Building							
Lobby/Reception	1	900	900	1	900	900	
Meeting Room	1	400	400	1	400	400	
Offices	2	150	300	2	150	300	
Toilet	1	50	50	1	50	50	
Shared Work Space	2	700	1400	2	700	1400	
Toilets	2	200	400	2	200	400	
Storage	1	300	300	1	300	300	
Subtotal:			3750			3750	
TOTAL:			51827			60828	

PGCPS Scope of Work from RFP:

SECTION II

SCOPE OF WORK

William S. Schmidt Educational Center Master Plan Feasibility Study Layout

Educational Specification for the Expansion and Renovation of the William S. Schmidt Outdoor Education Center

General Background Information

The Schmidt Outdoor Education Center (Camp Schmidt) consists of 450 acres of mostly wooded land located on Aquasco Road southeast of Brandywine. The major focus of the Camp Schmidt program is to provide an overnight camp experience with outdoor educational enrichment for up to 8000 fifth grade students in Prince George County Schools. This year a day camp for first grade students is being piloted and overnight programs are offered to middle or high school students when space is available. Staff development programs are conducted throughout the summer and occasionally during the school year.

The Schmidt 'campus' has multiple buildings and structures in four separate clusters located on the eastern side of the property. The oldest building dates back to 1956 and the most recent building were constructed in 1982 for a total square footage of 38,146 SF. The four separate building clusters consist of the following:

1) The former Orme Elementary School which was originally built in 1956, and has been used by the environmental program since 1979. The building contains ten classrooms that are used as dorms for overnight campers and a cafeteria that is used to provide meals for the campers.

2) The Villages consist of three identical cabin style buildings with each containing sleeping dorms for overnight campers along with small resource rooms and a central activity room. Another building at this cluster is the Camp Center which contains a large assembly room which is used primarily during times of inclement weather or for evening activities.

3) The Administrative and Interpretive Center contains the primary offices for the Camp Schmidt staff along with the primary indoor student instructional labs. This building along with the Villages was constructed in 1981-82.

4) The old cabin cluster contains a large pavilion with restrooms and near-by cabins (not in the total square foot above) used now primarily for storage. The cabins do not have indoor restrooms and for that reason are no longer used for sleeping. These buildings were constructed in 1972. This site also contains most of the outdoor activity centers such as the rope courses, the vegetable garden and adjacent instructional stations.

Portable structures are scattered throughout the campus and used for classrooms during inclement weather and storage. Most of these buildings are old and will need to be replaced or renovated within the next 5-10 years.

The goal of William S. Schmidt Outdoor Education Center is to provide students with a meaningful outdoor experience that enhances as well as reinforces skills learned in the classroom. Outdoor classrooms, education stations, and gathering spaces are the primary focus of the curriculum.

CIP Status:
A major renovation and modernization project is proposed in the FY16-FY21 CIP with planning approval of County funds in FY16 and State construction funding in the following FY17 and FY18 CIP. The results and findings of this project would confirm the master plan layout of the site with all buildings and site amenities intended for the project.

Other previously approved capital improvement projects include the FY14 Systemic Condensate Piping and Infrastructure project to replace steam piping installed in the 1956 and 1959 building (ORME), and upgrading the lighting in steam tunnels.

A second project under the FY14 Air Conditioning Initiative (ACI), is approved to provide air conditioning to the entire 1956 and 1959 sections of main school building (ORME) by installing variable refrigerant flow air conditioning units in the rooms; roof mounted energy recovery units; associated abatement; structural support; duct work; piping; controls and electrical work.
The above projects have been bid and awarded and should be taken into consideration in the expansion and renovation of the facility.

Proposed Scope of Work and Educational Specifications:

This project is multi-faceted and will need to be phased. The scope in priority order is as follows:

1) New construction of Villages 2 (to include dorms, camp center, a new pavilion, outdoor classrooms, pedestrian and vehicular circulation)
2) New Dining Hall
3) New Nature Center
4) Renovation of Villages 1 and pavilion 1
5) Renovation of Orme School
6) Renovation of the Neville administration building

Planning for this project will begin with an analysis of the entire campus and development of a master plan that can be implemented in phases as funding is made available.

<u>The Villages</u>

The Villages 1 is comprised of small overnight dorm rooms and instructional spaces in close proximity to the main camp activities. The early plans developed for Camp Schmidt identified the need for two Villages, each containing three cabin buildings with dorms. Only one of the Villages was completed, and that along with the old Orme school building provide overnight camping accommodations for approximately 264 students. The Villages 1 buildings are over 30 years old and will be renovated for handicapped access, HVAC upgrades, and other building upgrades. Handicapped accessibility improvements should include accessibility from the camp center to some of the outdoor gathering spaces.

When the former Orme School Building was dedicated to the program, it provided a large amount of additional floor space to the program, but the building itself is not in proximity to the primary camp activities. Due to the standard institutional design of the building and its location on the main road, the old school building does not provide that natural camp experience for the students that stay overnight in that facility.

The second Villages will replace the Orme building for lodging and contain spaces for 150 campers and 15 adults. Ideally Villages 2 will be built on the western edge of the property on the old Brown Farm. This cluster will include the same indoor and outdoor facilities that are offered at Villages 1 - three cabins with dorm rooms, a camp center for whole group gatherings, and the outdoor classrooms and learning stations. An additional new outdoor pavilion will be needed to accommodate students near the new cabins.

<u>Dining Hall (new)</u>

Currently, students eat in the Orme school cafeteria in two shifts. It is a one mile walk from Villages 1 to the Orme building. In addition to being undersized, the kitchen equipment is obsolete and presents several code challenges.
This project includes construction of a new dining hall between the two Villages. The preferred location is where the older cabins and the outdoor pavilion are located. The new dining hall should be able to seat approximately 300 students

PGCPS Scope of Work from RFP:

for dinner. The new kitchen should be a full cooking facility as it will serve breakfast, lunch and dinner. In addition there should be a small stage that can be opened to the outside during good weather. Currently the 1st grade program occurs in this area but when this program is moved to the Orme building, the temporary and older buildings in this area will no longer be needed. However, there will still be a need for covered outdoor activities such as what occurs in the pavilion. The bathrooms should be renovated.

Nature Center and Environmental Research Building (new)

The largest addition to Camp Schmidt will be a new Nature Center and Environmental Research Building. The building should be located in proximity to current facilities within Camp Schmidt and accessible by the existing driveways. This building could accommodate all age groups at different times with environmental instruction and lab space. The Nature Center should be designed and constructed to meet LEED certification and strive for the Living Building Challenge of Net-Zero Emissions. This building would serve as an educational and community resource to reinforce the understanding of sustainability.

Orme School Building (existing)

The Orme School Building provides a safe and efficient location for school bus drop-offs and pickups for all campers. From the Orme building, the campers will hike to the new or renovated sleeping cabins located in the interior of the camp. A renovated Orme building will serve as the primary orientation and closing location for all campers.

Two classrooms in the building should be renovated or remodeled for use as a 'hands-on' center for a first grade day program during inclement weather. In addition, the building will be able to serve larger audiences as an environmental training center for district staff and the community. A renovated cafeteria could continue to serve the needs of day campers and meeting guests. Outdoor dining and seating could be extended to the rear of the building.

Neville Building (existing)

The renovation of the Neville administration building will be incorporated the future as part of the master plan process. The building houses sixteen full-time staff, a small hands-on nature center, and informal meeting space. With the opening of a separate nature center, the building can be reorganized for the administrative functions only.

Site

With the new Villages on the westerner edge of the property, some education stations will need to be duplicated, and pathways will need to be built to the dining hall and the Orme orientation building. In addition, the master plan should evaluate the vehicular circulation throughout the site to insure safe access while maintaining the 'camp-like' experience.

All improvements to the property should be compatible with the goals of the program, use natural materials, and minimize impact to the environment.

Energy and Environmental Design

Prince George's County Public Schools PGCPS has adopted the Prince George's County's, Go Green Initiative Executive Order 22-2007 and The High Performance Building Act of 2008, requiring all new schools achieve a rating of Leadership in Energy and Environmental Design (LEED) Silver or equivalent from a nationally recognized accreditation entity. Under the 2009 LEED for Schools New Construction and Major Renovation, PGCPS has set a goal to achieve LEED Gold certification on all new schools. This project should be designed in accordance with LEED v4 for BD+C, New Construction and Major Renovation. A few of the 'GREEN' Initiatives are as follows:

Environmental Site Design:

- Minimizing the building footprint on the site.
- The use of any available natural woodlands on site for environmental classrooms or outdoor studies

- Locating the buildings on site to maximize the open space.
- The use of vegetated landscape on 50% or more of the open space.
- Preferred parking will be provided for low-emitting and fuel efficient hybrid vehicles

Water Efficiency and Conservation:
- No landscape irrigation.
- The use of drought tolerant, low maintenance native and adaptive plant species.
- Low-flow plumbing fixtures
- Waterless urinals
- Dual-flush water closets in all restrooms and toilets
- Low-flow lavatories in all restrooms and toilets
- Low-flow sinks and shower heads

Alternative Energy Use:
- Geothermal mechanical systems have been adopted for all school projects

Energy:
- Fundamental and Enhanced commissioning of the building energy systems to include heating, ventilating, air conditioning, and refrigeration (HVAC&R) systems (mechanical and passive) and associated controls
- Renewable energy systems (wind, solar, photovoltaics, etc.)
- Whole Building Energy Simulation
- Reducing Heat Island Effect at the roof level (green roof) and at the site grade level
- Zero use of Chloro Fluro Carbon (CFC) -based refrigerants in new base building HVAC&R systems
- White Energy Star compliant roof for all projects
- Maximize use of natural day lighting in teaching areas

Materials and Resource:
- Utilizing materials from within 500 miles from the site
- GREEN Guard certified furniture for the classrooms
- Select environmentally preferred building materials

Recycling Initiative:
- Providing a room in each facility for storage and collection of recyclables

Architectural Design:
- Clerestory windows and a classroom natural ventilation strategy
- Natural daylight in the entry hall
- Architectural shade overhangs on west and south windows
- Entrance canopy shades on windows

Maintenance and Housekeeping:
- Green Housekeeping
- Entrance Lobby Walk-Off mats

Construction Waste:
- Recycle construction and demolition waste

Education:
- Green Building Curriculum;
- School as a teaching tool by making “GREEN” building features as visible as possible

PGCPS Scope of Work from RFP:

Outdoor Learning Areas

Accessibility**:** Where feasible, some pathways connecting the buildings, outdoor classrooms, and any specifically programmed gathering areas associated with the classroom shall be clearly delineated and constructed of a solid but pervious material. It is expected that many natural trails will not be fully accessible.

Layout of gathering area**:** Provide a station for the teacher to work from where he/she can see each student. Seating can be either fixed or flexible, depending on the site, but should accommodate up to 35 students. Orientation of the teacher and students should be along a north/south axis, so neither is looking into the sun.

Maintenance**:** The outdoor classrooms should be designed to be low maintenance and a specific maintenance plan should be written for each site's outdoor classroom.

Materials: The outdoor classroom should be built with natural materials like wood or stone.

Plants: All plant material will be native vegetation. .

Potential Site Elements:

- Composting area
- Interactive water and energy usage learning station
- Managed meadow
- Pollinator garden, with space and paths for students to get in and investigate
- Rain garden
- Vegetable garden plots/raised beds

Required Site Elements:

- Seating
- Shade, either by a shade structure or by trees

Signage**:** Interpretive signage should be incorporated into the outdoor classroom as much as possible. Possible features that could have interpretive signage include, but aren't limited to, native plants that attract beneficial insects, or a managed meadow, or a particular feature of the building, or whatever other interesting features get incorporated. Signs could be written in multiple languages.

Pricing

The Board of Education for Prince George's County Public Schools is requesting competitive quotations for the scope of work.

Space Requirements Summary

Base Required Space	Square Footage
Villages 1 (renovation) - Cabins - Camp Center - Pavilion	10,762
Villages 2 (new) - Cabins - Camp Center - Pavilion	14,245
Dining and Food Service Hall (new)	5,770
Nature Center and Environmental Research building (new)	4,000
Orme Orientation and Staff Development Center (renovation))	17,387
Neville Administration Building	3,750
Temporary Buildings (TBD)	0
Total	**55,914**

* See page 116 for details of break out of spaces.

PGCPS Scope of Work from RFP:

Villages 1 and 2

Space	Design Guideline			Comments
	Qty.	S.F.	Total	
Village 1 (renovation only)				
- Cabins (150 students/24 adults)				
○ Dorms (student)	18	152	2736	20 SF per student or as is
○ Dorms (adult)	6	124	744	
○ Cabin toilets/showers	6	160	960	
○ Adult/accessible toilets	6	100	600	w/shower
○ Living room/classroom	3	320	960	
○ Storage	3	50	150	
○ Mud room	3	75	225	if feasible
- Camp Center	1	1,125	1,125	or as is
○ Staff sleeping quarters	1	200	200	
○ Chair/table Storage	1	150	150	
- Pavilion	1	2,912	2,912	
Subtotal			**10,762**	
Village 2				
- Cabins (150 students/24 adults)				
○ Cabin dorms	12	580	6,960	40 SF per student/adult
○ Cabin toilets/showers	6	160	960	
○ Adult/accessible toilets	6	100	600	
○ Living room/classroom	3	400	1200	
○ Storage	3	50	150	
○ Mud room	3	75	225	
- Camp Center	1	1,800	1,800	
○ Staff sleeping quarters	1	200	200	
○ Chair/table Storage	1	200	200	
○ Custodial Office	1	150	150	
- Pavilion	1	1,800	1,800	
Subtotal			**14,245**	

General Considerations:

- Walls, floors, and ceiling will be of natural materials (wood) in keeping with a ‘cabin’ feel.
- Cabins should have sustainable and energy efficient features including natural day lighting cross ventilation for warmer months, and water saving features.
- Cabins will be handicapped accessible.
- Adequate heating and cooling is required for year-round use
- Villages 2 will duplicate buildings and outdoor features as are at Villages 1. Six to eight new outdoor classrooms/stations are needed and will be coordinated with staff.
- The planning effort will evaluate the possible reuse of the tobacco barn on the Brown Farm site.

Cabin Dormitories

QUANTITY:
- aries

CAPACITY:
- Teachers
- Students
- Parents

SIZE:
- 30-40 SF per student

ANCILLARY SPACES:
- Toilet/shower (160 SF)
- Adult/Handicapped accessible toilet/shower (100 SF)
- Living room (400 SF)

SPATIAL RELATIONSHIPS:
- Groups of 7-8 students in each room in Villages 1
- Four adult beds in separate room on each side in Villages 1
- Groups of 12-13 students in each room in Villages 2
- Adult beds integrated into sleeping areas in Villages 2

PROGRAM ACTIVITIES:
- Sleeping

Note: Windows should balance need for natural light with privacy.

Fixed Equipment
- Base cabinets by sink/mirror
- Carpentry:
  - tudent cubbies with hooks (arrangement varies with cabin layout)
- Soap dispenser
- Towel dispenser

Loose Furnishings:
- Student bunk beds
- Adult bunk beds
- Two beds in each cabin accessible to physically handicapped

Plumbing:
Plumbing in sleeping area in Villages 2
Sink

HVAC:
Air conditioning and fans
Energy efficient heating

Electrical:
Single-level switching
Duplex receptacles per code

NOTES:

Living room/Classroom/Mud Room/Storage

PGCPS Scope of Work from RFP:

QUANTITY:

- per cabin

CAPACITY:

- Students
- Teacher(s)
- Parents

SIZE:

400 SF Classroom
75 SF Mud Room
50 SF Storage

PROGRAM ACTIVITIES:

- Small group instruction and group work
- Staging

SPATIAL RELATIONSHIPS:

- Main entrance to the cabin (canopy over pervious hard surface large enough for staging during inclement weather)
- Mud room
- Access to storage

Fixed Equipment:

- Marker board (magnetic) 4 LF
- Tack board flanking marker boards
- Boot shelving and coat hooks in mud room
- Adjustable shelving for supplies in the storage room

Loose Furnishings:

- 2-3 work tables
- 20-25 stackable chairs

Technology:

- Wireless port

Note: Mud room should be immediately inside entrance (heated) with floor drains.

NOTES:

Student Toilet and Showers

CAPACITY:
- Students

SIZE:
- 160 SF

ANCILLARY SPACES:
- Dormitories

SPATIAL RELATIONSHIPS:
- Two private showers
- Two private toilets (minimum)
- Three sinks or continuous sink

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Environmental sound control:
  - Wall minimum: STC 45
  - Ceiling minimum: CAC 35
- Adequate ventilation

Finishes:
Flooring:
Ceramic tile
Ceiling:
Shower: Painted portland cement plaster
Walls:
Shower: Ceramic tile

Fixed Equipment:
Toilet partitions/doors
24" x 60" mirror
2 - Toilet tissue holders
3- Soap dispensers
2- Towel dispensers
2- Shower curtain and rod

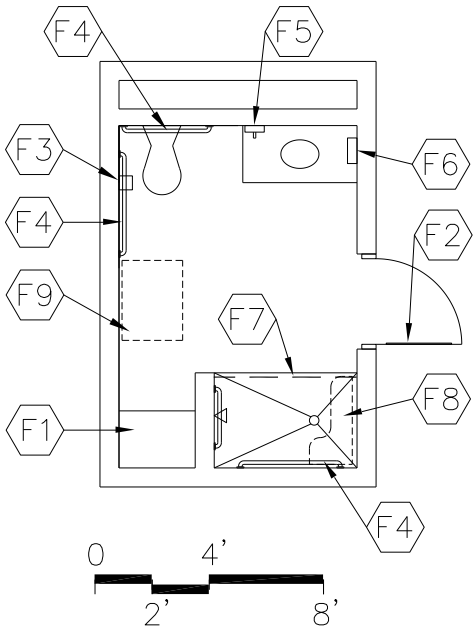
Plumbing:
Wall-mounted water closets
Wall-mounted lavatorys
ADA shower controls and head
Floor drains for shower and restroom
Plumbing connections

HVAC:
Exhaust air system

NOTES:

PGCPS Scope of Work from RFP:

Adult/Accessible Toilet with Shower



CAPACITY:
- Special needs students
- Adults

SIZE:
- 100 SF

ANCILLARY SPACES:
- Dormitories

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Environmental sound control:
  Wall minimum: STC 45
  Ceiling minimum: CAC 35
- Moisture and stain-resistant finishes
- Special consideration for wheelchair access and physical accessibility needs (ADA)

Finishes:
Flooring:
Ceramic tile
Ceiling:
Shower: Painted portland cement plaster
Walls:
Shower: Ceramic tile

Fixed Equipment:
F1 Casework: small supply cabinet
F2 24" x 60" mirror
F3 Toilet tissue holder
F4 36" and 42" grab bars
F5 Soap dispenser
F6 Towel dispenser
F7 Shower curtain and rod
F8 Fold-down seat in shower
F9 Flip-down changing table (optional)

Plumbing:
Wall-mounted water closet
Wall-mounted lavatory
ADA shower controls and head
Floor drains for shower and restroom
Plumbing connections

HVAC:
Exhaust air system

NOTES: Loose furnishings and features shown represent one of the many possible arrangements

Dining and Food Service Hall

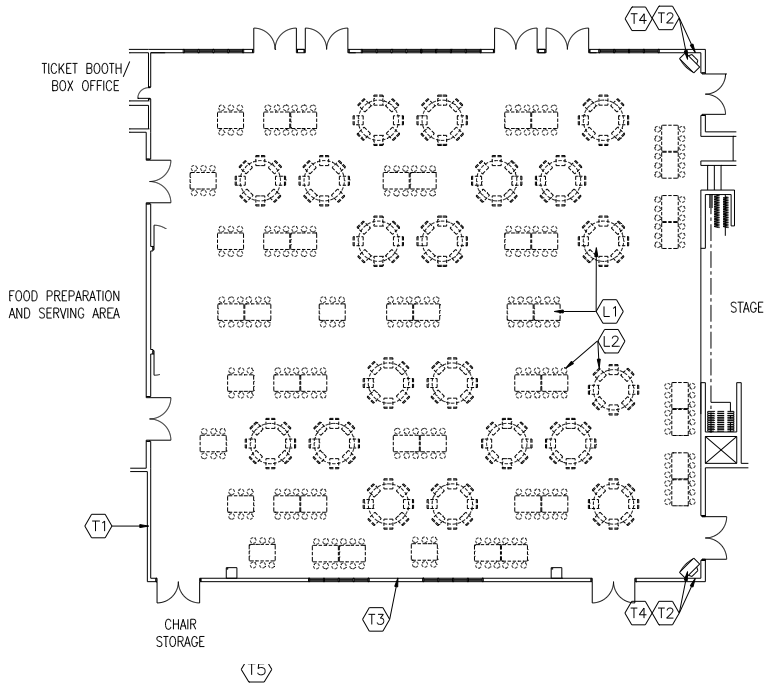
Space	Design Guideline			Comments
	Qty.	S.F.	Total	
Dining/Assembly	1	3,600	3,600	
Platform Stage	1	600	600	
Chair and Table Storage	1	200	200	
Toilets	2	160	320	
Kitchen	1		1,050	
Food Preparation Area		400		
Serving Area		200		
Dry Food Storage		150		
Freezer & Cooler		200		
Ware Washing		100		
Total			5,770	

General Considerations:

- Walls, floors, and ceiling will be of natural materials (wood). The building should be compatible with the natural environment.
- The dining hall should have sustainable and energy efficient features including natural day lighting, cross ventilation for warmer months, and water saving features.
- The building will be handicapped accessible.
- Adequate heating and cooling is required for year-round use.
- The kitchen will serve up to 300 students and 50 adults breakfast, lunch and dinner. It needs adequate serving lines and kitchen storage facilities.

PGCPS Scope of Work from RFP:

CAFETERIA / AUDITORIUM



CAPACITY:
- Up to 350 people for meals (phased)

SIZE:
- 3600 SF

SPATIAL RELATIONSHIPS:
- Adjacent and access to kitchen
- Road access for deliveries

Loose Furnishings:
L1 Folding tables (variety of shapes and heights) for 250 students; 30 adults
L2 Chairs for 300 students (stackable)
- Portable sound system
- Waste receptacles with lids
- Recycling bins

ENVIRONMENTAL CONSIDERATIONS:
- Adjustable lighting
- Cleanable building surfaces
- Adjust space and materials to manage acoustics; provide sound system
- Windows to provide ample natural light
- Good sight lines to all areas of the room for supervision
- Window treatment to darken room for AV presentations.
- Proportion ceiling to volume
- Identify location for presentations for up to 100 people (screen and electricity barrier-free)

Room Technology:
T1 1 voice port and phone
T2 Large screen LCD projection(s) devise (ceiling mounted)
T5 Microphone jacks
Wireless ports

NOTES: Loose furnishings and features shown represent one of many possible arrangements. It is assumed that servings are phased at approximately 50 students every 10 minutes; consider separate adult line.

STAGE/PLATFORM

QUANTITY:
- 1

SIZE:
- 00 SF

Spatial Relationships
- o more than 18"; with handicap ramp
- f feasible, roll-up back wall to open to an outdoor amphitheater

Technology:
- Microphone port

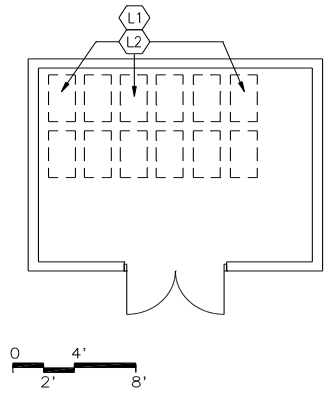
Fixed Equipment:
- Adjustable overhead theater lighting

Finishes:
Flooring:
- Wood flooring

PGCPS Scope of Work from RFP:

CHAIR / TABLE STORAGE

.



Loose Furnishings:
L1 Stackable Chairs (200)
L2 Chair dollies per above count

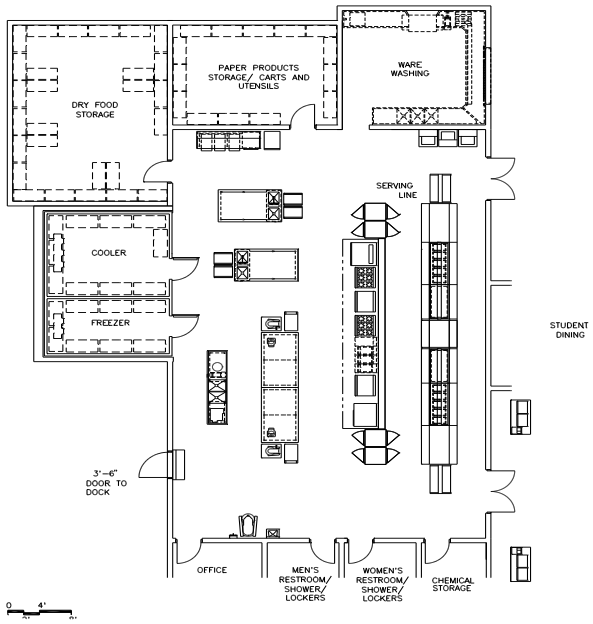
GOAL:
- To provide convenient storage of dining chairs and tables to be used for meetings and performances

PROGRAM ACTIVITY:
- Storage

SPATIAL RELATIONSHIPS:
- Adjacent and access to Student Dining Area/Multipurpose

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Cleanable building surfaces
- Accessibility for moving furniture in and out

KITCHEN



ENTRY

EXIT

QUANTITY:
- 1

CAPACITY:
- Up to 8 People

SIZE:
- 1050 SF

GOAL:
- To prepare and serve student meals

PROGRAM ACTIVITIES:
- Preparing and serving food to students
:aff
- Storage

SPATIAL RELATIONSHIPS:
- Adjacent and access to Cafeteria
- Adjacent and access to Outdoor Loading

ENVIRONMENTAL
SIDERATIONS:
- Uniform lighting
- Adequate ventilation
- Cleanable building surfaces
- Food service department, public
, code requirements, as applicable
- Beginning of serving line should be
d near entry door of Cafeteria/Commons
- Queuing for serving should not conflict
ay return to dishwashing area.

Room Technology:
- 1 voice port and phone

NOTES: This is an example of a kitchen. Food service equipment will vary from school to school; confirm requirements with PGCPS Food Service Department.

KITCHEN (continued)

PGCPS Scope of Work from RFP:

Features (Specifications from PGCPS):

Kitchen	
Food Preparation Area	400
Serving Area	200
Dry Food Storage	150
Freezer & Cooler	200
Ware Washing	100

Built-in Fixtures:

- Pot washing sinks
- Food Preparation Sinks
- Hand Sinks
- Work Tables
- Warming/Holding/Proofing Cabinets
- Storage shelving
- Mop washing sink
- Exhaust Hood Systems, including Fire Suppression
- Convection oven ,
- Convection steamer
- Tilt Skillet
- Combination Steamer/Oven
- Pizza Oven, Deck oven or Conveyor Oven
- Ware Washing Machine with appropriate accessories (tables, booster heater, disposer, etc.)

Loose Furnishings:

- Work Tables

Plumbing:

- Connections to food service equipment

- Plumbing and gas connections
- Hand washing lavatory
- Floor drains

HVAC:

- Supply/return air system
- Independent temperature control
- Kitchen canopy exhaust system
- Air conditioning

Note: The serving area requirements will be reviewed with PGCPS Food Service.

NOTES:

Nature Center and Environmental Research

Space	Design Guideline			Comments
	Qty.	S.F.	Total	
Discovery Lab	1	1800	1800	
STEAM Lab	1	1200	1200	
Seminar room	1	700	700	
Office	1	100	100	
Toilets	2	100	200	
Storage	1	200	200	
Total			4200	

General Considerations:

- Walls, floors, and ceiling will be of natural materials (wood). The building should be compatible with the natural environment.
- The Nature Center will be a demonstration building for sustainable design. To the extent feasible the building will model Living Building Challenge for net zero energy usage. Signage and demonstration stations inside and outside the building will educational students and guests.
- The building will be handicapped accessible.
- Adequate heating and cooling is required for year-round use.
- Porches or patios should connect the building to the outdoors.
- Some areas will be visited at night and should have low level light as an option.

PGCPS Scope of Work from RFP:

Discovery Lab

CAPACITY:
- Up to 50 students
- Parents
- Staff

SIZE:
- 1,800 SF

ANCILLARY SPACES:
- May be two smaller spaces connected by doors or archway

PROGRAM ACTIVITIES:
- Small group instruction
- Hands-on activities
- Oral presentation

SPATIAL RELATIONSHIPS:
- Near STEM Lab
- Near front entrance
- Internal window from the office
- Near bathrooms
- The room will be designed for rotating educational centers managed by the staff; Flexibility is key.
- The architect will work with staff to identify unique requirements

ENVIRONMENTAL CONSIDERATIONS:
- Multi-level lighting
- Windows to provide natural light and egress
- Electrical outlets for equipment
- Comfortable rooms with pleasant décor that contribute to an atmosphere conducive to creativity
- Window treatment to darken room

Fixed Equipment:
Marker board (2 X 8 LF)
Tack board (2 X 8 LF)
Casework:
Base cabinets with adjustable shelves
along one wall

Loose Furnishings:
Provided by staff

Plumbing:
Double, deep well sink
Plumbing connections

Electrical:
Multilevel switching
Duplex receptacles
At least 3 per wall
Clock

Communications:
3 data ports in different locations
1 data port for printer
Wireless ports

NOTES:

STEAM LAB

SIZE:

- 1,200 SF

PROGRAM ACTIVITIES:

- Large and small group instruction
- Hands-on activities
- Team teaching
- Data collection and analysis

SPATIAL RELATIONSHIPS:

- Flexible seating options
- Door to 'outdoor classroom' if feasible

ENVIRONMENTAL CONSIDERATION:

- Rooms designed for ease of movement and accessibility; Students need to be able to move around the worktables
- Lab table tops, floors, etc., need to be resistant to acids, heat, spills, etc.
- OSHA requirements maintained
- Electrical outlets for equipment
- Windows to exterior - view desirable

Built-in Features:

- 4 sinks with storage cabinets below (age appropriate height)
- Power for equipment (aquariums, terrariums, mobile science carts)
- Magnetic marker board (16 FT)
- 16' tack boards
- Install a 48" wide lockable tote tray cabinet and 35" wide tall cabinet with adjustable shelves
- Goggle storage and sterilization with adequate ventilation.
- 2-3 Tall cabinets with clear glass in doors

Loose furniture:

- 12 two-student corrosive resistant lab tables with 24 student chairs
- Mobile science lab cart
- Teacher work surface w/ mobile storage
- Refrigerator (under counter)

Classroom Technology;

- Wireless port
- Interactive white board
- Single point 'face plate' near teachers work station to include: Voice, data, VGA , audio enhancement, and HDMI

PGCPS Scope of Work from RFP:

Seminar Room

CAPACITY:

- 0-24 students
- -2 staff members
- uest speakers and volunteers

SIZE:

- 00 SF

GOAL:

- To create a learning environment that is comfortable, well lit, and acoustically designed for small and large group learning.

PROGRAM ACTIVITIES:

- Large and small group instruction
- Hands-on activities
- Data collection and analysis

SPATIAL RELATIONSHIPS:

- Near STEM lab

ENVIRONMENTAL CONSIDERATIONS:

- Uniform lighting with multi-level switching
- Windows to provide natural light and egress
- Electrical outlets for equipment
- Window treatment to darken room for AV presentations

Fixed Equipment

- 2 Dry, white eraser-board (4' x 20' on two different walls) on track; all eraser-boards shall be installed with a marker tray, map rails with tack strip above
- Tack board (4' x 20') minimum; tack strips on all walls

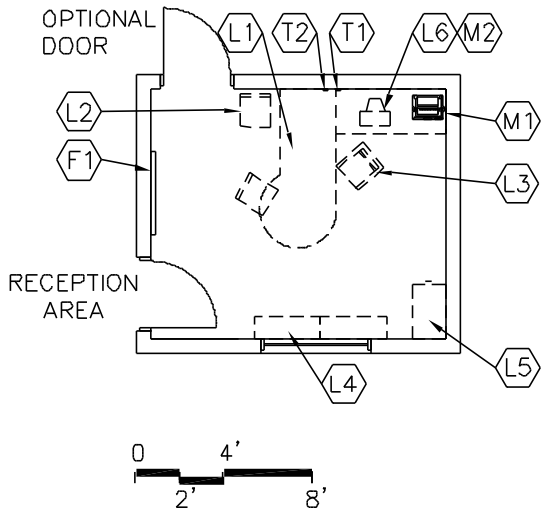
Loose Furnishings:

- Permanently-mounted projection screen (not in front of the interactive board) or interactive board
- Lockable cabinet w/ charging station for 25 laptop computers or tablets
- 4 Tables
- 24 stackable student chairs
- Adjustable height bookshelves (24 LF)

Classroom Technology;

- Interactive white board or ceiling mounted overhead projected (to be determined at the time of installation)
- Single point 'face plate' near teachers work station to include: Voice, data, VGA , audio enhancement, and HDMI
- Additional ports: Printer, Clock/PA, 2 wireless

Office/Storage



QUANTITY:
- 1

CAPACITY:
- 1 staff member
- Up to 1 visitor

SIZE:
- 100 SF Office
- 200 SF Storage

SPATIAL RELATIONSHIPS:
- Located in close proximity to entrance
- Near storage closet

PROGRAM ACTIVITIES:
- Telephone communications (private)
- Coordination of services
- Meeting with parents, students, and staff

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Environmental sound control:
  Wall minimum: STC 45
  Ceiling minimum: CAC 35
- Windows to Discovery Lab
- Electrical outlets for equipment
- Auditory privacy

Fixed Equipment:
F1 Tack board (4 LF)
Adjustable shelving in the storage room

Loose Furnishings:
L1 Desk with conference table

L2 1 guest chairs
L3 Ergonomic task chair
L4 Adjustable height bookshelves (12 LF)
L5 1, 4-drawer locking file cabinet
L6 Computer workstation

Room Technology:
T1 1 voice port and phone
T2 Data port or wireless
M1/2 Computer/printer (provided by owner)

PGCPS Scope of Work from RFP:

Orme Orientation and Staff Development Center

Space	Design Guideline			Comments
	Qty.	S.F.	Total	
First Grade Hands-on Center	2	700-800	1600	
Large meeting room	1	1600	1600	
Seminar rooms	3	700-800	2400	
Flexible Rooms	2	700-800	1600	Back-up sleeping rooms
Offices	2	400	400	Or as is
Heath/Waiting Room	1	400	400	
Multipurpose Room/stage	1	2400	2400	Or as is
Kitchen	1	600	600	Or as is
Storage (educational materials)		1000	1000	
Toilets	2 2	250 100	500 200	Or as is Adult/handicap access
Subtotal			12,700	
Grossing factor			17,000	Approx.

General Considerations:

- The outside classrooms (6) for the first grade program should be evaluated with the staff.
- The building will be handicapped accessible.
- Adequate heating and cooling is required for year-round use.
- A canopy at the entrance is needed for staging during inclement weather. A cover eating area out back is desirable.
- The field is used for overflow and should be reinforced (pervious surface) for use during wet weather.
- This project is a renovation and systems upgrade and should minimize the movement of permanent walls.

1st Grade Hands-on Center

CAPACITY:
- Up to 40 students
- Parents
- Staff

SIZE:
- 700-800

ANCILLARY SPACES:
- Two rooms connected by doors or archway

PROGRAM ACTIVITIES:
- Small group instruction
- Hands-on activities
- Oral presentation

SPATIAL RELATIONSHIPS:
- Near front entrance
- Near bathrooms
- The room will be designed for rotating educational centers managed by the staff; Flexibility is key.
- The architect will work with staff to identify unique requirements

ENVIRONMENTAL CONSIDERATIONS:
- Multi-level lighting
- Windows to provide natural light and egress
- Electrical outlets for equipment
- Window treatment to darken room

Fixed Equipment:
Marker board (8 LF)
Tack board (8 LF)

Loose Furnishings:
One room will have five tables and 22 chairs at student height.
Centers provided by staff

Plumbing:
Sink at student height
Plumbing connections

Electrical:
Multilevel switching
Duplex receptacles
At least 3 per wall
Clock

Communications:
Wireless ports

NOTES:

PGCPS Scope of Work from RFP:

Large Meeting Room

CAPACITY:
- Up to 100 people
- Guest speakers

SIZE:
1,600 SF

PROGRAM ACTIVITIES:
- Large group and small group instruction
- Team teaching
- Oral presentation and plays

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Windows to provide natural light and egress
- Environmental sound control:

Wall minimum: STC 45
Ceiling minimum: CAC 35
Reverberation Time: .4-.6 seconds
- Electrical outlets for equipment
- Comfortable rooms with pleasant décor that contribute to an atmosphere conducive to creativity

Window treatment to darken room for AV presentation

Fixed Equipment:
Marker board (16 LF)
Tack board (8-16 LF)
Casework:
Base cabinets along one wall
Manual projection screen

Loose Furnishings for adults:
6 rectangular tables
36 nesting chairs (upholstered)
50 folding chairs

Electrical:
Fluorescent lighting
Multilevel switching
Duplex receptacles
3 per wall
Clock

Communications:
1 voice port
Interactive projection devise
Wireless ports
Audio enhancement equipment

NOTES:

Seminar Rooms

CAPACITY:
- Up to 30 people
- Guest speakers

SIZE:
700-800 SF

PROGRAM ACTIVITIES:
- Large group and small group instruction
- Oral presentation and plays
- Video Conferencing/Webinars (one room)

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Windows to provide natural light and egress
- Environmental sound control:

Wall minimum: STC 45
Ceiling minimum: CAC 35
Reverberation Time: .4-.6 seconds
- Electrical outlets for equipment
- Comfortable rooms with pleasant décor that contribute to an atmosphere conducive to creativity

Window treatment to darken room for AV presentation

Fixed Equipment:
Marker board (16 LF)
Tack board (8-16 LF)
Casework:
Base cabinets along one wall
Manual projection screen

Loose Furnishings for adults:
4 rectangular tables
24 nesting chairs (upholstered)
6 folding chairs

Electrical:
Fluorescent lighting
Multilevel switching
Duplex receptacles
3 per wall
Clock

Communications:
1 voice port
Interactive projection devise
Wireless ports
Audio enhancement equipment

Note: One room should be set up for video conferencing with acoustic treatment, speakers, and video cameras. Mobile equipment should be in a locked cabinet.

NOTES:

PGCPS Scope of Work from RFP:

Health/Waiting Area

CAPACITY:
- 1 staff member/volunteer
- Students

SIZE:
- 300 SF cot room
- 100 SF toilet

Plumbing:
Plumbing connections
Single sink w/hands-free gooseneck

PROGRAM ACTIVITIES:
- First aid
- Consultation with students
- Student resting while awaiting pick-up by parent or guardian

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Stain-resistant floor covering
- Sink with hot and cold water
- Adequate ventilation
- Electrical outlets for equipment
- Auditory and visual privacy

Fixed Equipment:
- Casework: Base/wall cabinets
  - Place for refrigerator
- Casework: Tall storage
- Cubicle curtain
- Soap dispenser
- Towel dispenser
- Tackboard

Loose Furnishings:
- 2-3 Chairs
- Side table
- 2 cots
- Refrigerator with ice maker

Communications:
Voice port and phone
Wireless

NOTES:

Multi-purpose room

CAPACITY:
- Up to 120 people for meals and assembly

SIZE:
As is

SPATIAL RELATIONSHIPS:
- Adjacent and access to Kitchen
- Near parking and main entry to building

Loose Furnishings:
Folding tables/chairs for 120 students (1st grade)
Portable sound system
Waste receptacles with lids
Recycling bins

ENVIRONMENTAL CONSIDERATIONS:
- Multi-level lighting
- Cleanable building surfaces
- Adjust space and materials to manage acoustics; provide sound system
- Windows to provide ample natural light
- Good sight lines to all areas of the room for supervision

Room Technology:
Large screen LCD projection(s) devise (ceiling mounted)
Microphone jacks
Wireless ports

NOTES:

PGCPS Scope of Work from RFP:

Kitchen

The existing kitchen is undersized and the equipment obsolete. Because a new dining hall is being built, this kitchen will no long be required for student meals. It will be upgraded as a warming kitchen only for staff development activities.

QUANTITY:
- 1

CAPACITY:
- Up to 2 People

SIZE:
- As is

PROGRAM ACTIVITIES:
- Preparing and serving food
- Storage

SPATIAL RELATIONSHIPS:
- Adjacent and access to Cafeteria
- Adjacent and access to Outdoor Loading Dock

Plumbing:
- Connections to food service equipment
- Plumbing and gas connections
- Hand washing lavatory
- Floor drains

HVAC:
- Supply/return air system
- Independent temperature control
- Kitchen canopy exhaust system

Air conditioning

ENVIRONMENTAL CONSIDERATIONS:
- Uniform lighting
- Adequate ventilation
- Cleanable building surfaces
- Food service department, public health, code requirements, as applicable

Features (Specifications from PGCPS):

Kitchen	
Food Preparation Area	300
Freezer & Cooler	100
Washing	100

Built-in Fixtures:
- Upper and lower cabinets
- Food Preparation Sinks
- Hand Sinks
- Exhaust Hood Systems, including Fire Suppression
- Commercial cooler and freezer (reach-in)
- Convection oven
- Stove
- Microwave

Loose Furnishings:
- Work Tables

NOTES:

Neville Administration Center

Space	Design Guideline			Comments
	Qty.	S.F.	Total	
Lobby/Reception	1	900	900	Or as is
Meeting room	1	400	400	
Offices	2	150	350	
- toilet	1	50		
Shared work space	2	700	1400	7 each room
Toilets	2	200	400	Or as is
Storage		300	300	Or as is
Total			3,750	

Maryland Department of Natural Resources Environmental Review

MARYLAND DEPARTMENT OF NATURAL RESOURCES

Larry Hogan, Governor
Boyd Rutherford, Lt. Governor
Mark Belton, Secretary
Joanne Throwe, Deputy Secretary

January 6, 2016

Mr. Michael Norton
Norton Land Design, LLC
5146 Dorsey Hall Drive
2nd Floor
Ellicott City, Maryland 21042

RE: Environmental Review for Schmidt Environmental Center, 18501 Aquasco Road, Brandywine, NLD Job #15-060, Prince George's County, Maryland.

Dear Mr. Norton:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted.

It is also important to note that this project site is located within the watershed of Zekiah Swamp, which is known to support a variety of rare species. If there is to be development on this site, in order to reduce the likelihood of adverse impacts to these species and their habitats, we would encourage the applicant to pursue environmentally sensitive design to address stormwater runoff, to minimize risk of sedimentation in the aquatic and wetland habitats, to minimize changes to the hydrology of these habitats, and avoid instream work to the extent practicable. More specific guidelines for such conservation measures are available upon request.

Our analysis of the information provided also suggests that the forested area on the project site contains Forest Interior Dwelling Bird habitat. Populations of many Forest Interior Dwelling Bird species (FIDS) are declining in Maryland and throughout the eastern United States. The conservation of FIDS habitat is strongly encouraged by the Department of Natural Resources. The following guidelines could be incorporated as appropriate into the site design to help minimize the project's impacts on FIDS and other native forest plants and wildlife:

1. Restrict development to nonforested areas.
2. If forest loss or disturbance is unavoidable, concentrate or restrict development to the following areas:
   a. the perimeter of the forest (i.e., within 300 feet of existing forest edge)
   b. thin strips of upland forest less than 300 feet wide
   c. small, isolated forests less than 50 acres in size
   d. portions of the forest with low quality FIDS habitat, (i.e., areas that are already heavily fragmented, relatively young, exhibit low structural diversity, etc.)

Tawes State Office Building – 580 Taylor Avenue – Annapolis, Maryland 21401
410-260-8DNR or toll free in Maryland 877-620-8DNR – *dnr.maryland.gov* – TTY Users Call via the Maryland Relay

3. Maximize the amount if forest "interior" (forest area >300 feet from the forest edge) within each forest tract (i.e., minimize the forest edge:area ratio). Circular forest tracts are ideal and square tracts are better than rectangular or long, linear forests.
4. Minimize forest isolation. Generally, forests that are adjacent, close to, or connected to other forests provide higher quality FIDS habitat than more isolated forests.
5. Limit forest removal to the "footprint" of houses and to that which is necessary for the placement of roads and driveways.
6. Minimize the number and length of driveways and roads.
7. Roads and driveways should be as narrow and as short as possible; preferably less than 25 and 15 feet, respectively
8. Maintain forest canopy closure over roads and driveways.
9. Maintain forest habitat up to the edges of roads and driveways; do not create or maintain mowed grassy berms.
10. Maintain or create wildlife corridors.
11. Do not remove or disturb forest habitat during April-August, the breeding season for most FIDS. This seasonal restriction may be expanded to February-August if certain early nesting FIDS (e.g., Barred Owl) are present.
12. Landscape homes with native trees, shrubs and other plants and/or encourage homeowners to do so.
13. Encourage homeowners to keep pet cats indoors or, if taken outside, kept on a leash or inside a fenced area.
14. In forested areas reserved from development, promote the development of a diverse forest understory by removing livestock from forested areas and controlling white-tailed deer populations. Do not mow the forest understory or remove woody debris and snags.
15. Afforestation efforts should target a) riparian or streamside areas that lack woody vegetative buffers, b) forested riparian areas less than 300 feet wide, and c) gaps or peninsulas of nonforested habitat within or adjacent to existing FIDS habitat.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2015.1692.pg
Cc: K. McCarthy, DNR