



APPENDIX

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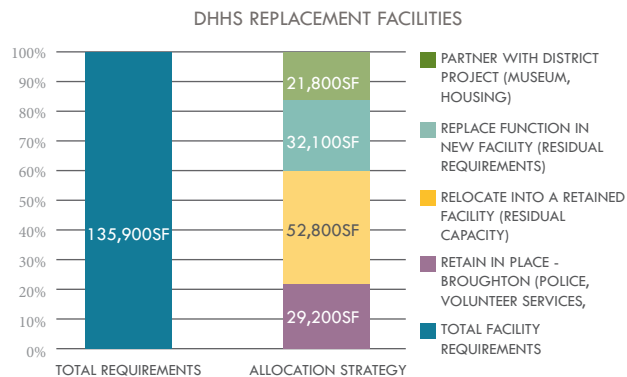
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*DHHS NEW BROUGHTON
HOSPITAL SUPPORT
FUNCTIONS*

DHHS – NEW BROUGHTON HOSPITAL SUPPORT FUNCTIONS

Following opening of New Broughton, DHHS will have a continuing need for facilities in Historic Broughton for support functions. To vacate the Historic Broughton campus for future private development, DHHS would need these functions relocated. On August 2, 2018, DHHS provided DFI the first table on the right of implicated support functions, their current location in the Historic Broughton campus, square footage requirement, and projected cost for replacement (including hard costs, design and contingency). DHHS has confirmed they can eventually locate all necessary facilities on the new hospital campus with sufficient funding.

DFI has provided its own analysis below of the recommended space allocation strategy to minimize the public capital investment required to provide these functions. First, in the District master plan, DFI has recommended four buildings on the perimeter of the historic hospital campus to be retained by DHHS for New Broughton support functions: the Chapel, Hooper Building, Gym, and South Building. Second, the housing of Hospital interns in men’s and women’s dorms—traditionally in buildings owned and operated by the State—could be replaced at a lower initial cost to the State through a more flexible master lease of privately-owned and operated apartments in the new Broughton Terrace development envisioned in the plan. Meanwhile, the Broughton museum artifacts could find a home and be displayed in the Discovery Center. This would leave approximately 85,000 SF of New Broughton support functions to be replaced over time in new facilities at a total projected cost of \$14.8M.



DHHS REPLACEMENT FACILITY SPACE REQUIREMENTS

Function	Current Building	SF	Total Costs
Chapel/Assembly for 500	CHAPEL	11,000	\$3,720,278
Staff Development	CHAPEL	11,000	\$3,720,278
Patient Advocacy	JONES	1,700	\$574,952
Dir. Support Services/EOC/Psych. Unit Admin Sup.	AVERY	2,000	\$676,414
Broughton Hospital Police	GYM	3,200	\$1,082,263
Controllers Office	BATES	3,200	\$1,082,263
Medical Records Archive (long term)	SAUNDERS	3,200	\$811,697
Volunteer Services (warehouse, offices, loading dock)	HOOPER	4,000	\$1,217,546
Patient Personal Belongings (long term)	JONES	2,700	\$684,869
Wellness Center (Exercise area, bathrooms, showers, lockers)	THOMAS	3,600	\$1,217,546
Museum/artifacts	BATES	1,800	\$608,773
Dormitory for Intern Housing (Men's & Women's)	MORAN	20,000	\$6,764,142
Maintenance (Shops, Garage, Offices, Lunch Room)	VARIOUS	26,300	\$5,559,279
Landscape - Shops & Storage	VARIOUS	6,000	\$1,268,277
Gas Pumps (gas and diesel outdoor fueling and storage)	GARAGE	32,000	\$595,244
Greenhouses (2)		4,200	\$603,700
Fiber optic cable connecting NBH to JIRDC			\$1,691,036

SOURCE: DHHS, DIVISION OF PROPERTY AND CONSTRUCTION (8.2.2018)

DHHS REPLACEMENT FACILITY ALLOCATION STRATEGY

Function	Current Building	SF	Total Costs	Allocation Strategy
Chapel	CHAPEL	11,000	-	Retain building
Staff Development	CHAPEL	11,000	-	Retain building
Patient Advocacy	JONES	1,700	\$574,952	Replace
Dir. Support Services/EOC/Psych. Unit Admin Sup.	AVERY	2,000	\$676,414	Replace
Broughton Hospital Police	GYM	3,200		Retain building
Controllers Office	BATES	3,200	\$1,082,263	Replace
Medical Records Archive	SUANDERS	3,200	\$811,697	Replace
Volunteer Services	HOOPER	4,000		Retain building
Patient Personal Belongings	JONES	2,700	\$684,869	Replace
Wellness Center	THOMAS	3,600	\$1,217,546	Replace
Museum/artifacts	BATES	1,800		Partner
Dormitory for Intern Housing	MORAN	20,000		Partner
Maintenance	VARIOUS	26,300	\$5,559,279	Replace
Landscaping	VARIOUS	6,000	\$1,268,277	Replace
Gas Pumps	GARAGE	32,000	\$595,244	Replace
Greenhouses (2)		4,200	\$603,700	Replace
Fiber optic cable connecting NBH to JIRDC			\$1,691,036	Replace



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AVERY BUILDING

PRESERVATION ANALYSIS

AVERY BUILDING PRESERVATION ANALYSIS

ANALYSIS: DOES IT MAKE FINANCIAL SENSE TO PRESERVE THE AVERY BUILDING?

At the core of the guiding public interests for the adaptive reuse of the Historic Broughton Campus is the preservation of the landmark Avery Building, the first structure on the campus, originally built in 1882. The building's massive scale (337,000 gross square feet) and unyielding floor plan (12-foot wide corridors and small rooms divided by 1- to 2-foot thick masonry walls) make it an adaptive reuse challenge. The limited number of precedents for successful reuse of similar former psychiatric hospital buildings (e.g. The Village at Grand Traverse Commons in Traverse City, MI; the Hotel Henry in Buffalo, NY; The Villages at Staunton in Staunton, VA) add to the challenge.

Nevertheless, many would argue that the beauty of the architecture designed by Samuel Sloan in the Kirkbride-style of psychiatric facilities and its symbolism of the State's enduring public investment and commitment to the mental health of its people make the Avery Building a critical historic and cultural asset to strive to preserve. The building's listing on the National Register of Historic Places and its designation as a local historic landmark demonstrate that widely-held position.

However, does it make financial sense to adaptively reuse the Avery Building in light of other public interests, such as attracting private investment into the district and preserving many other historic structures on the Broughton campus? The difficulty of repurposing such a large building at the central, high point of the campus creates some redevelopment risk to the adjacent historic structures that would depend on the successful reuse of the dominant building on the property. Some have asked, what if the Avery Building were demolished, eliminating the potential risk of a stigma on the district from such a looming structure? Would this justify the irreversible (and difficult to quantify) social cost of losing the Avery Building's value as an architectural and cultural landmark?

To address this "what-if" scenario, DFI developed a financial model to estimate the net present value (NPV) of

public stakeholder cash flows over 20 years from reasonably foreseeable development strategies for the Avery Building:

1. Preserve: "Mothballing" (stabilization of the vacant structure to reduce carrying costs while maintaining the asset for future redevelopment) followed years later by private investment that would adaptively reuse the building under historic preservation guidelines
2. Demolish: Demolishing the historic structure quickly to make room for private investment in new construction on the land left behind by the building's footprint

NPV analysis applies a discount rate to future cash flows to represent the fact that a dollar today is worth more than a dollar tomorrow, and also that it would be preferable to spend a dollar in later years rather than spending it today. The model is based on the concept of a composite "public stakeholder" that includes the State government that currently owns the property and local governments (City and County) that control taxation of the property. Although a simplification of reality, such a composite "public stakeholder" is the appropriate actor for this model given 1) the study has been charged with considering the cost and benefits to both State and local governments, 2) the social costs to the community of the loss of the Avery Building would transcend levels of State and local government, and 3) the State and local governments are collaborating to make decisions regarding the property. In the model, this public stakeholder would own the following decisions and cash flows:

- The timing and amount spent on carrying costs, mothballing, or demolition (the public investments)
- The timing of the sale of the property at fair market value to a private investor (the first source of financial return on public investment)
- The timing and amount of all real estate property tax revenues from the property following private ownership and investment (the second and ongoing source of financial return on public investment)

The model has the following parameters and constant assumptions:

- The development program that would be accommodated within the adaptive reuse of the Avery Building (per the

master development plan) is the same as the program that would be built as new construction on the land if the Avery Building were demolished; that is, a 144-unit age-restricted apartment community with amenities for active adults.

- The Avery Building—if redeveloped and maintained according to historic preservation standards—would receive 50% deferral of annual real estate taxes indefinitely according to its local historic landmark designation.
- Outside of the Avery Building, the remainder of the Broughton District private investment is the same in scope, amount, and timing under all three strategies. This is an important assumption to isolate the effects of the decision regarding the Avery Building. It is also a reasonable assumption given the master development approach that leverages "early wins" in terms of site control and market support for the initial projects that can be executed independent of the Avery Building. While one could argue that the presence of a vacant Avery Building might delay or scale back private investment in earlier phases, another could equally argue that the Avery Building's grandeur would add authenticity and a sense of place to the district that would elevate the scope and scale of surrounding private investment. Therefore, given the subjectivity of these points of view, it is fair to assume a neutral impact of the Avery Building strategies on the surrounding private investment.
- A 4.0% annual discount rate—which approximates the public sector cost of capital—is applied to the future cash flows to calculate the NPV.

Meanwhile, the variables between scenarios of the model are ones related to timing and the nature and amount of the public and private investment (see below).

STRATEGY	PRESERVE: MOTHBALL THEN REDEVELOP	DEMOLISH THEN NEW CONSTRUCTION
TIMING		
Year of Demolition	N/A	1
Year of Mothballing	1	N/A
Year of Sale of Property (Expected Range)	6	4-6
Year Private Development is Completed (Expected Range)	8	6-8
PUBLIC INVESTMENT		
Demolition Cost	N/A	\$4.0M (\$12/SF) ¹
Mothballing Cost	\$3.4M (\$10/SF) ²	N/A
Annual Carrying Cost	\$152K (\$0.45/SF) ³	\$111K (\$0.33/SF) ⁴
RETURN ON PUBLIC INVESTMENT		
Sale of Property	\$2.86M (\$8.50/SF) ⁵	\$1.65M (\$75K/ACRE) ⁶
Additional Private Investment (tax assessed value) ⁷	\$46M	\$33.8M
Historic Landmark tax deferral	50%	N/A
Incremental real estate tax revenues ⁸	\$299K/YEAR	\$435K/YEAR

The hypothesis of the demolition scenario is that by quickly razing the Avery Building (Year 1 of the model), private investment could develop that site sooner than if the building stayed in place while the district and the market matured to take on such a grand adaptive reuse challenge. Acting in favor of the demolition scenario is that an earlier year of sale and year of completion of private development would generate quicker returns to the public stakeholders. This is offset in part by the significant upfront cost of demolition and the lower private investment created from new construction compared to historic adaptive reuse.

In the preservation scenario, “mothballing” the vacant structure can pay off the longer the property is carried by the public stakeholders before a sale due to the

reduced annual operating expenses, and also as a means of protecting against deterioration that would reduce the value of the asset. Acting in favor of the cash flows for the preservation scenario is that the private investment in historic adaptive reuse, which can leverage historic tax credit equity, will be greater than a comparable new construction program. This is offset in part because the sale and redevelopment may take longer to realize due to the complexity of historic adaptive reuse. Furthermore, the tax treatment of the Avery Building as a local historic landmark means the incremental real estate tax revenues from historic adaptive reuse are discounted by 50%.

Thus, when it comes time to measure the NPV, the following picture emerges (see table below). First,

demolishing the Avery Building to make way for new construction generates a higher NPV than preservation, provided the sale and redevelopment occur two years earlier (at the beginning of the expected range, year 4 for sale and year 6 for development). That NPV spread erodes when the timing advantage of the demolition scenario drops to 1 year (sale in year 5 and development in year 7). And if the timing advantage is eliminated—meaning demolition of the Avery Building does not have the impact of accelerating investment in that site over the preservation scenario—then the NPV is greater for preservation.

SCENARIO	NPV
DEMOLISH THEN NEW CONSTRUCTION	
2-year advantage	\$1,125,036
1-year advantage	\$634,485
No timing advantage	\$162,801
PRESERVE: MOTHBALL THEN REDEVELOP	\$526,785

The NPV analysis concludes that demolishing the Avery Building does not create significantly more value than preserving it, particularly when the “timing advantage” justification for the demolition strategy is stress-tested. Furthermore, the concept of a quick demolition and new construction may be unrealistic in any event because the current user of the Historic Broughton Campus (DHHS) must execute a phased relocation of its existing support functions out of Avery and adjacent buildings before demolition and new construction could occur.⁹ The preservation with “mothballing” approach takes advantage of the intervening time by developing other sites to strengthen the District’s appeal, ultimately improving the feasibility of adaptively reusing Avery.

(1) Assumes \$6.00/SF abatement of hazardous materials and \$6.00/SF demolition.

(2) Assumes ventilation is maintained throughout the building, first floor windows are secured, and modest repairs to the slate roof to prevent leakage.

(3) Assumes \$0.33/SF for electricity to provide ventilation and minor conditioning (23% of current electricity usage based on NC Dept. of Energy Building Data Book for vacant and mothballed Education/Lodging/Office buildings) and \$0.12 for minor repairs and maintenance.

(4) Assumes utilities to provide ventilation and minor conditioning but no investment in repairs and maintenance.

(5) Aligns with DFI financial projections of supportable acquisition price by a private developer for the property. This is a lower \$/SF than the adjusted sales comparables of \$9.63-\$16.87/SF from the State’s appraisal of the fair market value of the Historic Broughton Campus in 2015. A lower price is modeled given that appraisal range was based on imperfect precedent sales and was for the average \$/SF price across all Historic Broughton Campus buildings and the Avery Building presents significantly greater complexity and cost of adaptive reuse relative to average historic structures on the campus.

(6) Based on land value conclusion from the State’s appraisal of the Historic Broughton Campus in 2015.

(7) Assumes tax assessed value (TAV) matches the DFI projected tax value to derive real estate tax payments in the private development pro formas, which is a TAV that approximates the hard construction cost of real improvements to the property.

(8) Combines City and County real property tax revenues at 2017 rates (\$0.53 City and \$0.695 County per \$100 in assessed value) after applying historic landmark tax deferral (if applicable).

(9) If demolition is delayed until year 4 and sale is assumed to occur in year 6 with new construction completed in year 8, the difference between NPV of demolition and NPV of preservation is less than \$100,000.



3

PROPOSED INTERLOCAL AGREEMENT FRAMEWORK

PROPOSED INTERLOCAL AGREEMENT FRAMEWORK

Working Title: Broughton District Interlocal Economic Development and Project Financing Agreement

Parties to Agreement: City of Morganton (“City”) and Burke County (“County”), each a “Party”

Primary Statutory Authority: N.C.G.S. Section 158-7.4

Term of Agreement: The Agreement will expire 40 years after the Effective Date.

Effective Date: The Effective Date shall be thirty days following the fulfillment of all of the below Conditions Precedent:

Conditions Precedent:

- WPCC secures site control of a replacement location for the ESTC, which is the enabling project for the rest of the District vision.
 - [Example: WPCC signs a Shared Facilities Agreement with Burke County Public Schools (BCPS) for the ESTC construction, operation and maintenance on the land owned by BCPS at Freedom High School.]
- State, Western Piedmont Community College (WPCC), and UNC System designate as surplus property all land and buildings identified for redevelopment in the Broughton District vision plan and formal agreement is reached over transfer of site control of the relevant properties to one or more of the Parties or to one or more entities controlled by the Parties.
 - Example: State designates surplus property it controls in the Site and sells surplus property to the City, County, or a cooperative entity formed by City and County (“Cooperative Entity”) for nominal consideration with a lease-back commitment:
 - Lease-back tied to ongoing operation of State facilities to eventually be replaced within or outside the Site in coordination with the District vision plan
 - Lease-back is for a nominal amount but is a ground lease net of any expenses (i.e. tenant covers all costs of operating and maintaining the property)
 - Lease-back is time-limited to allow for the replacement/relocation of State facilities but provide certainty for City/County on when private redevelopment could take place
 - State would share in any gain from land sale or substantial ground lease for a designated period
 - State would be responsible for demolition of any building in the Site that it controls that is not identified for redevelopment in the District vision plan

- Example: State, WPCC, and UNC system provide an easement (or otherwise transfer or enable perpetual access to property) for the construction and maintenance of the greenway trail that crosses over each entity's property at different locations on its alignment.

Factual Background: In 2015, the State engaged the UNC School of Government's Development Finance Initiative to study potential reuse opportunities that would attract private investment for the redevelopment of the Historic Broughton Campus while serving State and local public interests. The City and County, along with other local private stakeholders, helped fund and participated in the study, which produced the "Re-Imagining Broughton" vision plan in 2016.

The vision plan recommended a comprehensive approach to redeveloping the entire Broughton District (historic hospital campus and surrounding 800 acres, collectively the "Site") to ensure the highest probability of attracting private investment and to provide the greatest economic and social benefit to stakeholders, including:

- Preserving local and State-owned historic structures
- Enhancing public access to the Site's natural and cultural amenities
- Recruiting talent by stimulating economy, enhancing housing options, and improving local quality of life
- Creating a regional destination to complement downtown Morganton
- Supporting the growth of Burke County as an education, technology, healthcare, and recreation hub
- Generating direct economic benefits through the sale of portions of public land for private development, incremental local tax revenues, and private sector job creation

In accordance with the provisions of N.C.G.S. Section 158-7.4, which authorizes local governments to enter into interlocal agreements for the development of commercial sites, this Agreement is intended to provide the framework for collaboration of the Parties to develop the public infrastructure and amenities (the "Projects") that will support the vision plan for the Site and serve the public interests of 1) attracting private investment to increase the local tax base, 2) providing for high quality educational facilities for workforce development to support local employment, 3) preserving the historic architecture of the District at a gateway to the community to increase business prospects, and 4) activating the open space within the District and improving connectivity to the surrounding community to enhance the local quality of life and increase population.

The Site: The approximately 800-acre area bounded by South Sterling Street, Enola Road, Interstate Highway 40, Burkemont Avenue, and West Fleming Drive.

The Projects:

- Site control (through option, purchase, lease, easement, or other means) of land and buildings within the Site identified for the development of public infrastructure and amenities or private redevelopment
- A new, enhanced Emergency Services Training Complex (ESTC). The new ESTC will include additional facilities to maintain its high credentials and expand its training offerings to support a larger pool of professional clients
- A hard-surface greenway trail along Hunting Creek to connect the District to downtown Morganton, J. Iverson Riddle Center, and Burke County Public Schools (Liberty and Patton) and extend the City's greenway system as part of a regional trail system
- A retention pond with piping to serve a stormwater management function for the District and provide a public amenity for passive recreation and environmental learning
- A passive park adjacent to the greenway with parking for a trailhead, a loop trail around the pond, and facilities to support small gatherings
- A District Management Entity to market parcels within the Site for private investment; subject new development to reasonable restrictions, covenants and assessments required to preserve the vision plan; and coordinate the construction and maintenance of shared infrastructure (e.g. utilities, stormwater, broadband, roads) between public and private actors within the Site until the Site has been fully developed according to the plan

The conceptual scope of these projects has been identified in the Master Development Plan for the Broughton District. The final scope will be determined as part of the Parties' Obligations for the Projects.

Obligations for the Projects: The Parties would form a Cooperative Entity to adopt a vision plan for the Site and coordinate execution of the Projects under one of the following approaches (two options):

Option A – "Business Partnership" approach: As of the Effective Date, the Parties would share obligation for executing the Projects, including all activities and financial responsibilities associated with site control, design, financing, construction, and operations and maintenance of the Projects. Each Party's share of the Distributions associated with the Projects would be commensurate with its capital contributions (*pari passu*) toward capital improvements.

Option B – "Project Control" approach: As of the Effective Date, the Parties would share the obligation for site control required to execute the Projects, but would otherwise assume the obligations for all activities and financial responsibilities associated with design, financing, construction, and operations and maintenance of the Projects according to a project-by-project allocation of control between Parties. These obligations would be incurred by the respective Party at the Effective Date, but the timing of executing on the obligations would be coordinated through the Cooperative Entity. Each Party's Share of the income associated with all the Projects would be commensurate with its capital contribution (*pari passu*) toward capital improvements of its respective Project(s).

Project Costs and Contributions:

The Parties acknowledge the current estimated cost of the capital improvements (excluding costs of financing) for the Projects of ____ with a projected Non-Local Government Cost Share of ____, which are only estimates and will need to be finalized prior to any of the Contributions by the Parties being triggered, subject to releasing some advance planning funds for design to arrive at final construction pricing.

In addition, the Parties will make an annual Contribution toward annual operating expenses associated with the operations and maintenance of the Projects. The District Management Entity will create an annual operating budget for the reasonable review and approval of the Parties. By way of example, such a budget would account for the following categories of recurring expenses.

Recurring Expenses (illustrative)

Category
Passive Park Maintenance (after construction)
Stormwater Pond Maintenance (after construction)
Greenway Maintenance (after construction)
District Management Entity Operations
Existing historic building utilities and repairs to avoid deterioration for period between site control and redevelopment

The amount of each Party's contribution to operating expenses will be according to each Party's...

- Option A – “Business Partnership” approach: ...share commensurate with its capital contributions (pari passu) toward capital improvements.
- Option B – “Project Control” approach: ...allocation of project control.

Accounting of Respective Contributions: The District Management Entity will maintain an accounting, similar to a Capital Account, to track each Party's share in the Project based on their respective contributions.

Accounting of Revenues and Expenses: The District Management Entity will maintain an accounting of revenues and expenses of the Project and will manage the payments by and distributions to the Parties as necessary.

- Land sale proceeds – The Cooperative Entity that controls the property will appropriate to the Common Fund an amount equivalent to any sale proceeds (e.g. sales price less direct cost of selling the property and any proceeds owed to other parties outside the agreement) from any sale or ground lease of real estate in the Site as soon as possible following the receipt of the net sale or lease proceeds, and in

any event no later than July 31 of the fiscal year immediately following the fiscal year in which the net sale proceeds were received (to allow for budgeting and appropriations processes to be completed).

- Tax revenues – The Parties levying ad valorem taxes on real and personal property, occupancy taxes, or special assessments on property in the Site will deposit into the Common Fund an amount equal to those tax receipts from the property in the Site by December 31st of each year.

Distributions from Common Fund: The Parties will receive distributions on an annual basis of any net income (revenues less operating expenses of the Cooperative Entity, debt service obligations, and a minimum cash balance to be determined by the Board) (“Distributions”), unless otherwise constrained by any debt or other funding obligations of the Cooperative Entity.

Governance and Management: In the event the Cooperative Entity is a nonprofit corporation, it shall be governed by a ____-member Board of Directors. The seats on the Board of Directors shall be allocated among the Parties according to each Party’s share under Option A or Option B, as appropriate.

Amendments: The Agreement can be amended with approval of the Parties to accommodate the evolution of the Project, including changes in scope, costs, and/or timing of the Project.



4

SITE AND BUILDING ANALYSES

EMERGENCY SERVICES TRAINING CENTER (ESTC) RELOCATION STUDY AT LIBERTY HIGH SCHOOL

POTENTIAL NEW HOME FOR THE ESTC

Recognizing that the ESTC performs a critical function in WPCC's Fire, Rescue & Emergency Management training programs, DFI consulted with the County and WPCC in preparing the recommendation to relocate, which was made contingent upon finding a suitable replacement site for the ESTC. Through the ingenuity and diligence of WPCC staff, as well as the support of DFI and the staff at Burke County Public Schools, the City, and the County, a potential replacement site has been identified at Freedom High School.

COSTS, BENEFITS AND LEVERAGE OPPORTUNITIES

Relocating the ESTC to Freedom High School comes with costs and benefits. The relocation builds on an existing partnership between WPCC and BCPS to share facilities at Freedom High School for the college's Basic Law Enforcement Training driving course. Several ideas to further leverage the investment for other positive outcomes in the community have been generated in preliminary discussions with executive staff.

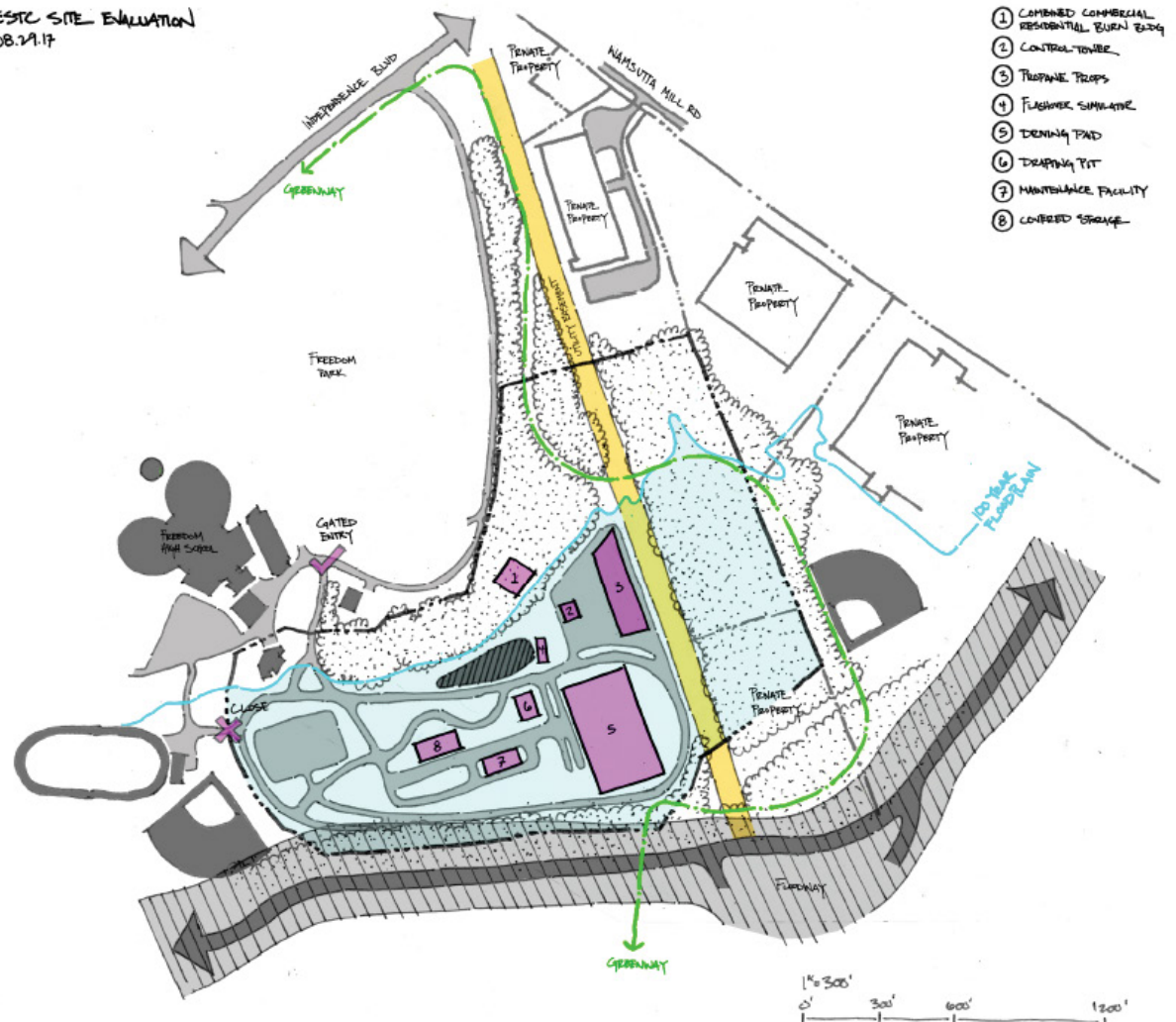
Planning for the ESTC relocation is in the conceptual stages. Commitments and timelines to execute the relocation have not yet been established. To date, the following due diligence has been performed:

- Site suitability assessment analyzing slopes, hydrology, property ownership, and infrastructure
- Conceptual site planning to locate entry/exit drives, new structures, training props, and adjacent greenway alignment
- Review of planning progress with executive staff of WPCC, BCPS, City, and County
- Flashover simulator smoke plume test to determine radius of impacts

An initial conceptual site plan showing the potential relocation of ESTC structures and equipment within the Freedom High School site and the greenway re-alignment is to the right.

DIRECT COSTS	DIRECT BENEFITS	LEVERAGE
<ul style="list-style-type: none"> • Site work (excavation, grading, paving), minimized by reusing existing facilities • Water line infrastructure • Relocation of equipment • New building construction (burn building, control tower) • Greenway re-alignment to buffer from ESTC operation 	<ul style="list-style-type: none"> • Consolidated operations with BLET and ESTC • Soils to support multi-story commercial burn building (new certification requirement) • Unlock the value of the current site for new infrastructure and amenities to support NCSSM and Broughton District 	<ul style="list-style-type: none"> • Underutilized County property tapped for greenway re-alignment • Greenway re-alignment connects to ball field at Meritor • Groundwork laid for future Fire Academy facility and future EMS water rescue facility

ESTC SITE EVALUATION
08.14.17



DFI'S RECOMMENDED GREENWAY ALIGNMENT AND BROUGHTON PARK AND POND PROGRAMMING

REIMAGINING BROUGHTON FEASIBILITY STUDY FROM 2016

- Public access down Coal Chute Road with parking north and east of proposed pond.
- Broughton park incorporates passive and active recreation uses, which include, soccer fields, walking trails, pavilion and loop trail.
- Relocation of Broughton Hospital picnic shelter for athletic field expansion.
- Retention of Broughton Hospital fishing pond and baseball field.
- Hunting Creek greenway alignment follows the west side of Hunting Creek from I-40 culvert to Coal Chute Road where it crosses over to the east side of Hunting Creek. The greenway then follows the edge of Hunting Creek past New Broughton Hospital to S. Sterling St and is routed to not interrupt the plans for the entry walkway between the historic Broughton Hospital stone columns.

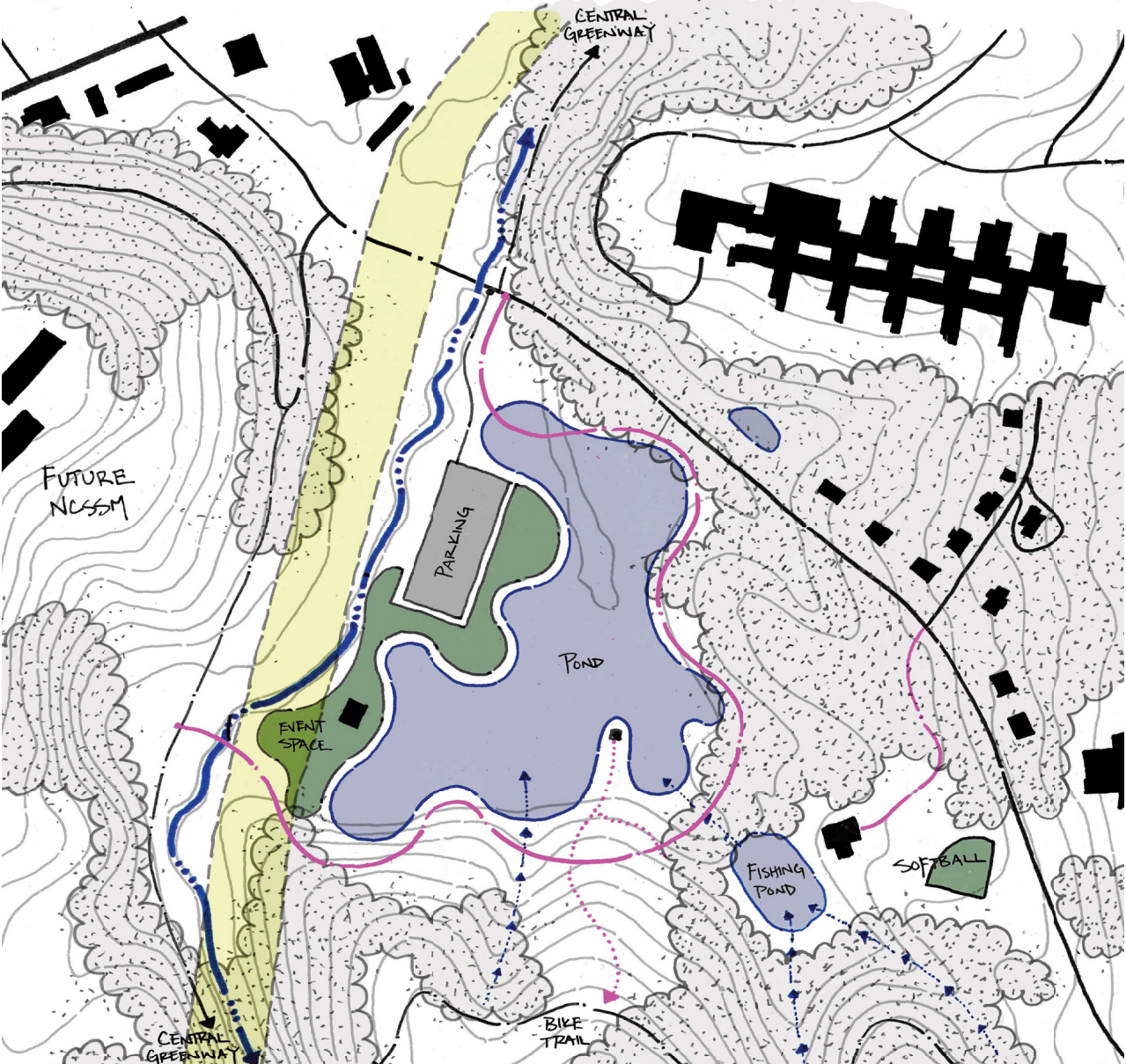


BROUGHTON DISTRICT MASTER DEVELOPMENT PLAN 2018

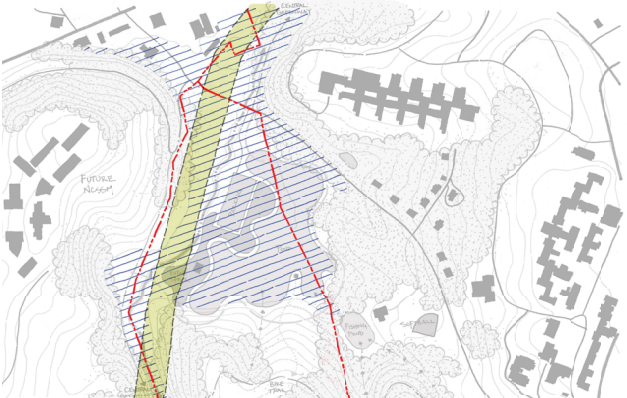
- Public access down Coal Chute Rd. limited to the entry drive for the parking lot on the west side of the pond.
- Broughton Park incorporation of only passive recreation uses (trails, pavilions, meadows and boardwalks). No athletic fields included in the park program.
- A vegetative buffer is established north of Coal Chute Road to provide more visual separation between the pond and New Broughton Hospital.
- Retain existing Broughton Hospital picnic shelter, baseball field and fishing pond in its current location.
- Hunting Creek greenway alignment follows the west side of Hunting Creek from I-40 culvert to Coal Chute Road where it crosses over to the east side of Hunting Creek. The greenway then follows the edge of Hunting Creek past New Broughton Hospital to S. Sterling St and is routed to not interrupt the plans for the entry walkway between the historic Broughton Hospital stone columns.



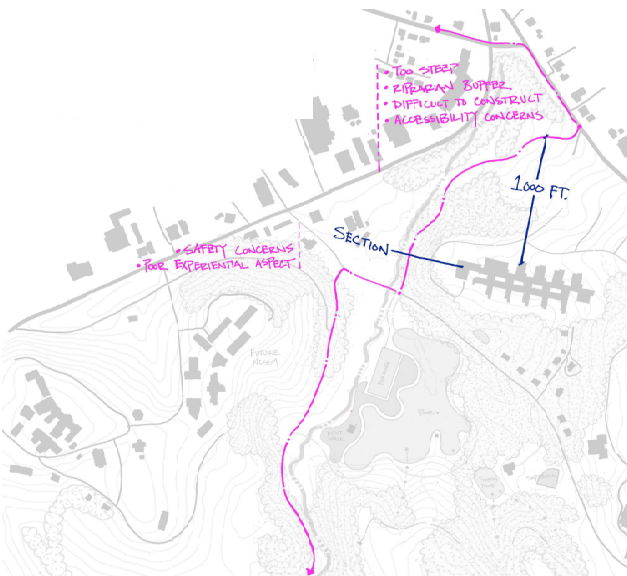
PROPOSED BROUGHTON PARK AND POND AND GREENWAY DESIGN SCHEME



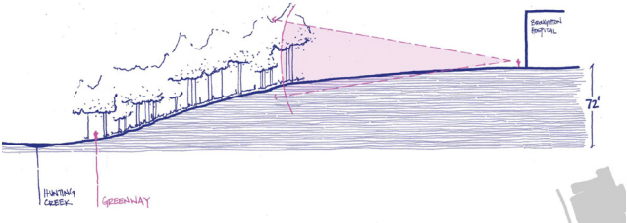
FLOODPLAIN AND PROPERTY BOUNDARIES



HUNTING CREEK GREENWAY PROPOSED ALIGNMENT



VIEWSHED STUDY FROM BROUGHTON HOSPITAL TO PROPOSED GREENWAY



BROUGHTON DISTRICT SUITABILITY ANALYSIS

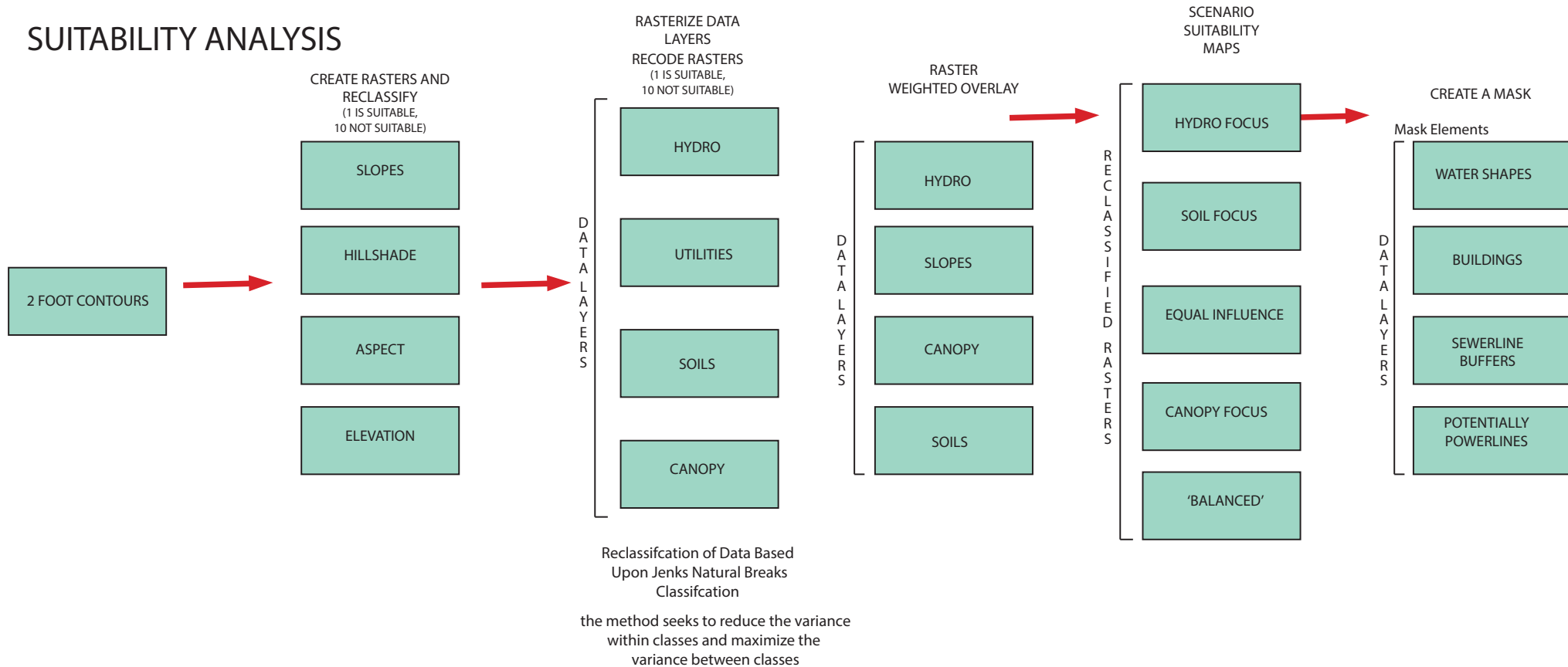


BROUGHTON DISTRICT SUITABILITY ANALYSIS- EXISTING CONDITIONS



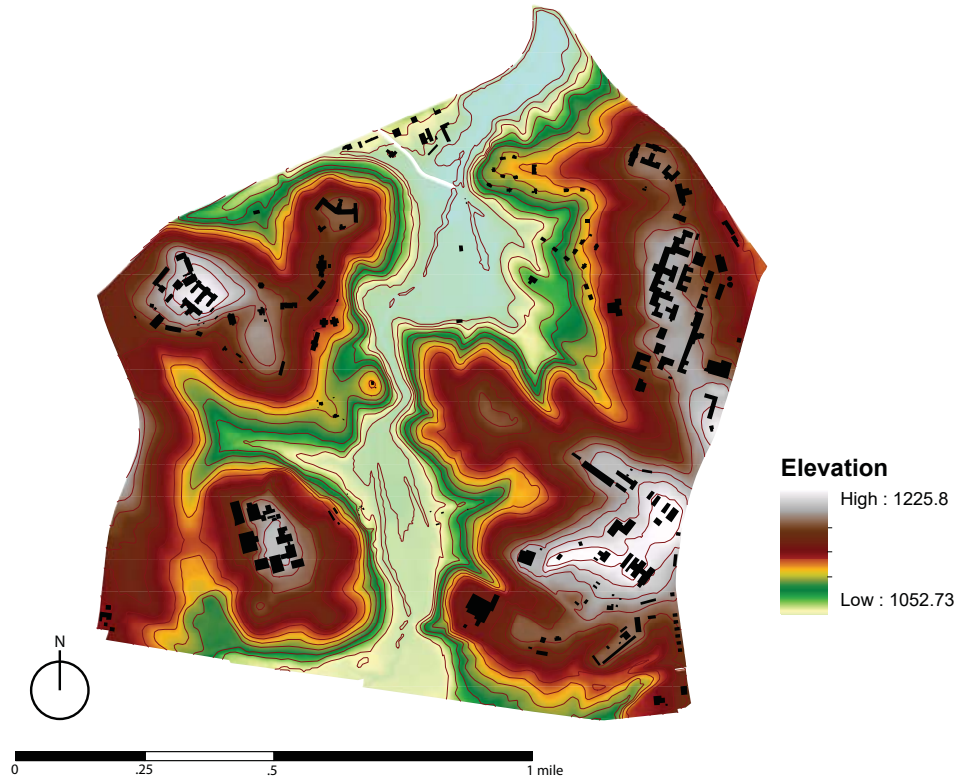
BROUGHTON DISTRICT SUITABILITY ANALYSIS- PROCESS DIAGRAM

SUITABILITY ANALYSIS

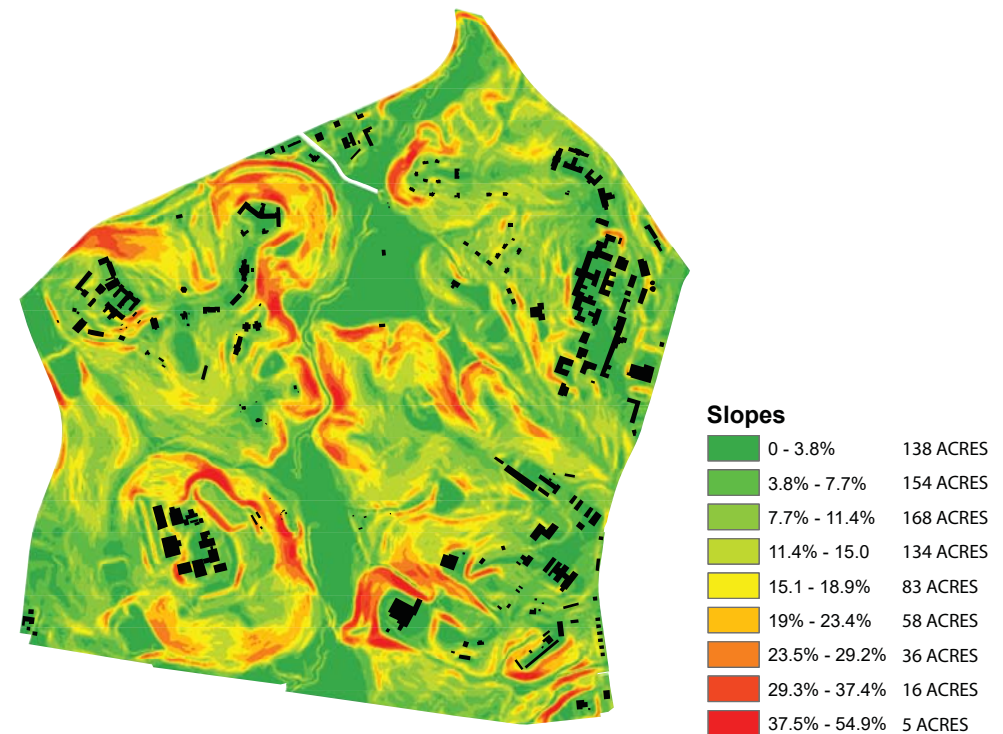


BROUGHTON DISTRICT SUITABILITY ANALYSIS- INDIVIDUAL COMPONENTS

ELEVATION ANALYSIS

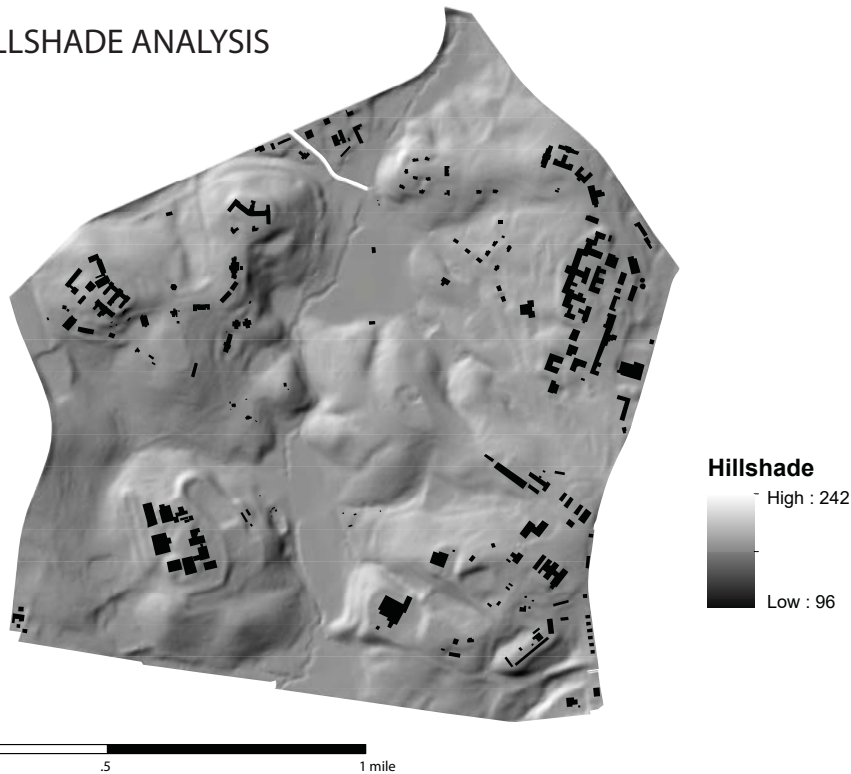


SLOPE ANALYSIS



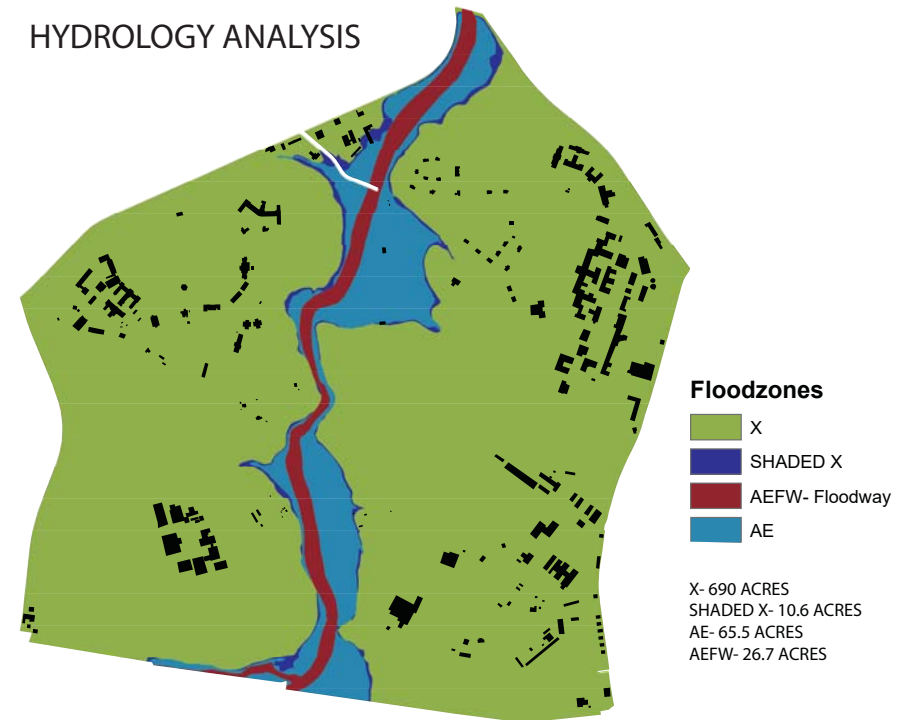
BROUGHTON DISTRICT SUITABILITY ANALYSIS- INDIVIDUAL COMPONENTS

HILLSHADE ANALYSIS



Hillshade values display the intensity of light from a source (the sun) at each raster cell, from 0 (dark) to 255 (light).

HYDROLOGY ANALYSIS



HYDROLOGIC DEFINITIONS

X- These properties are outside the high-risk zones.

SHADED X- Area of moderate flood hazard. This flood risk is reduced, but not removed. Flood insurance is not required in this zone

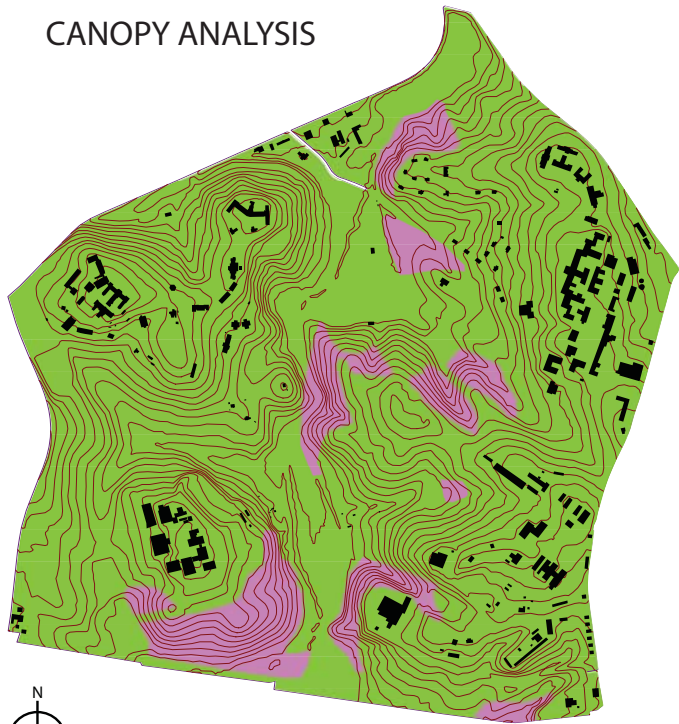
AE- High flood risk. Base flood elevations have been determined. Flood insurance is mandatory and local floodplain development codes apply.

AEFW- Floodway- channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood

Source: http://www.clark.wa.gov/publicworks/flood/documents/zone_definitions.pdf

BROUGHTON DISTRICT SUITABILITY ANALYSIS- INDIVIDUAL COMPONENTS

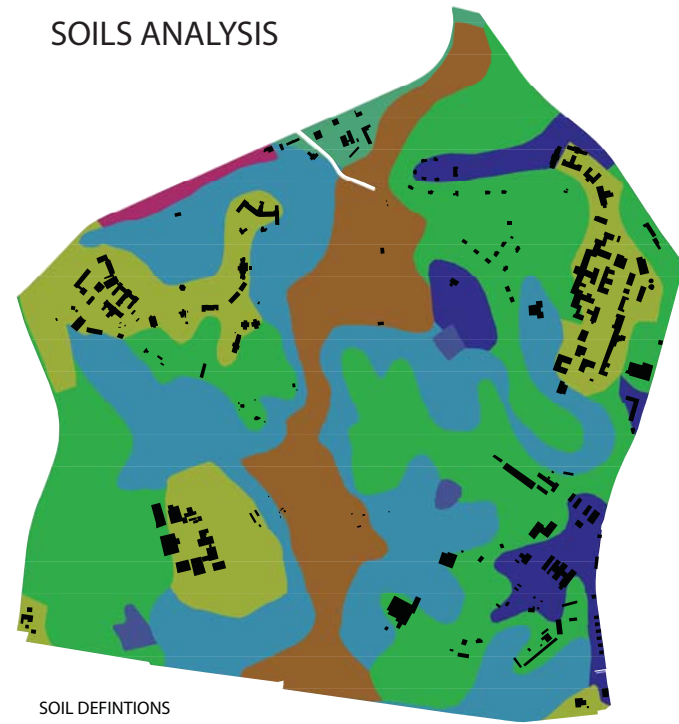
CANOPY ANALYSIS



Canopy

Canopy	82.8 ACRES
No Canopy	710 ACRES

SOILS ANALYSIS



Soils

CvA	103 ACRES
FaB2	47 ACRES
FaC2	277.8 ACRES
FaD2	219.8 ACRES
FeC	6.2 ACRES
Ud	122 ACRES
Ur	11.2 ACRES
W	5.9 ACRES

SOIL DEFINITIONS

CvA- Colvard Sandy Loam- 0-3%, occasionally flooded.
FaB2- Fairview sandy clay loam- 2-8% slopes, moderately eroded.
FaC2- Fairview Sandy Clay Loam- 8-15 % slopes, moderately eroded.
FaD2- Fairview Sandy Clay Loam- 15-25% slopes, moderately eroded
FeC- Fairview Urban Land Complex- 8-15% slopes
Ud- Udorthents, loamy
Ur- Urban Land
W- Water

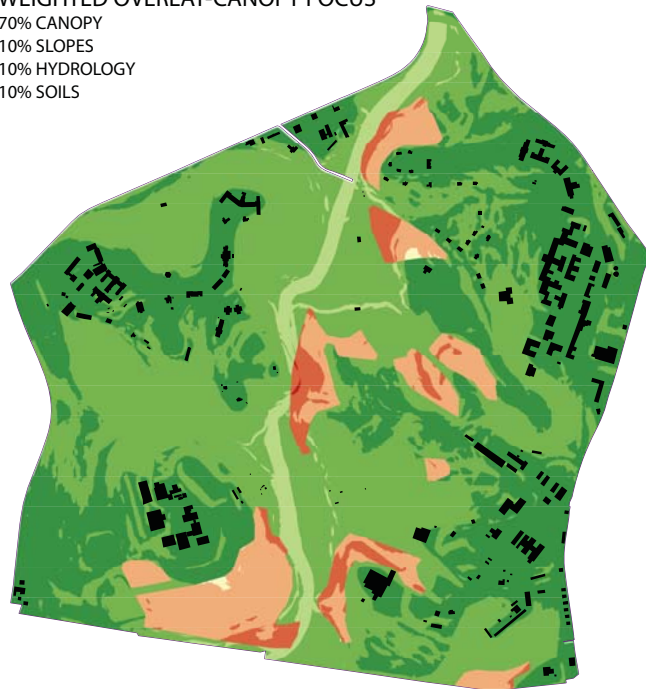
Source: http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/north_carolina/NC023/0/Burke.pdf

Canopy data was geo-referenced using the ArcGIS base-map orthoimagery.

BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

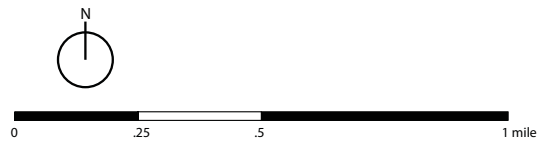
WEIGHTED OVERLAY-CANOPY FOCUS

70% CANOPY
10% SLOPES
10% HYDROLOGY
10% SOILS



Weighted Overlay Rating 2 is poor 10 is excellent

2	20.1 ACRES
3	61.7 ACRES
4	.9 ACRES
5	-
6	-
7	-
8	30.6 ACRES
9	366.9 ACRES
10	312.6 ACRES



WEIGHTED OVERLAY- SOIL FOCUS

10% CANOPY
10% SLOPES
10% HYDROLOGY
70% SOILS



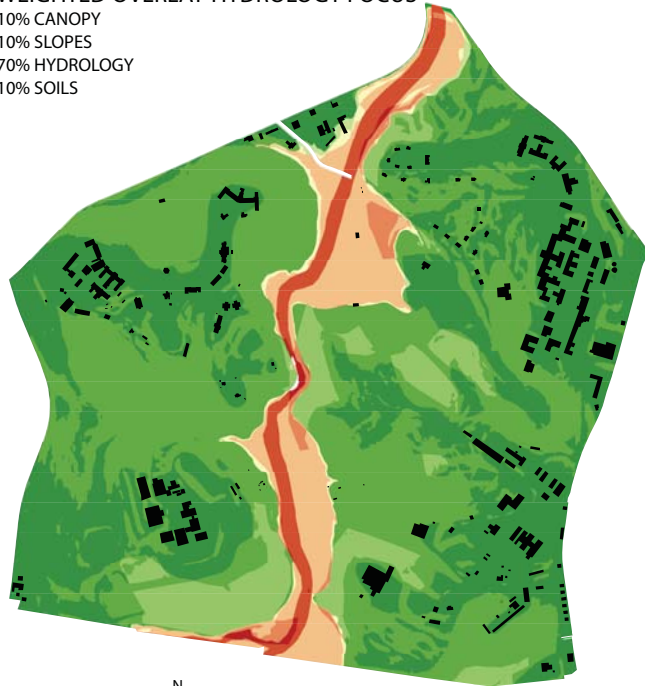
Weighted Overlay Rating 2 is poor 10 is excellent

2	.07 ACRES
3	.4 ACRES
4	3.4 ACRES
5	22.8 ACRES
6	77.2 ACRES
7	181.8 ACRES
8	194.4 ACRES
9	232.4 ACRES
10	80.3 ACRES

BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY-HYDROLOGY FOCUS

10% CANOPY
10% SLOPES
70% HYDROLOGY
10% SOILS

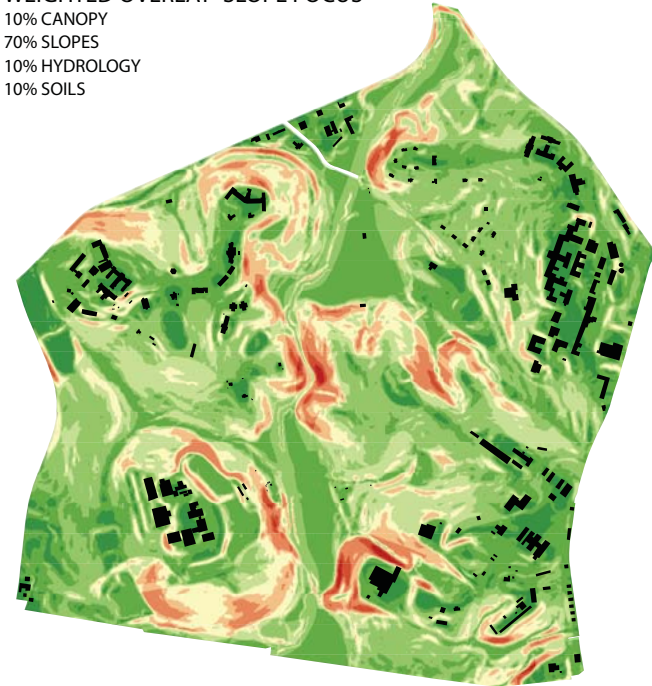


Weighted Overlay Rating 2 is poor 10 is excellent

2	2.9 ACRES
3	23.7 ACRES
4	8.2 ACRES
5	57.3 ACRES
6	8.0 ACRES
7	2.8 ACRES
8	58.8 ACRES
9	319.3 ACRES
10	311.8 ACRES

WEIGHTED OVERLAY- SLOPE FOCUS

10% CANOPY
70% SLOPES
10% HYDROLOGY
10% SOILS



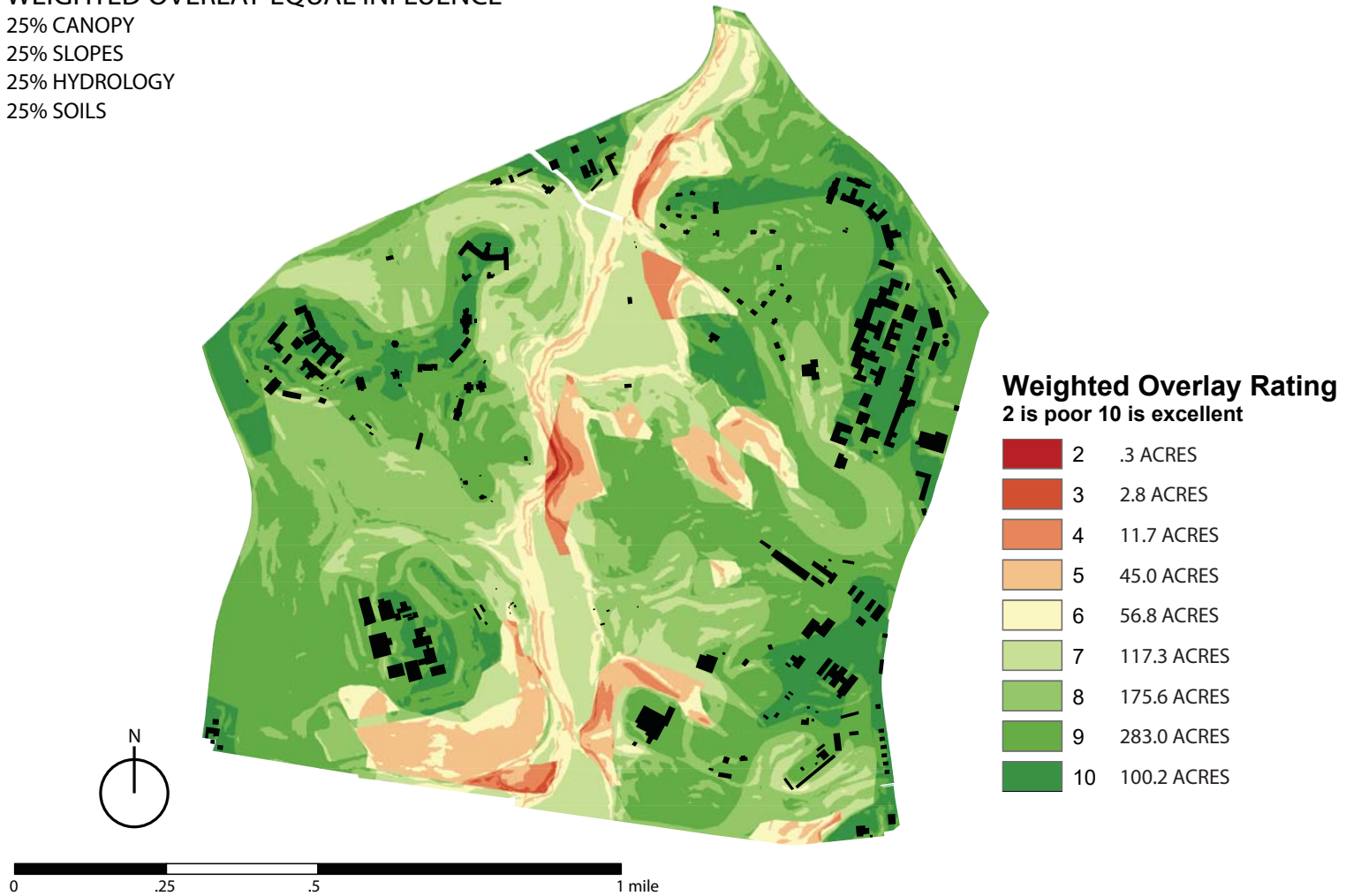
Weighted Overlay Rating 2 is poor 10 is excellent

2	1.2 ACRES
3	5.9 ACRES
4	25.7 ACRES
5	49.7 ACRES
6	79.4 ACRES
7	136.5 ACRES
8	222.4 ACRES
9	209.2 ACRES
10	62.7 ACRES

BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY-EQUAL INFLUENCE

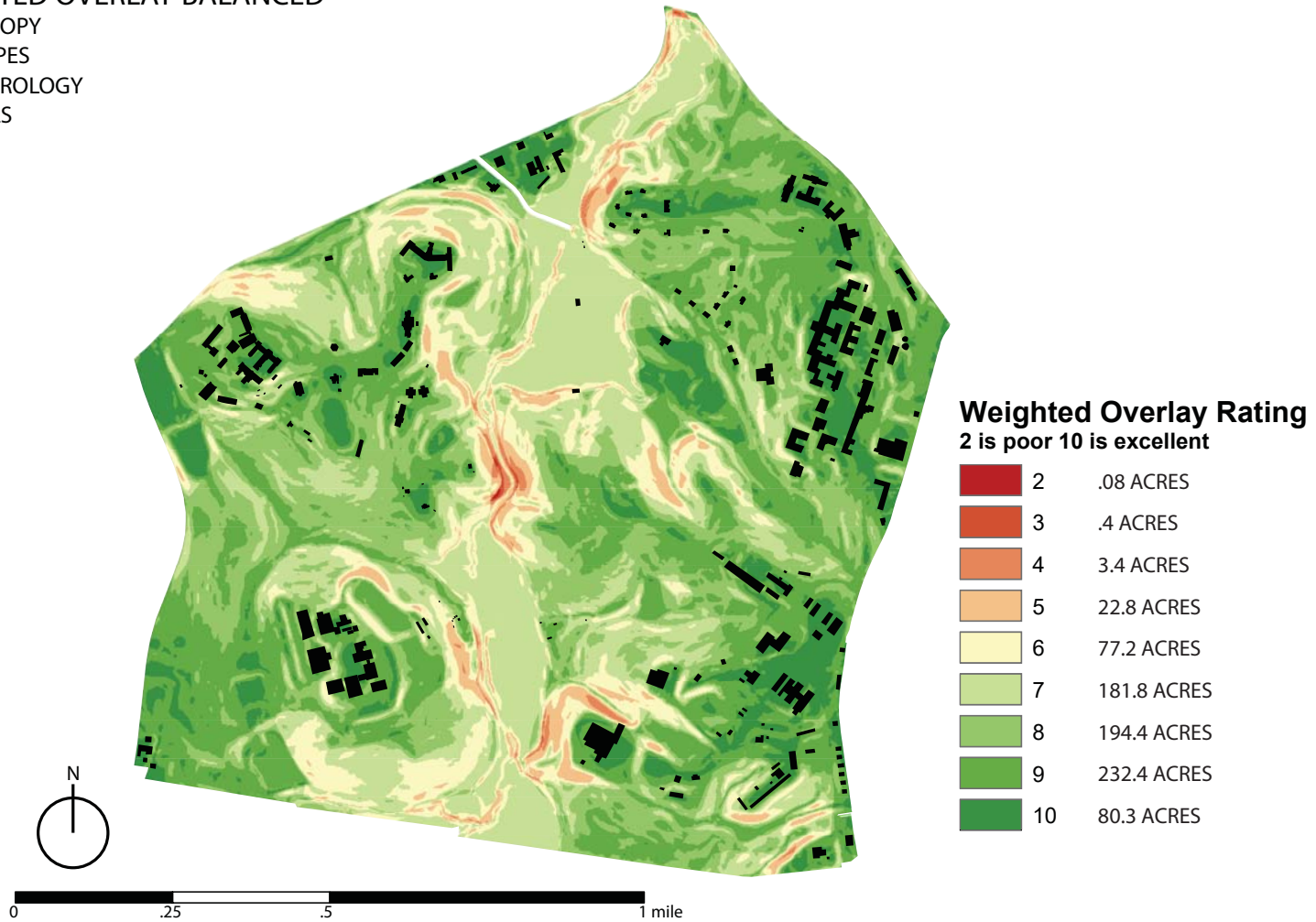
25% CANOPY
25% SLOPES
25% HYDROLOGY
25% SOILS



BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY-BALANCED

10% CANOPY
50% SLOPES
30% HYDROLOGY
10% SOILS



BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY- EQUAL INFLUENCE WITH MASK

25% CANOPY
25% SLOPES
25% HYDROLOGY
25% SOILS

MASKED ELEMENTS-
BUILDINGS
FLOODWAY
PONDS
SEWERLINE BUFFERS

TOTAL ACREAGE- 73.2



BROUGHTON DISTRICT SUITABILITY ANALYSIS- KEY FINDINGS

Previous Development on the site focused on the higher elevated portions of the site, and generally those are the optimal locations to build.

Many of the severe slopes on the site are located near the built structures, possibly due from grading of the site for those built structures.

Sewerline and powerline infrastructure is generally located outside of the most suitable land for development.

Undeveloped land is still located near some of the highest elevations on the site.

Most of the Overlay Scenarios identify very similar sections of the site with the highest weights of suitability- roughly circled to the right.



BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY- BUILDING SUITABILITY WITH MASK

33% CANOPY
33% SLOPES
33% HYDROLOGY

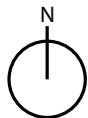
MASKED ELEMENTS-
BUILDINGS INCLUDING SURPLUS HOSPITAL PROPERTIES
NEW HOSPITAL BUILDING
PARKING LOTS
FLOODWAY
PONDS
SEWERLINE BUFFERS

TOTAL ACREAGE- 117.2 acres



Weighted Overlay Rating suitable acreage

Poor	76.1 ACRES
Secondary	156.7 ACRES
Primary	444.6 ACRES



0 .25 .5 1 mile

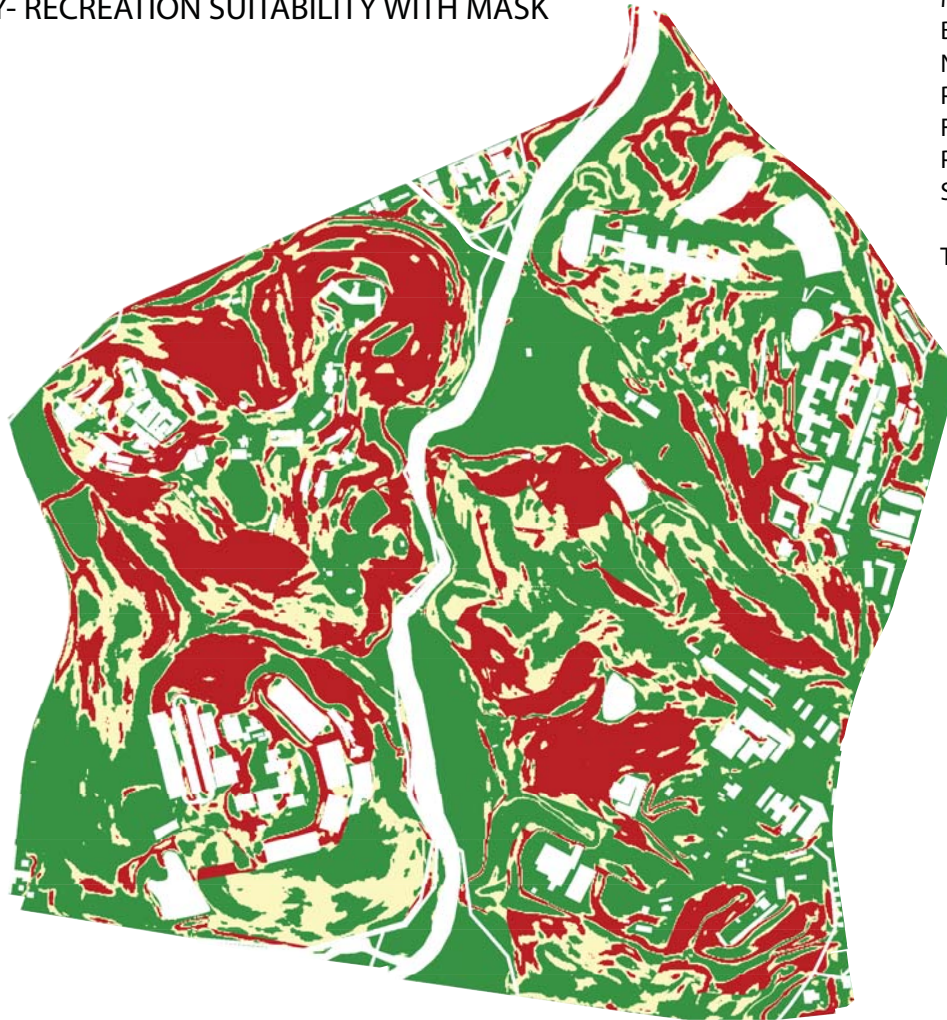
BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY- RECREATION SUITABILITY WITH MASK

45% SLOPES
35% CANOPY
10% HYDROLOGY
10% SOILS

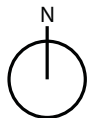
MASKED ELEMENTS-
BUILDINGS INCLUDING SURPLUS HOSPITAL PROPERTIES
NEW HOSPITAL BUILDING
PARKING LOTS
FLOODWAY
PONDS
SEWERLINE BUFFERS

TOTAL ACREAGE- 117.2 acres



Weighted Overlay Rating suitable acreage

Poor	188.1 ACRES
Secondary	155.8 ACRES
Primary	333.5 ACRES



0 .25 .5 1 mile

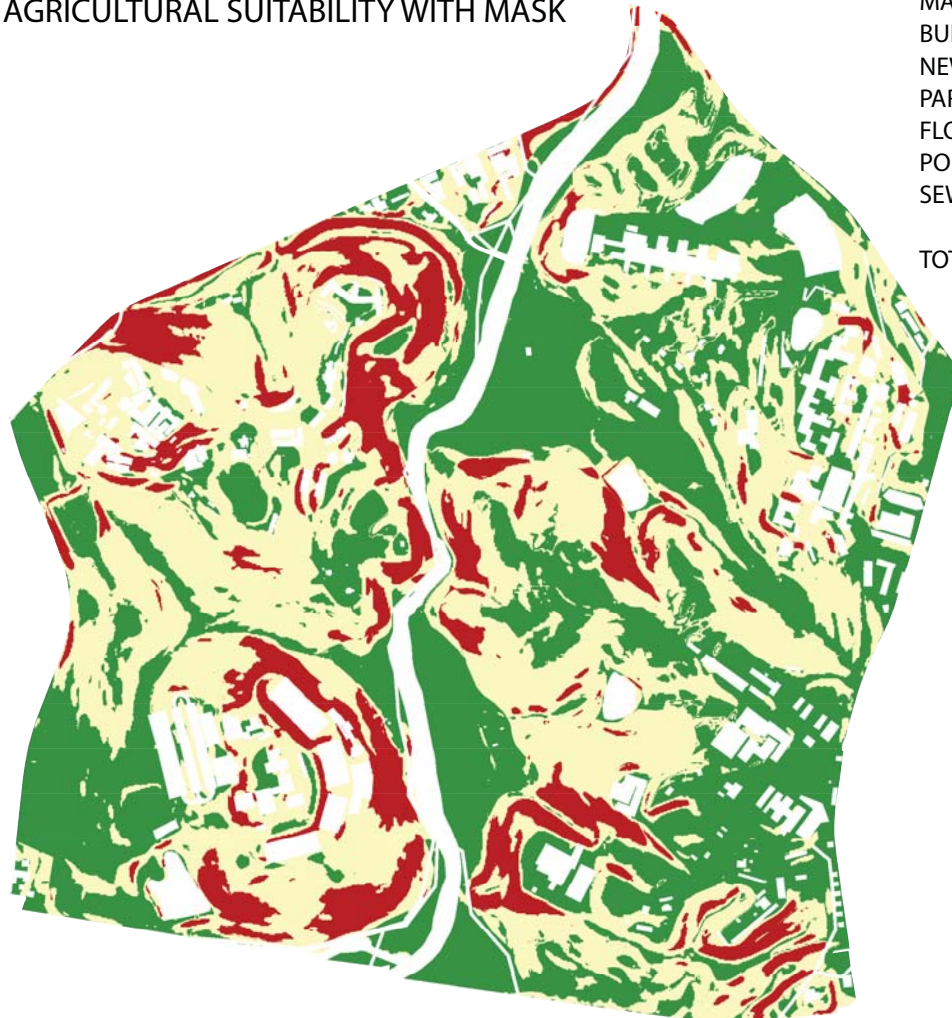
BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY- AGRICULTURAL SUITABILITY WITH MASK

30% HILLSHADE
30% SLOPES
30% SOILS
10% HYDROLOGY

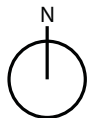
MASKED ELEMENTS-
BUILDINGS INCLUDING SURPLUS HOSPITAL PROPERTIES
NEW HOSPITAL BUILDING
PARKING LOTS
FLOODWAY
PONDS
SEWERLINE BUFFERS

TOTAL ACREAGE- 117.2 acres



Weighted Overlay Rating suitable acreage

Poor	86 ACRES
Secondary	314.6 ACRES
Primary	276.5 ACRES



0 .25 .5 1 mile

BROUGHTON DISTRICT SUITABILITY ANALYSIS- WEIGHTED OVERLAY

WEIGHTED OVERLAY- PRIMARY USES WITH MASK

AGRICULTURE
BUILDABILITY
RECREATION

MASKED ELEMENTS-
BUILDINGS INCLUDING SURPLUS HOSPITAL PROPERTIES
NEW HOSPITAL BUILDING
PARKING LOTS
FLOODWAY
PONDS
SEWERLINE BUFFERS

TOTAL ACREAGE- 117.2 acres



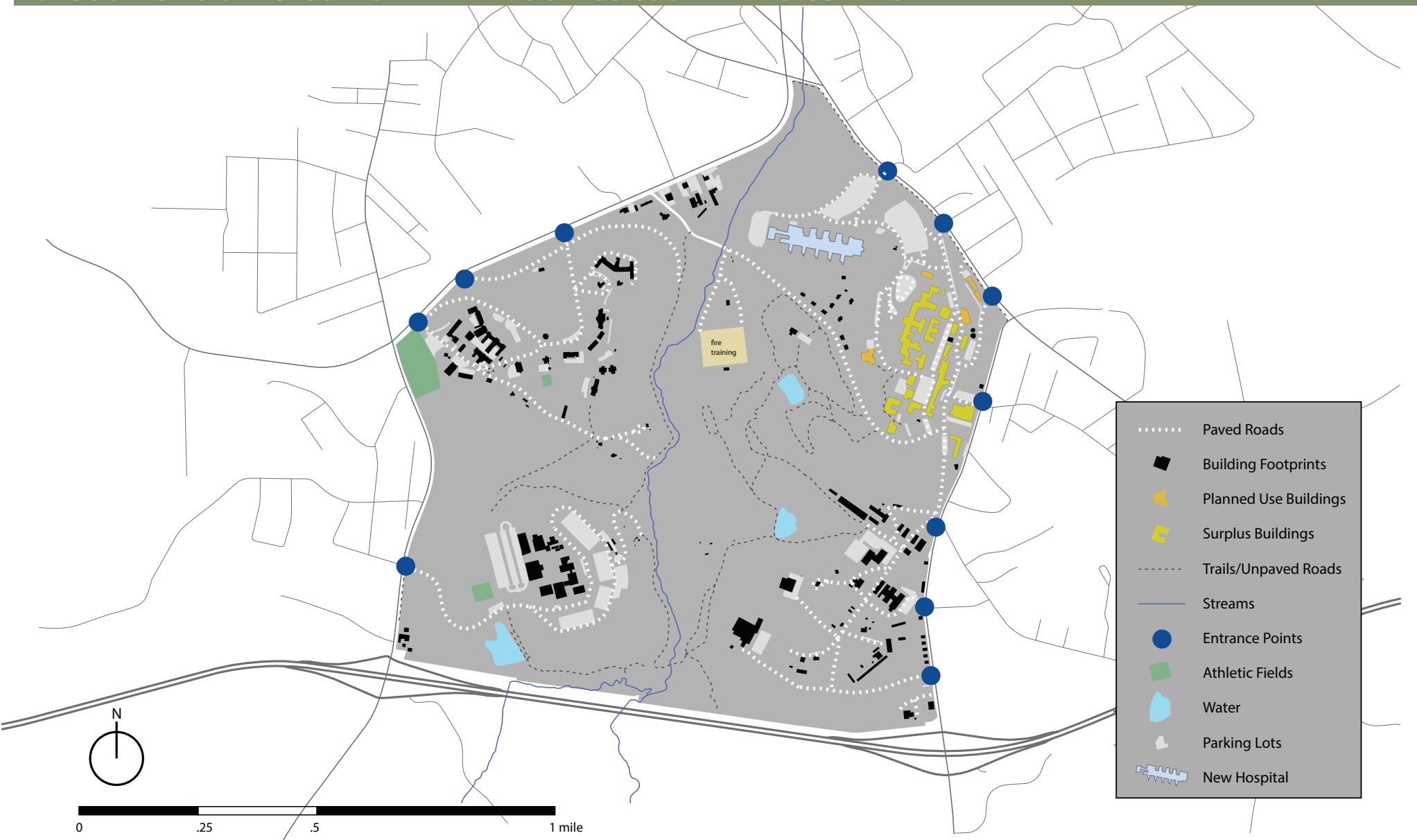
Primary Use Legend

- Primary Buildable Land
- Primary Recreation Land
- Primary Agriculture Land

- Buildable Land with Little Conflicting Primary Uses
- Recreation Land with Little Conflicting Primary Uses
- *Agriculture and Recreation Land with Little Conflicting Primary Uses

* The agriculture and Recreation Primary land overlaps for much of the site with little to no conflict with the Primary Buildable Land.

BROUGHTON DISTRICT SUITABILITY ANALYSIS- ACCESSIBILITY AND CONNECTIVITY



ADAPTIVE REUSE ASSESSMENT



Adaptive Reuse • Historic Preservation • Master Planning • Interior Architecture • Environmental Graphics • Sustainable Design
735 Ninth Street Durham, NC 27705 p: 919.286.2575 f: 919.286.1906 www.belkarchitecture.net

Broughton Campus Building Survey

Note: Building areas are calculated using materials provided by Broughton Facilities and are not field verified

EVERY (CONTRIBUTING)

Existing use: patient rooms

Existing building is in excellent condition. Multiple wing building with 3-4 full stories with large attic spaces over most wings. Central wing has 5 stories plus attic. Lower floor of all wings is partially below grade. Load bearing exterior masonry walls with load bearing interior corridor walls (18" thickness). Corridor widths are 11'-12' throughout building, with perimeter patient rooms averaging 10'-11' depths and 8' widths. Windows are single glazed, majority of floors are terrazzo with turned up terrazzo base. Building height exterior sun porch elements have been built onto rear facades of 2 wings. Most ceilings have been lowered to accommodate hvac (but pulled back from windows), historic ceilings are at 11'-12' with the exception of the lower level which is 9'. Building has partial sprinkler system. Potential for adaptability (residential, small office, educational) is good but will have some challenges, due to exceptionally wide historic corridor width and small patient room sizes.

BATES (CONTRIBUTING)

Existing use: storage, sewing, office

Existing building is in excellent condition, 1 primary floor with 2 sections having a second entire story. Building is built into hill with partial walk out lower level on east facade. Load bearing exterior masonry walls, few interior load bearing elements, mixed floor finishes, and single glazed windows. Many ceilings have been lowered to accommodate hvac (but pulled back from windows), historic ceilings are generally at 10'-12'. Patchwork of distinct buildings and intermediate connector elements. Sun porches (some enclosed) are on both the east and west facades of the building. Building does not have sprinkler system. Potential for adaptability (residential, office, assembly, retail) is good.

DINING (CONTRIBUTING)

Existing use: dining, recreation

Existing building is in excellent condition, 1-story, and is connected to the Thomas Building on its eastern facade and has a 1-story ramped addition (not ADA compliant) to Scroggs on its north facade. The primary volume is 48'x92', has interior columns, and is subdivided with non-structural partial height partitions. Historic ceiling height is 13'-6". Potential for building adaptability (office, retail, assembly) is good due to open plan of structural system and number of exterior windows.

HARPER (CONTRIBUTING)

Existing use: patient rooms

Existing building is in excellent condition. 3 full stories with a 4th smaller story. Building is built into hill with walk-out lower level on west facade. A 1-story addition on its northeast wing connects it with the dining building. Load bearing exterior masonry walls with load bearing interior corridor walls (18" thickness). Corridor widths are 11'-12' throughout building, with perimeter patient rooms averaging 10'-11' depths and 8' widths. Windows are single glazed, majority of floors are terrazzo with turned up terrazzo base. Building height exterior sun porch elements have been built onto perimeter facades. Most ceilings have been lowered to accommodate hvac (but pulled back from windows), historic ceilings are at 11'-6" on floors 2 and 3, and 9'-10' on floors 1 and 4. Building does not have sprinkler system. Potential for adaptability (residential, small office, educational) is good but will have some challenges, due to exceptionally wide historic corridor width and small patient room sizes.

HOOPER (NON CONTRIBUTING)

Existing use: storage, campus kitchen

Existing building is in excellent condition. 1-2 stories set into hill, lower story is walk-out. F1 slab on grade, F2 cast concrete beams and joists, roof structure open web steel joists supported by steel beams, primarily open plan w/ columns, with the exception of some office area and a large



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commercial kitchen. Deep floor plan with windows and/or door openings on all elevations. Bottom of floor and/or roof deck is 12'-15' depending on location. Building has a partial sprinkler system. Potential for adaptability (educational, office, storage) is good but will have some challenges, due primarily to the depth of floor plan and difficulty getting natural light into center of building.

SAUNDERS (TB Ward) (did not tour) (CONTRIBUTING)

SCROGGS

Existing use: patient rooms

Existing building is in excellent condition. 3 stories (1st is partially below grade) with a smaller 4th story mechanical attic (36'x60') over central core of building. A 1-story addition on its south end connects it with the dining building. Load bearing exterior masonry walls with load bearing interior corridor walls (13" thickness). Corridor widths are 11'-12' throughout building, with central core patient rooms averaging 10'-11' depths and 7' widths, and larger activity rooms (22'x61') on the north and south ends of the building. Windows are single glazed, majority of floors are terrazzo with turned up terrazzo base. Exterior sun porch elements have been built onto central patient room facades on stories 2 and 3. Ceiling portions have been lowered to accommodate hvac (but pulled back from windows), historic ceilings are between 9' and 10' depending on floor. Building does not have sprinkler system. Potential for adaptability (residential, small office, educational) is good but will have some challenges, due to exceptionally wide historic corridor width and small central patient room sizes.

SOUTH (CONTRIBUTING)

Existing use: abandoned, could not gain access.

Existing building is in fair condition. 2-stories built into hillside with lower story walkout. Historic roof is collapsed in some areas due to water infiltration and wood rot. Exterior masonry walls appear to be in good condition, most historic windows remain intact. Location of building and apparent rationality of plan make potential adaptability very good, despite roof repairs (and likely some floor/structural) that would be required with a renovation.

THOMAS (CONTRIBUTING)

Existing use: wellness center, pharmacy

Existing building is in good condition, 1-story, and is connected to the dining building at its northwest corner. Historic roof has been removed and replaced with a flat roof, many historic windows have been replaced with modern window systems, only historic masonry walls and some historic windows remain. Interior consists of a wellness center (66'x40', 10'-6" hard ceiling ht.), a collection of smaller restroom and shower rooms, and a pharmacy (88'x40', 10' lay-in ceiling ht.). Potential for building adaptability (office, retail, assembly) is good due to open plan of structural system and number of exterior windows. Could have potential conflicts with site design (sits in potential campus axis). Much of building's historic fabric has been lost, making historic rehabilitation of this building potentially difficult.

JONES (NON CONTRIBUTING)

Existing use: Patient medical support, staff offices and limited patient rooms.

The existing building is in structurally sound shape with a flat rubber roof in good condition. The building is 104,000 SF and seven stories tall with the upper stories stepping back on the wings. The building is ca. 1950 and has outdated MEP systems. There is not a fire sprinkler system. The center corridor is 8 feet wide and has a low concealed spline ceiling with utilities above. This corridor ceiling chase is similar to the building's original design. The structure is steel frame with concrete floors and clay tile w/plaster interior partitions. The low floor to floor height will hamper new system installation. ADA code improvements will be required throughout. The exit stairs are not compliant with modern code requirements. Although reasonably adaptable to dormitory residential and/or office use, the building is non-contributing within the National Register Listing and sits tightly within the courtyard area at the center of Avery and hampers flexible improvements of the site core.

MARSH (CONTRIBUTING)

Existing use: Not currently in use.

The existing building is structurally sound and ca. 1920 with a flat rubber roof in good condition. The building is 15,800 sf and the original (load bearing) layout included a center core (original kitchen) with a monitor roof with clerestory windows. The center core is wrapped by a 24 feet wide open use room on three sides. A large screened porch is on the left side. All MEP systems appear outdated and the building does not have a fire sprinkler system. The floor layout provides flexible future use potential as event, recreational, support spaces.

REECE (CONTRIBUTING)

Existing use: Currently used as art, music, craft and other special activities.

The existing building is structurally sound and ca. 1913 with a hipped, slate tile roof. The floor layout has (within the original load bearing plans) large open rooms at each end of the building with smaller rooms (9 ft. x 11 ft.) lining the connecting 10 ft. wide corridors. The structural system is load bearing masonry walls with steel framing and concrete floors. All MEP systems need replacement and the building does not have a fire sprinkler system. Full ADA accessibility improvements must be put into place. The layout's large end room potential would allow adaptability as educational, office, and small event/training spaces.

LAUNDRY (CONTRIBUTING)

Existing use: Currently used by the NC Department of Corrections as an operating laundry/sewing facility. The existing one and one half floor, ca. 1939 building is structurally sound with functional MEP systems for the light industry activities. All new systems would be needed for any change of use. The laundry is fully equipped with relatively new equipment. The laundry and sewing operations are staffed with correctional department inmates. The building would be relatively adaptable for a range of uses and future site uses may find this operation of concern.

STEAM PLANT (CONTRIBUTING)

Existing use: This facility provides all steam needs for the full campus.

The existing ca. 1939 building is structurally sound and features art-deco details and very large multi-lite steel hopper windows. The interior is occupied by four ca. 1950 boilers within an open three story high room. If this facility is decommissioned and separate systems be installed across the campus, this dramatic space lends itself to a destination hospitality/recreation use.

Broughton Preliminary Areas

	floor	GSF est.	NSF est.	Built
Avery	0	90,049	47,250	1875
	1	90,049	47,250	
	2	88,462	46,268	
	3	57,955	31,765	
	4	5,970	3,513	
Bates	5	4525	2356	
	1	32,657	26,125	1924
	2	15,062	11,171	
F2 Dining Harper	1	7,347	5,877	
	1	13,000	6,203	1903
	2	13,000	6,203	
	3	13,000	6,203	
Hooper	4	7,752	2,915	
	1	24,967	19,973	1960
	2	24,967	19,973	
Laundry	b	8,787	7,028	1939
	1	11,685	9,384	
Machine Shop	1	5,190	4,152	1939
Marsh	1	13,740	10,992	1935
Moran	b	8,621	6,896	1940
	1	8,621	6,896	
Nurses Dorm	1	12,377	7,180	1950
	2	12,377	7,180	
	3	12,377	7,180	
Reece	1	7,761	3,783	1913
	2	7,761	3,783	
Saunders	b	3,460	2,700	1939
	1	7,312	4,892	
	2	7,312	4,892	
Scroggs	1	6,292	3,714	1896
	2	6,292	3,714	
	3	6,292	3,714	
	4	2,215	969	
South	b	5,830	4,664	1906
	1	5,830	4,664	
Steam Plant	1	9,309	7,231	1939
TOTAL		658,203	398,653	

North Carolina School for the Deaf Campus Building Survey

Note: Building areas provided by NCSD and are not field verified

MAIN BUILDING (CONTRIBUTING)

86,167	52,259	1894
gross	net	built

SPRINKLERS

Similar to Goodwin. 4 story, load bearing masonry walls, interior columns, classroom subdivisions. Could be adapted to residential, corridors 7'-8', not as wide as Avery, better efficiency. Large Auditorium in central wing that would need to be preserved.

HOEY BUILDING (CONTRIBUTING)

22,620	14,150	1939
gross	net	built

SPRINKLERS

3 story, load bearing exterior masonry walls, interior columns, classroom subdivisions. No major impediments outside of typical historical guidelines to repurposing as residential, generous large windows.

OLD GYM AND POOL (CONTRIBUTING)

11,692	10,800	1924
--------	--------	------

NO SPRINKLERS

3 story, load bearing exterior masonry walls, some subdivision for offices on floors 0 and 1, large room w/ existing pool. Plans in works to renovate into Therapy Rooms and support offices. Could be somewhat problematic renovating into all residential due to large pool room (should not subdivide in tax credit scenario).

RONDTALER HALL (CONTRIBUTING)

12,765	11,165	1928
gross	net	built

NO SPRINKLERS

3 story, load bearing exterior masonry walls, interior column structure, non-bearing block partitions. Subdivided into large classrooms and support rooms. Would adapt well to residential, large windows. Cast concrete floor system could be problematic w/ introduction of apartments.

SERVICE BUILDING (LAUNDRY) (CONTRIBUTING)

27,054	24,699	1916
gross	net	built

NO SPRINKLERS

1 story (2-3-story wings on ends), load bearing exterior masonry walls, interior column and load bearing wall structure, some large open span rooms. Array of distinct structural bays (Laundry, IT, offices, boilers) and large mechanical attics. Could be repurposed into residential, flats and townhomes.

CATTLE BARN (CONTRIBUTING)

10,296	9,128	1940
gross	net	built

NO SPRINKLERS

Large gambrel roofed barn, 2 stories (basement typical ht, barn story 25-30' high). No plans, appears to be a mixture of masonry and wood structure with regular window openings on first level. Wood structure appears to be intact, some siding replacement needed. Roof overdue for replacement.

Infirmery (ContributinG)

7,230	3,813	1969
gross	net	built

NO SPRINKLERS

No Plans, 2 stories w/ partial basement. Load bearing exterior masonry walls with mixture of load bearing interior walls and columns. Currently Audiology labs and offices, small to medium sized rooms off a central corridor. Would adapt well to residential or wellness center. Generous windows, but piecemeal floorplan may impact efficiency of residential due to lack of repetition.

JOINER HALL (CONTRIBUTING)

20,873	11,648	1930
gross	net	built

NO SPRINKLERS

3 story, no plans. Likely load bearing masonry walls, interior columns, classroom subdivisions. Large generous windows, would adapt well to residential use. Some exterior envelope damage due to water infiltration, will require some wall and window repair/replacement.

GOODWIN HALL (CONTRIBUTING)

41,237	27,731	1911
gross	net	built

NO SPRINKLERS

3 story, Load bearing exterior masonry walls with interior load bearing walls and columns. Apartment and large multi-bed dormitory rooms, support spaces, would adapt well to residential use.

RUSMISSELL HOUSE (CONTRIBUTING)

7,495	7,227	1880
gross	net	built

No plans, unable to get inside, large residential house. Appears to be in good shape from outside inspection. Likely could preserve residential use w/ subdivision, or adaptable into wellness program.

STAFF HOUSE (CONTRIBUTING)

STORAGE 1 (CONTRIBUTING)

Storage 2 (ContributinG)

These small contributing buildings (south of Barn Road) are in poor shape and are likely beyond the point of successful rehabilitation.

NON-CONTRIBUTING BUILDINGS:

JOINER WAREHOUSE

4,469	4,034	1961
gross	net	built

No plans, 2 story. Likely load bearing masonry walls, interior columns. No windows.

MCCORD BUILDING

16,654	13,904	1967
gross	net	built

No Plans, Likely load bearing exterior masonry walls with mixture of load bearing interior walls and columns. No window openings, 300 spectators.

CHAPEL

7,238	5,235	1974
gross	net	built

Load bearing exterior masonry walls with interior open span glulam beam structure and support spaces.
Seating for 200.

UNDERHILL GYM

22,821	18,402	1953
gross	net	built

2 story, no plans. Likely load bearing exterior masonry walls with mixture of load bearing interior walls and columns, with large free-span gymnasium area.
400 spectators

NORTHCOTT HALL

16,766	12,756	1973
gross	net	built

NO SPRINKLERS

2 story, no plans. Load bearing exterior masonry walls with mixture of load bearing interior walls and columns. Relatively few window openings, garage bay doors opening to south.

CRUTCHFIELD HALL

13,766	8,991	1971
gross	net	built

Open floor plan with interior columns, some smaller perimeter rooms. 1 story masonry, windowless

HOFFMEYER HALL

38,780	26,584	1959
gross	net	built

3 story residence hall. Load bearing exterior masonry walls, interior column structure. Subdivided into dorm rooms support rooms.

STRUCTURAL ASSESSMENT



Structural Narrative

Overview

Construction of the Broughton Hospital complex spanned several decades, and a multitude of buildings comprise those targeted for reuse. Accordingly, there is variation in framing techniques and materials used to construct the buildings. The key, contributing buildings to the Broughton Campus, however, are similar in composition.

Because of the number of buildings present, only general recommendations and observations can be made. Uniformly, all reuse of the current buildings must conform to the *2015 North Carolina Existing Building Code*, which extensively references the *2012 North Carolina State Building Code*. The *Existing Building Code* establishes tiers for addition, alteration, or change in use based on the magnitude of changes contemplated. The tier that a building is grouped into determine the level of conformity that the existing structure must achieve with the current building code. Where changes are extensive, the buildings' structures will need to meet all requirements of current codes. Conversely, where changes are minimal, all that may be required are repairs to damaged members.

Existing Construction

The majority of structures present on site that are slated for reuse were originally constructed with masonry bearing walls and wood floors. During the middle years of the Twentieth Century, the wood framing was largely replaced by concrete floors. The concrete was cast on metal lathe over open webbed, steel bar joists. It is unclear why this change was made. It is possible that the wood framing deflected downward in the five decades from the time of construction to the time of the reframing, and the wood was replaced for serviceability concerns. The State of North Carolina also adopted its first building code contemporaneously with the switch from wood to steel, and the change may have been an effort to house the hospitals' clients in, modern, non-combustible construction that met the newly adopted building code.

Suitability of Gravity Load Resisting Systems

Regardless of the rationale for the change in framing, the concrete and bar joist floors represent a relatively modern method of floor framing. While most areas are covered by finish materials, where it is possible to observe the floor system, the properties of the floors are determinable, and it's apparent that the structure was designed to accommodate those loads found in the first edition of the North Carolina Statewide Building Code. The visible portions of structure display few signs of distress or deterioration.

Building codes have advanced in the intervening years, but the gravity loads have remained largely consistent. Except for proposed areas of unusually heavy loading, it is likely that the existing steel and concrete floors are sufficiently robust to accommodate new uses.

Portions of the earliest buildings also contain some remnants of wood framing. Where extensive renovations are anticipated within a building, the wood framing will need to come into compliance with current building codes. Extensive investigations will be required to determine the framing geometry, the connection details, and appropriate material values for the woods used in the buildings. Portions of deficient framing will require augmentation.

Suitability of Lateral Load Resisting Systems

Where building codes have evolved most significantly is in the area of lateral force resistance. Lateral forces are generally generated from either wind loads or seismic events. As recently as 1991 when the State transitioned from the *1976 North Carolina State Building Code*, lateral loads were given only cursory attention in North Carolina.

Currently the buildings rely upon plain, meaning unreinforced, masonry shear walls. These shear walls have adequately resisted lateral loads to present. However, pending a site specific geotechnical investigation, these walls may not be a permissible lateral force resisting system under the current building code.

The masonry shear walls are also spaced very closely together. In Avery Building for example, the walls occur between each client room. The frequency of these walls would tend to make space difficult to allocate within the buildings, and removal of some of the walls should be anticipated.

Where alterations to the buildings are planned or where walls will be removed, the entire lateral system will need to be examined and brought up to current building codes. Although to date the shear walls have successfully served these buildings, it is unlikely that the walls could resist the forces prescribed by modern design codes.

New shear walls or braced frames may be inserted into the buildings' framing systems to accommodate the code loads. Allowance for new micro-piles foundations should be made below the new lateral force resisting elements. Micro piles should be anticipated because any new foundations must be unyielding, since the surrounding building is unlikely to settle further.

Summary

Although new lateral force resisting systems are anticipated, this is not an unusual occurrence where existing buildings are renovated. Each of the buildings will require extensive structural investigation and analysis, should the project advance. However, no condition observed to date would preclude the reuse of the buildings on the Broughton site.

MEP ASSESSMENT



Broughton Hospital - PME Site Investigation

Site Visit: Monday, October 19, 2015
Mechanical: Brett Mabe, P.E.
Electrical: Rick Copeland, P.E.
Plumbing: Danny Brush, P.E.

General Campus Findings:

- Mechanical: The central steam plant serves the majority of the buildings on the Broughton Campus. Steam lines extend out from the plant through a network of tunnels to the buildings. Tunnel routing is well represented in the Fire Protection Waterline Project drawing set from 1984. There are three main chiller plants on campus. The first chiller plant is located between the steam plant and the Jones Building and it is dedicated to the Jones Building. The second is located at the North end of the Avery Building and it is dedicated to the Avery Building. The first two chiller plants have interconnecting piping in the tunnel between Avery and Jones which allows them to switch over if needed. The third chiller plant is located at the rear of F-2 Dining and it serves F-2 Dining, Thomas, Scroggs and Harper Buildings. Several buildings have stand alone systems that will be discussed under each building description.
- Plumbing: Buildings on Broughton Campus have similar plumbing systems throughout. Most systems are dated, including fixtures. Domestic cold water is distributed throughout the campus below grade and separate from the fire service. Domestic water pressure appears to be ample. 83 psi was displayed on a gage at the cooling tower adjacent to Saunders. Also, Jones, the tallest building on campus, does not have any pressure boosting system, indicating sufficient pressure to serve the highest fixtures. All buildings receive independent domestic cold water service, but not all buildings are currently served by a backflow preventor. Those that are have not been regularly tested and serviced. Domestic hot water is centrally produced at the steam plant and distributed to all buildings via the campus tunnel system. Sanitary waste serves all buildings separately and no grease interception exists. Fixtures generally are institutional or health care type fixtures with flush valves and manual faucets. Many of the fixtures would not meet today's ADA requirements. Piping that was accessible to observe was copper for water service and cast iron for sanitary waste. Insulation types varied, likely dependant on era of installation.

Power House Building Findings:

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- Mechanical: This building houses the steam boilers for the campus. There are four dual fuel, water tube boilers. The primary fuel source is natural gas and the secondary fuel source is #2 fuel oil. There are two existing fuel storage tanks with plans for a third. Two of the boilers were manufactured in 1950 and two were manufactured in 1953. One of the boilers is no longer in operation. Facilities personnel stated that one boiler could carry the campus unless outdoor conditions were extremely cold. Steam and condensate piping are aging and condensate piping has significant leaks.
- Electrical: This building is served by a 225 kVA, 480 V, PMT. There is an existing 800 amp service. A portion of this building is backed up by an optional standby Generator. The Generator is a Cummings, 275 kW, 480V unit that has a 400 amp output breaker. We understand that the state maintains the generator and ATS well and would assume these components would be fine for reuse. The existing main electrical panel and interior meter are relatively new and could easily be reused in the future. Most of the downstream equipment is old and we would likely recommend it be replaced- depending on the future use.
- Plumbing: This building is served by domestic cold water for steam makeup and domestic hot water production. The domestic hot water is produced via two steam powered hot water generators. Two end suction pipes serve the hot water system. The pumps and hot water generators appear to be advanced in age and likely at the end of their expected service life. Fixtures observed included floor drains, sinks, and water coolers.

Chiller Building (Jones) Findings:

- Mechanical: This building houses a single, water-cooled chiller manufactured by Carrier in 2013. The chiller has screw compressors, R-134a refrigerant and has a nominal capacity of 265 tons. Chilled water is distributed to the building in a primary/secondary pumping scheme with lead/lag pumps for each loop. Condenser water pumps are also lead/lag. All pumps were manufactured in 1999. The cooling tower for the chiller is located on a ground mounted pad at the rear of the Saunders building. The cooler tower is a crossflow, two-cell open tower manufactured by Marley in 1999. The tower has a nominal capacity of 600 tons. It appears that the tower was sized for a possible addition of a second chiller. There are also piping connections and space for a second chiller and pumps in the chiller building. All equipment appears to be in good working order.
- Electrical: This building is served by a 1000 kVA, 480 V, PMT. Meter number 077551417. There is an existing 1200 amp service panel, a 75 kva step-down transformer, a 500 amp motor control center, and 2-225A distribution panels. The existing electrical equipment is relatively new and could easily be reused in the future- depending on the future use. The

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cooling tower has a 600 amp, 480 V, electrical service. We assume this is fed underground from one of the nearby PMTs- possibly shared with the Power House.

- Plumbing: Domestic water in this building serves makeup to the chilled water system. The building is served by an RPZ type backflow preventor. A pressure gage on the incoming domestic water displayed 55 psi. There are a number of domestic water drops to below slab that appear to prime the traps of various floor drains in the space. Fixtures observed include a service sink and floor drains.

Chiller Building (Avery) Findings:

- Mechanical: This building houses two, water-cooled chillers manufactured by Carrier. The first chiller was manufactured in 2002 and has centrifugal compressors, R-11 refrigerant and a nominal capacity of 454 tons. The second chiller was manufactured in 1983 and has centrifugal compressors, R-11 refrigerant and a nominal capacity of 250 tons. Chilled water is distributed to the building in a primary only pumping scheme. Condenser water pumps are dedicated to each chiller. Each chiller has it's own dedicated cooling tower located on the roof of the building. The first tower was manufactured by Baltimore Aircoil Company in 1989 and serves the 2002 chiller. The second tower was manufactured by Marley in 1983 and serves the 1983 chiller. Most equipment is well into or beyond it's normal service life with the possible exception of the 2002 chiller.
- Electrical: The Avery Chiller appears to be served by the nearby 1000 kVA, 480 V, PMT. Meter number 077551420. There is an existing 1200 amp, 480 V electrical service. The existing electrical equipment is old.
- Plumbing: Domestic water in this area serves makeup to the chilled water system.

Chiller Building (F-2 Dining) Findings:

- Mechanical: This building houses a single, water-cooled chiller manufactured by Carrier in 1973. The chiller has centrifugal compressors, R-11 refrigerant and has a nominal capacity of 250 tons. Chilled water is distributed to the building in a primary only pumping scheme. The cooling tower for the chiller is located on the roof of the chiller building. The cooler tower is a crossflow, single-cell, open tower manufactured by Evapco in 2002. The tower has a nominal capacity of 256 tons. The tower is in good shape but all other equipment is well beyond its service life.
- Electrical: There is a chiller plant near the building that has its own 600 amp, 480V service. We assume this is fed underground from one of the nearby PMTs.
- Plumbing: Domestic water in this area serves makeup to the chilled water system.

Avery Building Findings:

- Mechanical: The Avery Building appears to have undergone a major mechanical renovation in 1989. The building is served by air handling units located in mechanical rooms on each floor. The units have ducted supply and return air. The units have chilled water and hot water coils. All units are provided with ventilation air. There are steam to hot-water converters located throughout the building along with chilled and hot water pumps. Facilities noted that they have significant moisture issues in the basement areas and several dehumidifiers were present in the unoccupied portions. Most systems appear to be in good working order.
- Electrical: The Avery Building has 3 electrical services: South, Central, and North electrical services as well as a separate service for the Avery Chiller. There is an existing Edwards fire alarm system in the building. The system is very old and fire alarm in the building does not meet today's code. We would recommend replacing the system.
The South electrical service is served by a 300 kVA, 480 V, PMT. Meter number 077551414. There is an existing 1000 amp service, and ATS, and a 400 kva and a 150 kva step-down transformers. A portion of this building is backed up by a Generator. The Generator is a Cummings, 600 kW, 480V unit. We understand that the state maintains the generator and ATS well and would assume these components would be fine for reuse. The existing electrical equipment is old and we would likely recommend it be replaced- depending on the future use.
The Central electrical service seemed to be fed from the South electrical service, though Bruce said it was a separate service. Further investigation would be required to be sure either way.
The North electrical service is served by a 300 kVA, 208 V, PMT. There is an existing 1000 amp service, and ATS, and a 300 amp disconnect for the generator. A portion of this building is backed up by a Generator. The Generator is a Kohler, 80 kW, 208V unit. We understand that the state maintains the generator and ATS well and would assume these components would be fine for reuse. The existing main electrical equipment is relatively new and could easily be reused in the future.
- Plumbing: Plumbing fixtures were generally in fair condition, in occupied spaces, and varied from fair to poor in unoccupied areas. Fixtures included typical bathroom and break room type fixtures with tamper proof trim; flush valve water closets, urinals, lavatories, floor drains, sinks, and water coolers.

Employee Cafeteria Building Findings:

- Mechanical: We did not survey this building. We assume that it is conditioned similar to the Avery Building.

- Electrical: We did not survey inside the Employee Cafeteria building but assume that the building is fed (electrically) from the Avery Building. We assume from Avery Central.
- Plumbing: We did not survey this building. Facilities personnel stated that there is no grease interception serving the commercial kitchens.

Commissary/Marsh Building Findings:

- Mechanical: The Marsh Building is served by a multi-zone air handling unit with steam and chilled water coils. The unit is not in operation and is in poor shape.
- Electrical: There is an existing 225 amp service panel and a 75 kva step-down transformer. The existing main electrical equipment is relatively new and could easily be reused in the future- depending on the future use.
- Plumbing: The Marsh Building was not in service during the MEP walkthrough. Plumbing fixtures were generally in poor condition. Fixtures included typical bathroom and break room type fixtures, as well as group showers to suggest a locker room function at some time; flush valve water closets, urinals, lavatories, group showers, floor drains, sinks, and water coolers.

Bates Building Findings:

- Mechanical: This building has steam heat and chilled water cooling. Steam is provided from the central plant and chilled water is provided by a stand-alone, air-cooled, chiller. The chiller was manufactured by Trane in 1998 and has screw compressors, R-22 refrigerant and a nominal capacity of 80 tons. Multi-zone air handling units are located on each floor in mechanical rooms. There is an individual split-system unit for one portion of the building. The unit was manufactured by Trane in 2006 and has a nominal capacity of 10 tons.
- Electrical: The Bates Building has 2 electrical services: one is located in the center and one to the north: we will call these Bates Central and Bates North for purposes of this report. The building has 2 existing Pyrotronics fire alarm control panels. These are old, conventional systems that we would like recommend replacing. It is possible that they could be reused. Pyrotronics was bought out by Siemens in the late 90's.
The Central electrical service is comprised of an existing 350 amp disconnect, a 112.5 kva step-down transformer, a 400 amp normal panel, a 400 amp ATS, and a 400 amp emergency panel. It is likely that this "service" is fed from the north electrical service. The main electrical equipment is relatively new and could easily be reused in the future- depending on the future use.
The North electrical service is served by a 300 kVA, 480 V, PMT. Meter number 077551416. There is an existing 600 amp service panel, 400 amp disconnect, a 112.5 kva

- step-down transformer, a 400 amp ATS, and a 400 amp emergency panel. A portion of this service appears to be backed up by a Generator. The Generator is a Cummings, 230 kW, 480V unit. We understand that the state maintains the generator and ATS well and would assume these components would be fine for reuse. The main electrical equipment is old and we would likely recommend replacement. Some of the gear in the main electrical room is relatively new and could easily be reused in the future- depending on the future use. Again, it is likely that the North electrical service feeds the Central electrical "service" but further investigation would be required.
- Plumbing: Plumbing fixtures were generally in fair condition. Fixtures included typical bathroom and break room type fixtures; flush valve water closets, urinals, lavatories, floor drains, sinks, and water coolers.

Reece Building Findings:

- Mechanical: We did not survey this building. The building has steam radiators and no central cooling. Window mounted air conditioning units are used for cooling.
- Electrical: We did not survey inside the Reece building but were told by Bruce that the Reece building is fed (electrically) from the Avery Building. We assume from Avery South.
- Plumbing: We did not survey this building.

Harper Building Findings:

- Mechanical: This building is served by multi-zone air handling units with steam and chilled water coils. Units are located in mechanical rooms on each floor. Units are provided with ventilation air.
- Electrical: This building is served by a 500 kVA, 480 V, PMT. Meter number 077551384. There is an existing 400 amp disconnect, a 112.5 kva step-down transformer, a 400 amp ATS, and a 400 amp emergency panel. The service appears to be backed up by a Generator. The Generator is a Cat, 335 kW, 480V unit. We understand that the state maintains the generator and ATS well and would assume these components would be fine for reuse. The main electrical equipment is old and we would likely recommend replacement.
The building has an existing Pyrotronics fire alarm control panel. This is an old, conventional systems that we would like recommend replacing. It is possible that it could be reused. Pyrotronics was bought out by Siemens in the late 90's.
- Plumbing: Plumbing fixtures were generally in fair condition. Fixtures included typical bathroom and break room type fixtures with tamper proof trim as well as healthcare type fixtures; flush valve water closets, urinals, lavatories, floor drains, sinks, water coolers, bath/shower systems, etc.

Scroggs Building Findings:

- Mechanical: This building is served by multi-zone air handling units with steam and chilled water coils. Units are located in a central penthouse. Units are provided with ventilation air.
- Electrical: This building is served by a 75 kVA, 208 V, PMT. Meter number 077551418. There is an existing 600 amp service. The building has an existing Pyrotronics fire alarm control panel. This is an old, conventional systems that we would like recommend replacing. It is possible that it could be reused. Pyrotronics was bought out by Siemens in the late 90's.
- Plumbing: Plumbing fixtures were generally in fair condition. Fixtures included typical bathroom and break room type fixtures with tamper proof trim as well as healthcare type fixtures; flush valve water closets, urinals, lavatories, floor drains, sinks, water coolers, bath/shower systems, etc.

Jones Building Findings:

- Mechanical: This building is served by multi-zone air handling units with steam and chilled water coils. Units are located in mechanical rooms on each floor. Units are provided with ventilation air. Units utilize a return air plenum.
- Electrical: This building is served by a 500 kVA, 208 V, PMT. Meter number 077551422. There is an existing 2000 amp service main panel, a 1200 amp panel, a 600 amp ATS (delayed transfer), and a 400 amp ATS (emergency). The existing 1200 amp panel and ATSs are relatively new and could easily be reused in the future- depending on the future use. The 2000 amp panel is old and we would recommend replacement. There is an existing Caterpillar generator (225 kva?) that backs up portions of this building. The generator could also be reused. The building has an existing Simplex 4100 fire alarm control panel. This is an old, conventional systems that we would like recommend replacing. It is possible that it could be reused. The fire alarm system is proprietary.
- Plumbing: Jones, the tallest building on campus, does not have any active pressure boosting system, indicating sufficient pressure to serve the highest fixtures. The lowest level of Jones housed legacy pressure tanks and pumps for both domestic cold water and hot water systems. The tanks and pumps were no longer in service. In the same area, there is access to utility tunnels used for the domestic hot water system distribution. Plumbing fixtures were generally in fair condition. Fixtures included typical bathroom and break room type fixtures with tamper proof trim as well as healthcare and laboratory type fixtures; flush valve water closets, urinals, lavatories, floor drains, sinks, water coolers, stainless steel lab sinks, bath/shower systems, etc.

Hooper Building Findings:

- Mechanical: This building has steam heat but no central air conditioning system. Steam unit heaters are used for the storage areas. The kitchen is served by ventilation units with steam heat located in a penthouse. Individual split-system units are used to condition several office spaces.
- Electrical: This building is served by a 500 kVA, 208 V, PMT. Meter number 077551385. There is an existing 2500 amp service, an ASCO 7000 ATS, and a 1200 amp distribution section. This building is at least partially backed up by a generator. The enclosure was locked and we were unable to get an additional information on the generator. We understand that the state maintains the generator and ATS well and would assume these components would be fine for reuse. The main electrical panels are relatively new and could easily be reused in the future- depending on the future use. The building has an existing Simplex fire alarm control panel. This is an old, conventional systems that we would like recommend replacing. The fire alarm system is proprietary.
- Plumbing: Hooper houses the main kitchens on campus, and as such, has many commercial kitchen grade plumbing fixtures. All fixtures in use appear to be in good condition. Fixtures included typical bathroom and break room type fixtures as well as commercial kitchen type fixtures; flush valve water closets, urinals, lavatories, floor drains, floor sinks, sinks, water coolers, stainless steel stand alone work surfaces with integral kitchen sinks, three bowl sink, pre-rinse sprayer, commercial grade dish machines (both conveyor and hood type), bath/shower systems, etc.

Laundry Building Findings:

- Mechanical: This building has steam heat but no central air conditioning system. Steam unit heaters are used throughout. The building has it's own natural gas service.
- Electrical: This building is served by a 225 kVA, 208 V, PMT. There is an existing 800 amp service. Meter number 077551413. The existing electrical equipment is old and we would likely recommend replacing it. The building has an existing Simplex 4010 fire alarm control panel and 2080-9024 booster panel that could be reused. The fire alarm system is proprietary.
- Plumbing: The laundry building has significant plumbing systems serving the commercial washers. The laundry has a steam to hot water generator. There appears to be a preheat system utilizing waste heat from the laundry process. This preheats water fed into the hot water generator. Fixtures included typical bathroom and break room type fixtures as well as commercial laundry fixtures; flush valve water closets, urinals, lavatories, floor drains, service sinks, water coolers.

Gym Building Findings:

- Mechanical: This building has steam heat but no central air conditioning system. Steam is provided through a stand-alone, steam boiler located in the basement. The steam boiler was manufactured by Peerless Boiler in 2011. The gym is served by steam unit heaters and ventilation fans. The classroom area are served by steam radiators.
- Electrical: This building is served by a 75 kVA, 208 V, PMT. Meter number 077551386. There is an existing 600 amp service that is old and we would likely recommend replacement.
- Plumbing: The domestic water service is protected by an RPZ type backflow preventor. Make-up water is provided to a dedicated boiler, including water conditioning. Plumbing fixtures were generally in poor to fair condition. Existing showers were not observable, as they have been blocked off to avoid patient use/tampering. Fixtures included typical bathroom and break room type fixtures with tamper proof trim; flush valve water closets, urinals, lavatories, floor drains, sinks, water coolers, bath/shower systems, etc.

PME Systems Matrix:

Building	Electrical Service	Fire Alarm Panel	Plumbing Systems	HVAC Systems
Power House	O	X	X	X
Chiller Building (Avery)	O	N/A	O	O
Chiller Building (F-2)	O	N/A	X	X
Avery	O	X	O	O
Employee Cafeteria	N/A	N/A	N/A	X
Marsh	O	X	X	X
Bates	O	O	O	O

Reece	N/A	N/A	N/A	X
Harper	X	O	O	X
Scroggs	O	O	O	X
Jones	O	O	O	O
Hooper	Y	O	Y	X
Laundry	X	O	O	X
Gym	X	X	O	O

X - System needs to be replaced

* For Electrical this means everything except the underground feeder into the building, the PMT, and Generator if applicable. For Fire alarm this means all equipment would need to be replaced.

O - Potential reuse of some system components is possible

* For Electrical this means some of the main distribution equipment and underground feeder into the building, the PMT, and Generator (if applicable) can be reused. All wiring devices and fixtures would be replaced. For Fire alarm this means the main panel could be reused (more information in write up) but likely all notification and SLC devices would need to be replaced.

Y - System easily adapted for reuse

* For Electrical this means all distribution equipment and underground feeder into the building, the PMT, and Generator (if applicable) can be reused. Some/All wiring devices and fixtures could be reused.

CIVIL ASSESSMENT



Civil Narrative

Historic Broughton Campus (Residential School)

The existing buildings to be rehabilitated in the Broughton Area are serviced by an existing 8-inch water main that provides fire protection and potable water. The existing building water supply will be used to provide potable water and the existing hydrants will provide fire projection.

The Broughton Area is serviced by an existing sanitary sewer network that outlets into the City of Morganton main located in S. Sterling Street. The existing sewer system will be utilized to provide sewer service to the rehabilitated buildings.

The existing stormwater infrastructure will be used or modified as necessary to collect stormwater and direct it away from roads and buildings. The site will be required to meet NPDES Phase II requirements and the City of Morganton Code of Ordinances in place at the time of development.

All existing roadways within the Broughton Area to be milled and overlaid with 1.5-inches of asphalt. The proposed road connecting the Broughton Area to W Fleming Drive is to be designed and constructed per AASHTO and NCDOT specifications.

Southeast Site (Hotel)

New and existing buildings in the County Services area will be serviced by a new water main that will connect to the existing main in College Drive. Both domestic and fire services will be provided off of the new main. The existing fire hydrants along College Drive will be used for fire protection as well as new hydrants as necessary.

Sanitary Sewer service will be provided by extending the existing City of Morganton Sewer main located in Enola Road with a new 8-inch sewer main through the County Services Area.

There is some existing stormwater infrastructure located in the County Services Area but it is not adequate enough for the new development. The stormwater system will need to be upgraded and expanded to accommodate the development. The site will be required to meet NPDES Phase II requirements and the City of Morganton Code of Ordinances in place at the time of development.

The existing College Drive needs to be widened to accommodate two-way traffic. Proposed roads are to be designed and constructed to meet AASHTO and NCDOT specifications.

Northwest Site (Senior Living)

Water for the new Senior Living area is to be provided by extending the existing 12-inch that enters the site from W Fleming Dr. The City of Morganton does not have installation information on file and this line may need to be replaced after further investigations. The new waterline will extend through the Senior Living area to provide potable water and fire protection services.

The existing City of Morganton sewer main that is located adjacent to the stream is to be extended northward through the Senior Services area with a new 8-inch sewer main. The new buildings will be provided sewer service through the new main.

New stormwater infrastructure will be provided to collect runoff from the new impervious areas and directed to the existing creek. The site will be required to meet NPDES Phase II requirements and the City of Morganton Code of Ordinances in place at the time of development.

The existing drive off of W Fleming St. will need to be widened to accommodate two-way traffic and turn lanes. All new roads within the Senior Living Area will be designed and constructed to meet AASHTO and NCDOT specifications.



MEMORANDUM

DATE: 3/30/16

FROM: Michael Batts, Stewart
Brett Mabe, Crenshaw
Kyle Ramsey, CT Wilson
Eddie Belk, Belk Architecture

TO: Peter Cvelich, DFI

PROJECT: Broughton Master Plan

SUBJECT: Operating Expenses Clarification

1. Operating expenses of the historic Broughton campus as a mothballed, vacant campus

- Mothballing assumptions
 - Existing utility systems to remain moderately operational to provide ventilation and minor conditioning of interior space
 - All existing buildings would remain
- Utility Operating Costs
 - **\$0.33/SF per year to carry vacant buildings**
 - data provided by the NC Department of Energy Building Data Book
 - Chapter 3 - Chart shows the energy intensity average (EIA) by building activity.
 - The average for Education / Lodging / Office would be close to 92 kBtu/sf and the average for vacant is 21 kBtu/sf.
 - This leads us to using 21/92 or 23% of the current energy usage for a "mothballed" number.
 - utilities included in operating costs
 - gas
 - electric
 - water
- Repairs/Maintenance Operating Costs
 - \$0.12/SF which is 20% of operating costs for an operational school
 - Data provided by AS&U's 38th Annual Maintenance & Operations Cost Study for Schools

2. Post-rehab operating expenses of the historic Broughton campus as a boarding school

- Utility Operating Costs
 - **\$1.51/SF per year**
 - data provided by the NC Department of Energy Building Data Book
 - Chapter 3 - Table 3.3.10 - pg 131 - Chart breaks down energy expenditures by building vintage. May be good to estimate percentage changes from remodel / new.
 - A 5% additional cost was added due to the existing older building's inefficiencies in air-tightness

- utilities included in operating costs
 - gas
 - electric
 - water

- Repairs/Maintenance Operating Costs
 - **\$0.57/SF per year**
 - Data provided by AS&U's 38th Annual Maintenance & Operations Cost Study for Schools

3. New construction operating expenses of a boarding school

- Utility Operating Costs
 - **\$1.43/SF per year**
 - data provided by the NC Department of Energy Building Data Book
 - Chapter 3 - Table 3.3.9 - pg 131 - Chart shows average energy expenditures per building type in dollars/sf
- utilities included in operating costs
 - gas
 - electric
 - water
- Repairs/Maintenance Operating Costs
 - **\$0.57/SF per year**
 - Data provided by AS&U's 38th Annual Maintenance & Operations Cost Study for Schools



5

*BROUGHTON HOSPITAL
HISTORY*

HOSPITAL HISTORY

North Carolina opened its first asylum, in Raleigh, in 1856.¹ That first asylum, which had been proposed by Governor John Motley Morehead in 1842, was not realized until Dorothea Dix appealed to state legislators in 1848, following 10 weeks observing the conditions of the mentally ill around the state.²

The Raleigh facility was soon overcrowded, and legislators voted in 1875 to construct a new asylum—the Western North Carolina Insane Asylum—to serve the western part of the state.³ Though the cities of Statesville, Hickory, Asheville, and Morganton all tried to secure the facility, it was Morganton’s offer of sufficient money and as much land as might be required that swayed the joint committee of the General Assembly into locating the asylum in Morganton.⁴

The main building, now known as Avery Building, was designed by Samuel Sloan. Sloan was an architect of national prominence who, in addition to several asylums around the country, designed the North Carolina executive mansion and the University of North Carolina at Chapel Hill’s Memorial Hall. Sloan was personally recommended for the job by Thomas Kirkbride,⁵ a pioneer in the design of psychiatric facilities.

Kirkbride designed asylums to facilitate such therapeutic treatment, and his plans valued both siting and layout. His asylums were to be grand buildings in beautiful areas. He favored building in rural, instead of urban, areas to give patients access to better airflow and cleaner air than they would have in congested cities. A rural setting, he believed, could also positively influence the spiritual and physical health of patients: siting an asylum atop a hill would encourage exercise and exertion.⁶ All this counteracted the pressure inherent in urban living, which he and many other doctors saw as a cause of mental illness.

“Kirkbrides,” as hospitals designed by Thomas Kirkbride have come to be called—and of which the Avery Building is one—had a linear layout. They featured a central building, often of five stories, with two wings, often of three stories each. The wings, laid out with double-loaded corridors, cascaded back from the center. The wards—each ward was one floor of a wing—were short to allow for ventilation, and also to allow the division of patients by degree of insanity. In addition, the loudest patients could be placed furthest from the central area. Men’s and women’s wards were typically in opposing wings.⁷ One benefit of the layout was its ability to expand indefinitely; wings could be added to the facility without interfering with the daily management of the hospital.⁸ Though the Kirkbride plan called for no more than 250 patients, many hospitals quickly grew beyond this number. Central to Kirkbride’s design was the belief that insanity was often a temporary affliction cured in part by predictable routines and kind caregivers.⁹

Kirkbride’s influence on Sloan’s design is evident in the Avery Building, with its five-floor central area flanked by cascading, three-story wings. The main wing was finished in late 1882 and patients were admitted by the end of March 1883. The admittance of more than 250 patients between 1883 and

1885—most sent from Raleigh to relieve overcrowding there—soon overwhelmed the new building, and construction of an additional wing, to house another 150 patients, was completed in October 1886. It was designed by AG Bauer, a former assistant of Sloan’s, who also went on to design the nearby School for the Deaf. The asylum officially became a hospital in 1890, and in 1959 was renamed for former governor Melville Broughton.¹⁰

Dr. Patrick Murphy, asylum superintendent for the institution’s first 25 years,¹¹ strongly believed that work and exercise were effective forms of therapy for patients,¹² even as they beliefs lost broader appeal in the medical community and hospitals shifted to more custodial roles, often permanently housing large numbers of patients.¹³ In Morganton, though, Murphy put patients to work: by 1886, 70 percent of patients worked on the grounds.¹⁴ Females, who Murphy believed were not safe outdoors, cooked, cleaned, did laundry, and made clothing, mattresses, curtains, and other items for the hospital.¹⁵ Males, owing to their largely agricultural backgrounds, worked on the farm and on the grounds. Those few with mechanical skills worked in shops on the site.¹⁶

In addition to the farm and shops that grew out of Murphy’s emphasis on patient labor, several other elements of the hospital’s current footprint are a result in changing views of patient care. As the patient population surged around the turn of the 20th century, Murphy believed that the continued growth of the main building would fail to effectively serve patients and staff. As a result, Murphy called for a “colony farm” of detached buildings away from the main building, which would provide house-like accommodations for patients that needed to be institutionalized but did not need medical care or close supervision. The idea had been used in Europe and elsewhere in the United States.¹⁷

Murphy envisioned patients keeping house, cultivating their own gardens, and relaxing. This would hasten their recuperation as well as ease the strain on the main hospital building. The first colony building was completed in 1903.¹⁸ Ultimately, there were three colony groups, with a total of 10 buildings and 350 patients. Several colony-era buildings and barns exist south of the main hospital campus, on what is now the property of Western Piedmont Community College. Due to a more rigid shift in focus from custodial care to intensive treatment, the colony system was abandoned fully by 1950.¹⁹

Around the turn of the century, as the colony buildings grew to the south, the main campus expanded, as well. Many buildings from this time still stand, such as Harper, South, Reece, and F2 Dining. Several

¹⁰. National Register, “Broughton Hospital: Main Building.”

¹¹. Avery, “Broughton: New Ideas in Treating Mentally Ill.”

¹². Getz, “A Strong Man of Large Human Sympathy,” 46.

¹³. Getz, “A Strong Man of Large Human Sympathy,” 35.

¹⁴. Report of the Board of Directors of the Western North Carolina Insane Asylum at Morganton (From December 1, 1884 to November 30, 1886), 1887, Lynne Getz’s Broughton Hospital Student Project, Appalachian State University Belk Library.

¹⁵. Ibid., 46.

¹⁶. Report of the Board of Directors of the Western North Carolina Insane Asylum at Morganton (From December 1, 1884 to November 30, 1886), 1889, Lynne Getz’s Broughton Hospital Student Project, Appalachian State University Belk Library.

¹⁷. Ibid.

¹⁸. Ibid.

¹⁹. Avery, “Broughton: New Ideas in Treating Mentally Ill.”

¹. Getz, “A Strong Man of Large Human Sympathy,” 32.

². National Register, “Broughton Hospital: Main Building.”

³. Getz, “A Strong Man of Large Human Sympathy,” 32.

⁴. CK Avery, “Broughton: New Ideas in Treating Mentally Ill,” *News Herald* (Morganton, NC), May 1964.

⁵. National Register, “Broughton Hospital: Main Building.”

⁶. Yanni, *Architecture of Madness*, 58.

⁷. Ibid., 59-61.

⁸. Ibid., 56.

⁹. Lynne Getz, “A Strong Man of Large Human Sympathy,” 37.

buildings went up in the early 20th century that still stand in what is no longer part of the hospital campus. This includes ten residences on Bickett Street and Sterling Street.

Between the 1920s and 1940s, the hospital's main campus grew even more dense, with the addition of buildings such as the Art Deco-influenced power house and its smoke stack, the machine shop, Bates, Saunders, Marsh, and Thomas. Several staff houses and frame barns from this era no longer stand. Construction of the new hospital led to the demolition of several large buildings from this era, as well, including Hoey, Morrison, and McCampbell.

Little construction, other than additions to older buildings, has occurred on the site since the mid-20th century. Exceptions include the gymnasium and chapel, built in 1960 and 1975, respectively. This is due in part to a continuing trend of deinstitutionalization, which has limited the need for expanded facilities.

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6

*CASE STUDIES OF
PSYCHIATRIC HOSPITAL
REDEVELOPMENTS*

CASE STUDIES

COMMUNITY PROFILE (2014)	MORGANTON, NC	HICKORY-LENOIR-MORGANTON METRO AREA
POPULATION	16,816	363,936
POPULATION DENSITY (PER SQ. MILE)	878	222.3
TOTAL LAND AREA (SQ. MILES)	19.15	1637.38
MEDIAN HOUSEHOLD INCOME (IN 2014 DOLLARS)	\$35,144	\$40,820

TRAVERSE CITY, MI

The case of the Village of Grand Traverse Commons illustrates how a large hospital site can be redeveloped over time by a master developer that has access to public tools and incentives and a vision that respects the historic nature of the site and includes a mix of uses.

COMMUNITY PROFILE (2014)	TRAVERSE CITY, MI	TRAVERSE CITY MICRO AREA	MORGANTON, NC
POPULATION	15,006	145,374	16,816
POPULATION DENSITY (PER SQ. MILE)	1,802.3	86	878
TOTAL LAND AREA (SQ. MILES)	8.33	1,691.07	19.15
MEDIAN HOUSEHOLD INCOME (IN 2014 DOLLARS)	\$47,836	\$50,817	\$35,144

The Northern Michigan State Hospital was a Kirkbride-plan facility that opened in 1885. The wings of the 387,000 main building were abandoned in 1970 and the entire facility closed in 1989. It was vacant until 1998 when a local nonprofit convinced a city redevelopment board not to demolish it.¹

The Minervini Group acquired the 27-building, 63-acre site for \$1 in 2002. By 2005, the 150,000 square foot opened as residential, office, and independent shops/restaurants. At build-out, the Village of Grand Traverse Commons will have 1,000 residents and 800 workers. Residential units range from 300 square foot studios to 3,800 square foot luxury condos. As of spring 2013,

total development cost for 700,000 square feet of the site was \$60 million.² The gradual development was intentional, according to Raymond Minervi: “I knew that to be successful it would take a long time for the concept to evolve. This is a small city and only capable of absorbing so much residential and commercial space.”³

As of 2016, the site contains:⁴

- Residential units, including 68 affordable housing apartments and vacation rentals;
- A senior living community;
- 14 retail shops, mostly in the 100,000 square foot “Mercato,” an “indoor street” of shops;
- Nine food and beverage establishments, including a winery and a coffee roastery;
- 33 professional offices, including attorneys, counseling, yoga, and a salon.

The redevelopment process had several elements:⁵

- The local redevelopment board made an agreement with Minervini Group that the former would gain clear title to the land and buildings for \$1 in return for putting a roof on developing 20,000 square feet of the main building;
- The project received \$2 million in state brownfield grants;
- The site received state renaissance zone designation, meaning that residents and businesses will pay no state income taxes or property taxes until the benefit expires in 2017;
- The majority of the buildings on the site are eligible for historic tax credits;
- Minervini Group is a comprehensive developer and manager of the site: they will finance, supply, design, construct, sell, lease, rent, maintain, and manage everything on the site.

The site has a trail network and arboretum. The campus has a weekly farmer’s market and several festivals.⁶

DANVERS, MA

The Danvers project is an example of a development that was successful, in part, because of favorable growth trends and massive demolition that allowed for less costly redevelopment, but left only a small part of the Kirkbride’s façade intact. By leaving only a section of the front wall standing, and completely demolishing most of the wards, the developers angered some and partially appeased other preservationists and local community members who feared losing the iconic building. The project also tapped into a growing residential market, as Danvers is located just 20 miles outside of Boston and the development is only a mile from I-95.

¹ Berger, Chris, “Nothing Crazy About Living in this Former Insane Asylum,” *Curbed*, 12 March 2013.

² Berger.

³ Schneider, Keith, “From Ex-Mental Hospital to a New Mixed-Use Life,” *New York Times*, 9 November 2010.

⁴ The website of the Village of Grand Traverse Commons, <http://www.thevillageetc.com>.

⁵ Schneider.

⁶ Berger.

COMMUNITY PROFILE (2014)	DANVERS, MA	MORGANTON, NC
POPULATION	27,075	16,816
POPULATION DENSITY (PER SQ. MILE)	2,039.4	878
TOTAL LAND AREA (SQ. MILES)	13.28	19.15
MEDIAN HOUSEHOLD INCOME (IN 2014 DOLLARS)	\$77,404	\$35,144

The State Lunatic Hospital at Danvers opened in 1878 on nearly 200 acres of land in Danvers, Massachusetts. Architect Nathaniel Bradlee designed a building influenced by the Kirkbride plan: it had a large, central administrative building with three step wings on each side. The building was constructed of granite⁷ and was more than 700,000 square feet.⁸

According to a report prepared by Danvers Town Archivist Richard B Trask in 1981, the gradual phase-out of patients began in the 1970s.⁹ The Kirkbride building was closed in 1989 and patients were moved to another facility. The entire hospital was closed in 1992.¹⁰



Original 1875 architect drawing (Source: Danvers State Insane Asylum)

Following the hospital's closure, the State's Division of Capital Asset Management (DCAM) mothballed the building, and reports from the time indicate that local officials were frustrated to see the building sit idle, unable to be sold until the legislature passed a bill allowing it. In 1997, the House and Senate approved such a bill, and also allowed the State to issue a bond for up to \$5 million to prepare the site for disposition.¹¹

DCAM issued a request for proposals and received 11 responses. The Citizens Advisory Council, a group formed through the enabling legislation, considered five of those responses substantial,

⁷ Trask, Richard, "Danvers State Hospital," from the website of the Danvers Archival Center at the Peabody Institute Library, March 1981, http://www.danverslibrary.org/archive/?page_id=1096.

⁸ Brooks, Rebecca Beatrice, "History of Danvers State Hospital," History of Massachusetts, 19 September 2012, <http://historyofmassachusetts.org/history-of-danvers-state-hospital>.

⁹ Trask.

¹⁰ Brooks.

¹¹ Ramseur, Michael, *Haunted Palace: Danvers Asylum as Art and History*, Artship, 2005, 211.

and recommended that DCAM choose Archstone Communities as the buyer and developer, because Archstone had promised to preserve the entire Kirkbride. Archstone then reneged and proposed a plan in which they would preserve less than one third of the Kirkbride, which DCAM accepted. Archstone ultimately withdrew, at which point DCAM chose AvalonBay as the buyer and developer without soliciting public input.¹²

AvalonBay Communities purchased the property for \$18.1 million in 2005.¹³ Its residential development sits on approximately 51 acres of hilltop space; the total site is approximately 500 acres, most of which is protected agricultural land.¹⁴ The firm spent \$72 million turning the hospital into luxury apartments over the next three years.¹⁵ AvalonBay demolished six of the eight wards and all but the façade of the remaining two wards and main administrative building.¹⁶ Preservationists tried, unsuccessfully, to save more of the original building.¹⁷ Ultimately, Avalon Bay's development preserved only one ninth of the Kirkbride.¹⁸

The original plan was to have 433 rental apartments that would start at \$1,350 per month and 64 condos that would range from \$390,000 to \$500,000.¹⁹ Fifteen percent of the 433 units were to remain affordable.²⁰

By leaving only a partial façade, the company may have mitigated some of its potential buyers' fears of inhabiting a psychiatric hospital. According to AvalonBay's vice president of development, Scott Dale, "We were attracted to the site because of the quality of the real estate...It is, quite simply, a beautiful piece of land that overlooks Boston."²¹

Avalon sold 8.2 of the 17.2 low-lying acres it owned to Northeast Health System, the parent company of Beverly Hospital, which in 2007 opened a medical and day-surgery center. Avalon planned to sell the remaining low-lying acreage for development as a skilled nursing center.²²

Avalon also gave the Town of Danvers \$2.35 million to "mitigate the effect on the town," according to the *Boston Globe*. This included "money for the schools, affordable housing, historic preservation, and athletic fields."²³

Avalon Danvers was sold in 2014 for \$108.5 million.²⁴ It is now called Halstead Danvers.

¹² Ibid.

¹³ Castelluccio, John, "Boston Group Buys Avalon Danvers for \$108.5M," *Salem News* (MA), 3 July 2014.

¹⁴ Laidler, John "Despite Slow Economy, Danvers State Project Forges Ahead," *Boston Globe*, 10 June 2010.

¹⁵ Greenfield, Beth, "At Home in Infamous Surroundings," *New York Times*, 14 October 2007.

¹⁶ Brooks.

¹⁷ Greenfield.

¹⁸ Ramseur, 212.

¹⁹ Greenfield.

²⁰ Laidler.

²¹ Greenfield.

²² Laidler.

²³ Ibid.

²⁴ Castelluccio.

NEWTOWN, CT

The case of Fairfield State Hospital in Newtown, Connecticut illustrates how local residents who fear the effects of residential growth and a local government that attempts to singlehandedly control the future of a site without seeking other public partners (such as the state government) or accommodating the needs of potential private partners can face a long, slow pre-development process. In the twenty years since the hospital closed, little private development has occurred on the site, local costs continue to accrue, and almost all the historic buildings have deteriorated beyond the point at which development is feasible. Not only can they not be redeveloped, but until they are demolished, their condition represents a significant deterrent to private development.

COMMUNITY PROFILE (2014)	NEWTOWN, CT	MORGANTON, NC
POPULATION	2,027	16,816
POPULATION DENSITY (PER SQ. MILE)	878.7	878
TOTAL LAND AREA (SQ. MILES)	2.31	19.15
MEDIAN HOUSEHOLD INCOME (IN 2014 DOLLARS)	124,688	\$35,144

Fairfield State Hospital in Newtown admitted its first patients in 1933.²⁵ The hospital sits on one of the highest points in town, on a 186-acre campus of rolling hills. The site contains 16 primary buildings. The State Department of Mental Health closed the facility in 1996 and in 1999 the State issued a request for qualifications from master development entities. Four development entities were invited to submit proposals after the RFQ stage, and three did. The State's review of development entities was suspended when the Town of Newtown exercised its right of first refusal and the Town's board submitted a letter of intent to purchase the site in early 2000. This LOI was issued following the newly formed Fairfield Hills Authority's review of the three proposals and its determination that only by purchasing the property, which sits in the geographic center of the town, could the local community, not the State or a private developer, ensure the campus redevelopment served the local community's interests.²⁶ Specifically, by voting to purchase the property, residents were trying to keep the site out of the control of residential developers.²⁷ The Town of Newtown closed on the property for \$3.9 million.²⁸

²⁵ From FairfieldStateHospital.com, Accessed 3 March 2016.

²⁶ "Background Information," from the website of the Town of Newtown, Accessed 3 March 2016, http://www.newtown-ct.gov/public_documents/NewtownCT_FFHills/background.

²⁷ Prevost, Lisa, "Warily, Newtown Weighs New Housing," *New York Times*, 20 January 2011.

²⁸ Hutson, Nanci G., "Fairfield Hills Leaders See 2015 as a Year to Market the Campus," *CTPost.com*, 26 December 2014.

Newton voters had approved a bond for \$48 million ahead of the purchase: this included \$3.9 million for the purchase, an unspecified amount for demolition, abatement, and the creation of athletic fields, and \$27 million for a new intermediate school which opened in 2003.



Image: Bing Maps

The Authority made a master plan in 2003, which it has updated at least every five years since. The plan called for open space, recreation, municipal, educational, cultural, and commercial uses, including restaurants, medical offices, corporate offices, spas, banks, a performing arts center, museums, and art galleries.²⁹ It specifically prohibited residential development as a way to limit the growth that was putting pressure on schools and other public services.

Public disagreement about the future of the site surrounded the creation of the first plan. One controversial element of the plan was the allocation of \$8.5 million to build a new town hall on the site. In addition, a community group formed to oppose the sale of any property on the site, and proposed that the entire site be used for public purposes, with very little commercial use. Residents interviewed by the *New York Times* in 2003 indicated that they believed the process was moving too quickly and they feared losing a public resource.³⁰ By the time the first master plan was presented to the public, it included a provision that land should only be leased, not sold, to private entities.³¹ It also removed references to the idea of a corporate office park on one part of the site.³²

Eventually, the Town decided to relocate municipal offices to an existing building on the site, and spent \$6 million renovating Bridgeport Hall.³³

²⁹ Hutson.

³⁰ Doniger, Nancy, "In Newtown, A Master Plan Creates a Stir," *New York Times*, 9 February 2003.

³¹ "Fairfield Hills Master Plan (Amendment) 2013," from the website of the Town of Newtown, http://www.newtown-ct.gov/public_documents/NewtownCT_FFHMPP/index.

³² Doniger.

³³ Hutson.

Even boarded up, the hospital was a draw: a newspaper article from 2004 detailed the 15 trespassing violations local police had issued to young people on the hospital grounds in three separate incidents in the preceding 10 days. Town officials described how people regularly broke into the buildings, going as far as tearing plywood off windows and doors and cutting holes in chain link fences. Officials worried about the implications of someone getting hurt or killed while in a closed building, and as one said at the time, “All it takes is a half-decent lawyer to call it an attractive nuisance.”³⁴

Six years in, the only private activity that had occurred on the site was an 86,000 square foot sports and fitness academy. The 2013 update to the plan states that private developers have found the current buildings, due to deterioration and configuration, infeasible. The plan states that the presence of the buildings “likely represents a substantial barrier to realizing the economic development potential as well as the recreation and public use themes desired by residents.” The plan states that as of 2012, only four buildings appeared salvageable, and eight other major buildings had likely deteriorated beyond being reusable.³⁵

The 2013 plan amendment allows some rental housing on the upper floors of commercial buildings, which it previously did not allow. Still, all buildings would remain in Town ownership. The plan acknowledges that the active discouragement of development proposals that included housing “may have resulted in a loss of development that would have benefitted the community.” The plan stipulates that housing must be ancillary and not a primary use.

The 2013 capital improvement plan sets out almost \$4.5 million for the next five years for demolition and walking trail creation.

An unclear power structure, in which the development process has no clear “quarterback,” may also slow progress. The Fairfield Hills Authority is an appointed group that considers development proposals and manages leases to developers. But a 2014 article suggests that the authority is “little more than a sounding board” because the board of selectman, zoning officials, and other officials maintain control of what happens on the site. Since its forming, the authority has not proactively pursued development and has instead waited for others to approach it.³⁶

In 2013, local leaders shared a plan to offer \$1 a year, 30-year leases to developers, who would then be responsible for remediation and demolition costs³⁷

In 2013, Town was planning a 4,000 square foot ambulance facility and a parks and recreation center. They have discussed a fire station and police station, as well. As of 2013, five hospital buildings had been demolished.

Though the Town became a major anchor tenant as a way to support the success of Fairfield Hills, its municipal offices move was not without consequence. In February 2016, a town selectman alerted the Town’s Board of Finance that the former town hall, which the Town vacated when it moved to Fairfield Hills, is on its way to exhausting all of its financial resources within a year. The historic structure was home to the Town operations until 2009, when the Town moved and stopped paying rent. The publicly-owned building has been unable to generate sufficient revenues since its major tenant moved out, and elected officials proposed increasing their annual subsidy to the building to \$75,000 per year, or half its operating expenses.³⁸

STAUNTON, VA

The ongoing redevelopment of the former Western State Hospital site in Staunton, Virginia illustrates how a creative public-private partnership with clear inter-governmental cooperating can serve a master redevelopment. It is an instructive project in its similarities to historic Broughton as well: the large site is in a similarly-sized downtown, with interstate frontage, neighboring a school for the deaf and blind, with the new hospital relocated adjacent to the site.

COMMUNITY PROFILE (2014)	STAUNTON, VA	STAUNTON- WAYNESBORO, METRO AREA	MORGANTON, NC
POPULATION	24,132	119,016	16,816
POPULATION DENSITY (PER SQ. MILE)	1,208.1	118.8	878
TOTAL LAND AREA (SQ. MILES)	19.98	1,002.01	19.15
MEDIAN HOUSEHOLD INCOME (IN 2014 DOLLARS)	\$39,982	\$49,262	\$35,144

The Western State Hospital, which was most recently used as a prison, closed in 2003.³⁹ In 2006, the Commonwealth decided to replace the Western State Hospital and the General Assembly approved \$112.5 million for the new facility.⁴⁰ The new hospital was built on adjacent

³⁴ Driscoll, Eugene, “Warning: Stay Away from Fairfield Hills,” *News-Times* (Danbury, CT), 28 September 2004.
³⁵ “Fairfield Hills Master Plan (Amendment).”
³⁶ Hutson.
³⁷ Ibid.
³⁸ “Edmond Town Hall Facing Financial Difficulties,” *Newtown Bee*, 25 February 2016.
³⁹ Peters, Laura, “More Renovations Begin at Villages at Staunton,” *News Leader*, 15 December 2015.
⁴⁰ “Fact Sheet: New Western State Hospital and Economic Development of Western State Property in Staunton,” from the website of the City of Staunton, 9 July 2009, http://www.staunton.va.us/directory/departments-a-g/economic-development/western-state/documents/WSH_Fact_Sheet_7-9-09.pdf.

property. Construction for the hospital broke ground in late 2009, and pre-development activities for the former hospital property began in early 2010.⁴¹

The City of Staunton contributed \$15 million toward the relocation of the hospital and in return the Commonwealth deeded the City 265 acres of the old hospital campus that sits along I-81. The City contributed to the project as a way to free up the old hospital campus; the Commonwealth’s allocation would have funded some new facilities within the old campus, but kept some hospital functions in the old buildings. With the City’s contribution, the new hospital could be built on an entirely different property in one phase.⁴²

The City planned to have a single master developer working on the site as a way to coordinate development activities and maximize value. The City was advised on master developer selection by a private firm whose CEO was a former Commonwealth secretary of commerce and trade.⁴³ The master developer, Staunton Gateway Partners, was chosen from several companies that responded to a solicitation by the Staunton Industrial Development Authority.⁴⁴

“Staunton Crossing” is the name of the master development. To prepare the site, the City has made several investments, including building a four-lane boulevard entrance to the site and demolishing some buildings.⁴⁵ Delays in the construction of the boulevard and traffic circle, which has cost \$2.1 million and began in spring 2015, has slowed down the larger project. The road is expected to be completed in April 2016.⁴⁶

“The Villages at Staunton” is meant to be a village-like community within the city. Adaptive reuse and new construction that complements the historic nature of the campus will serve residential, office, hospitality, entertainment, and commercial uses.⁴⁷

The development is in process. As of December 2015, two sets of condominium developments and another home development have occurred on the site. A 45,000 square foot building is currently being developed into office space.⁴⁸ A hotel, called Blackburn Inn, is in the planning stages.

BUFFALO, NY

The Richardson Olmsted Complex in Buffalo, New York, serves as an example of a Kirkbride redevelopment that while seemingly successful in terms of reuse, has taken decades and large infusions

of public money. After decades of neglect and negotiation over reuse, the complex is being redeveloped solely with public money—the development failed to leverage large and sustained public investments to attract private partners, and thus the citizens of New York fully bear the potentially nine-figure cost.

COMMUNITY PROFILE (2014)	BUFFALO, NY	BUFFALO-CHEEKTOWAGA-NIAGARA FALLS METRO AREA	MORGANTON, NC
POPULATION	259,959	1,135,667	16,816
POPULATION DENSITY (PER SQ. MILE)	6,437.2	725.6	878
TOTAL LAND AREA (SQ. MILES)	40.38	1,565.05	19.15
MEDIAN HOUSEHOLD INCOME (IN 2014 DOLLARS)	\$31,668	\$50,726	\$35,144

The Buffalo State Asylum for the Insane opened in 1880, eight years after construction began on what is now known as the Richardson Olmsted Complex in Buffalo, New York.⁴⁹ Architect Henry Hobson Richard designed the Kirkbride building. Landscape architect Frederick Law Olmsted, designer of New York City’s Central Park, designed the grounds.⁵⁰

The hospital’s history is similar to that of Broughton: the hospital grew through the first half of the 20th century and patient labor played an important role in maintaining the large complex. Amidst national moves toward rehabilitation and community care, the hospital demolished three of the Richardson building’s patient wards in 1968 to build a one-story rehabilitation center in 1970. In 1974, all patients were moved out of the original Richardson Building and into a newer complex. Administrative offices remained in the building until the 1990s.⁵¹ The building was placed on the National Register of Historic Places in 1973 and was declared a national historic landmark in 1986.⁵²

⁴¹ “Pre-Development Agreement for Old Western State Authorized,” WHSV.com, 8 January 2010.
⁴² Fact sheet.
⁴³ Ibid.
⁴⁴ “Pre-Development Agreement for Old Western State Authorized.”
⁴⁵ “Commercial Development Coming to Former Western State Site,” WHSV.com, 22 October 2015.
⁴⁶ Peters, Laura, “Staunton Crossing Moving Forward,” *News Leader*, 28 January 2016.
⁴⁷ The website of the Villages at Staunton, <http://www.villagesatstaunton.com>.
⁴⁸ Peters, Laura, “More Renovations Begin at Villages at Staunton.”

⁴⁹ From the website of the Richardson Olmsted Complex, Accessed 7 February 2016, <http://www.richardson-olmsted.com>
⁵⁰ Ibid.
⁵¹ “Richardson Olmsted Complex Structures Report,” prepared by Goody Clancy, July 2008: 110, http://www.richardson-olmsted.com/files/documents/planning_and_reports/historic_structures_full_report.pdf
⁵² The website of the Richardson Olmsted Complex.



The Richardson Olmsted Complex (Map data: Google)

Largely unoccupied, the main building deteriorated throughout the 1970s and 80s, despite various attempts, including a governor’s task force in 1984, a 1986 adaptive reuse design competition, and a \$3.5 million interior and exterior rehabilitation in 1989. The building was significantly boarded up in 1989 in response to continued acts of vandalism.⁵³ In 1998, then-mayor Anthony Masiello successfully requested that Governor Pataki not include the building in attempts to sell 12 of New York’s psychiatric hospital buildings to private developers. The mayor hoped to redevelop the site into a magnet school and residential development.⁵⁴

Still, the hospital sat unused. In 2004, a group of local citizens filed a lawsuit to bring attention to the facility’s deterioration. The State allocated \$5 million toward stabilization. In 2006, Governor Pataki pledged \$100 million to redevelop the 500,000 square foot complex. A quarter of those funds were used to create an art museum and pavilion; the remainder has “funded important activities to prevent further deterioration of the Complex and to ready it for reuse.” The Richardson Center Corporation (RCC), composed of community members and appointees of the governor, was made responsible for exploring adaptive reuse feasibility.⁵⁵

In 2007, the Urban Land Institute (ULI) began to study the feasibility of redeveloping the site. Within a year, historic structures and cultural landscapes reports were completed and a \$2 million stabilization effort began. In 2010, another nearly \$8 million was put toward further stabilization.⁵⁶

In 2011, a master plan was completed, which focused on a hotel and conference center and city architecture center. The State also enacted special legislation to allow the conveyance of the property to the Richardson Center Corporation.⁵⁷

In 2013, the South Lawn was re-greened, as a precursor to greater development activity. This included the planting of 125 trees, creation of environmentally friendly rain gardens, and the building of a pedestrian loop trail.⁵⁸

The first phase of the building redevelopment centers on an 88-room hotel and conference center. Construction began in late 2014 and was expected to take two years. Local hospitality management firm InnVest Lodging will operate the hotel, known as the Hotel Henry Urban Resort Conference Center.⁵⁹

The Richards Center Corporation is the developer. Total development cost is estimated to be \$69 million. The project is being funded by \$54 million in state money and \$16 million in state and federal historic tax credits. Empire State Development, the state economic development agency, provided grants for predevelopment, stabilization, and re-greening. Several foundations have provided unspecified support for the project, as well.

MORRIS PLAINS, NJ

The pre-development process and eventual demolition of the Greystone Park Kirkbride building demonstrates the pitfalls of a confusing and seemingly opaque process for determining the fate of an historic hospital. The State of New Jersey, by rejecting redevelopment proposals in favor of a costly publicly-funded demolition, lost a landmark building, missed what several developers saw as an opportunity to attract investment and create local economic value, and outraged and lost the trust of a portion of the public. The public sector, as this case suggests, can inhibit development, just as in other cases, it can enable it.

COMMUNITY PROFILE (2014)	MORRIS PLAINS, NJ	NEW YORK- NEWARK-JERSEY CITY, NY-NJ-PA METRO AREA	MORGANTON, NC
POPULATION	5,635	6,550,191	16,816
POPULATION DENSITY (PER SQ. MILE)	2,203.8	1,720	878
TOTAL LAND AREA (SQ. MILES)	2.56	3,808.17	19.15
MEDIAN HOUSEHOLD INCOME (IN 2014 DOLLARS)	\$110,167	\$74,217	\$35,144

Greystone Park opened in 1876 as the New Jersey State Lunatic Asylum at Morristown. The main building was a 675,000 square foot, five-story Kirkbride. It has three, three-story wings. Its

⁵³ “Richardson Olmsted Complex Structures Report,” 118.

⁵⁴ Rozhon, Tracie. “A Fight to Preserve Abandoned Asylums; Sales Seen as Threat to Landmarks Of Architecture and Idealism,” *New York Times*, 18 November 1998.

⁵⁵ The website of the Richardson Olmsted Complex.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

⁵⁹ Ibid.

three-foot thick walls are made of gneiss.⁶⁰ Samuel Sloan, Broughton architect, was Greystone’s architect, as well. He followed the Kirkbride plan.⁶¹



Greystone Park
(Source: Preserve Greystone)

Similar to Broughton, Greystone was constructed between the 1870s and mid-20th century and contains a mix of Victorian and modern architecture.⁶² It has underground tunnels used for patient transport, similar to Broughton.⁶³ The buildings are on a large site that once contained occupational therapy and a self-supporting agricultural operation.⁶⁴

The hospital was at its highest patient capacity, 6,719 people, in 1954. The process

of deinstitutionalization, along with a class-action lawsuit, led to the reduction in patients served from the 1950s on.⁶⁵ The state opened a new hospital adjacent to the original hospital in 2008. The Kirkbride was permanently closed after those patients were transferred to the new facility that year.⁶⁶

The state commissioned a redevelopment feasibility assessment for the main building, which was delivered in early 2013.⁶⁷ The report deemed the main building’s condition to range from “good” to “failed,” and identified the deteriorated roof as a major cause of damage, which it also attributed to a lack of climate control, vandalism, and age. Based on its market analysis, the report considered three redevelopment scenarios, all of which it concluded were economically infeasible without decreasing development costs, providing State incentives to developers to encourage larger private investment, or permitting new construction on other parts of the site to create additional economic value.

	DEVELOPMENT COST	AVAILABLE FUNDING	FUNDING GAP
315 APARTMENTS	\$112,500,000	\$101,425,000	\$11,075,000

⁶⁰ Hurley, Dan, “Preservationists Fight to Save a Former Asylum in New Jersey,” *New York Times*, 18 August 2014.
⁶¹ “History of Greystone Park Psychiatric Hospital,” Preserve Greystone, accessed 10 September 2015, <http://www.preservegreystone.org/history.html>.
⁶² “Greystone Played a Significant Role in the Evolution of Mental Health Treatment,” New Jersey State Division of Property Management and Construction, accessed 8 September 2015, <http://www.state.nj.us/treasury/dpmc/Assets/Files/A1132%20Greystone%20campus%20timeline.pdf>.
⁶³ Ben Horowitz, “State Awards \$34 Million Contract to Tear Down Historic Greystone Building,” *Star-Ledger* (New Jersey), 18 August 2014.
⁶⁴ “Greystone Played a Significant Role in the Evolution of Mental Health Treatment.”
⁶⁵ Ibid.
⁶⁶ Ibid.
⁶⁷ Urban Partners, *Greystone Park Hospital Main Building Redevelopment Feasibility Assessment*.

MIXED-USE: 181 APARTMENTS, ASSISTED-LIVING FACILITY, INN	\$103,025,000	\$77,275,000	\$25,750,000
199 APARTMENTS CONVERTED TO CONDOS AFTER TAX CREDIT PERIOD	\$107,375,000	\$95,500,000	\$11,875,000

Following the feasibility report, the state issued a request for expression of interest. Six firms responded with proposals of varying specificity for how they could redevelop the building (a seventh came later). The State ultimately rejected all seven responses it received. Instead, they awarded a \$34 million demolition contract. Quoted in the *New York Times*, State Treasurer Andrew P. Sidamon-Eristoff said, “We are sympathetic to those who are passionate about architectural preservation. However, the Kirkbride building’s advanced deterioration, which has worsened since 2011, massive size and challenging configuration present unique obstacles to a viable redevelopment.”⁶⁸

A local group, Preserve Greystone, sued to prevent demolition. The group’s president said that a private developer could put the building “to good use at no cost to taxpayers,” while the State instead spent \$35 million to demolish it.⁶⁹ Star-Ledger reporter Mark Di Ionna articulated many of the strong citizen objections to the State’s decision and its opaque decision making process: “If it doesn’t stink, then it’s just lazy. Or lacks vision and creativity. Or shows an unwillingness to compromise. But we don’t know, because the process wasn’t open.”⁷⁰ Di Ionna notes that the State’s stated reasons for tearing down the building were that it was too deteriorated to save and that it would require public money to reuse, but no officials have elaborated on the process or criteria used to reach these conclusions.

The six proposals that the State received before the response deadline had varying degrees of specificity, though each included a way to preserve the main building and overcome the funding gap that the feasibility report had identified.

Developer Resource Group’s proposal to the State, which centered on a sustainable agriculture and education program, included a plan for fully financing the estimated \$98 million development with private capital in return for full ownership of the property following development.⁷¹

Building and Land Technology Corporation proposed at least 550 residential units in the Kirkbridge building, 100 new townhouses, and 5,000 square feet commercial and office space. Financing would come from a first mortgage, federal and state historic tax credits, equity, and

⁶⁸ Ibid.
⁶⁹ Ibid.
⁷⁰ Di Ionna, Mark, “Something Stinks about the Greystone Deal,” *NJ.com*, 9 April 2015.
⁷¹ Developer Resource Group’s response to a request for expression of interest in the redevelopment of the former Greystone Psychiatric Hospital, 28 May 2013, <http://www.state.nj.us/treasury/dpmc/Assets/Files/GCA%20Management%2005-28-13.pdf>

an inventive grant from the State's Economic Development Authority. Their proposal was the most specific, and listed the following required incentives:⁷²

- Title to the 90 acres for a \$1 consideration.
- The approval of a Part 1 for the entire property by the NJ SHPO and the NPS, as well as Part 2 and Part 3 applications for each building as they are renovated in accord with the Standards of the Secretary of the Interior.
- An award of State Economic Incentive Tax Credits of a minimum of \$20,000,000, the sum necessary to cover the site work, demolition, abatement, and remediation necessary to undertake the rehabilitation.
- The adoption of State Historic Tax Credit legislation to provide a minimum of \$15,000,000 per annum of State Historic Tax Credits for qualified commercial structures.

Forest City's proposal centered on high-end rental residential and a mix of other uses that tie into the neighboring public recreation facilities. They acknowledged that a public-private partnership would be an important element of a successful redevelopment. The firm highlighted its experience securing tax credit financing to make projects feasible.⁷³

Cross Properties proposed a 310-unit residential development. Its financial assessment was vague: the proposal said the firm did not foresee funding gaps, and would respond to any gaps by selling land, seeking grants, seeking public investment, tax abatement, an easement donation, and historic tax credits.⁷⁴

Greystone Community Innovation Team proposed a smart growth, village-style development that centered on a range of residential options and a mix of commercial, and recreation uses, including an organic farm.⁷⁵

Auto Mart, a West Virginia firm responsible for preserving the Trans-Allegheny Lunatic Asylum and operating it as a paranormal tourist attraction, proposed a similar program for Greystone. Their proposal appears to assume similar development costs and schedules, with development phases being funded by visitor revenues as they are received. Their five-year development costs

for the Trans-Allegheny Lunatic Asylum were \$6.2 million, reflecting in-house preservation and demolition and limited redevelopment.⁷⁶

Reporter Mark Di Ionno spoke with representatives of two of the responding firms following the State's rejection of their responses. Both said the State did not acknowledge or respond to their responses, or explain why they had rejected them.

Demolition of 26 structures and their connecting tunnels began in the spring of 2015 and was completed by October.⁷⁷ The state is planning to then deed the site to the county for use as open space. The state is saving some elements of the Kirkbride, such as the stone veneer and some columns, to honor the site's history.⁷⁸

⁷² Building and Land Technology Corporation's response to a request for expression of interest in the redevelopment of the former Greystone Psychiatric Hospital, May 2013, <http://www.state.nj.us/treasury/dpmc/Assets/Files/kirkbride%20building%20response-13may21.pdf>.

⁷³ Forest City's response to a request for expression of interest in the redevelopment of the former Greystone Psychiatric Hospital, May 2013, <http://www.state.nj.us/treasury/dpmc/Assets/Files/Greystone%20RFEI%20-%20ForestCity.pdf>.

⁷⁴ Cross Properties' response to a request for expression of interest in the redevelopment of the former Greystone Psychiatric Hospital, 30 May 2013, <http://www.state.nj.us/treasury/dpmc/Assets/Files/Greystone%20RFEI%20-%20Cross.pdf>.

⁷⁵ Greystone Community Innovation Team's response to a request for expression of interest in the redevelopment of the former Greystone Psychiatric Hospital, 30 May 2013, <http://www.state.nj.us/treasury/dpmc/Assets/Files/Greystonevillage5-30-13final.pdf>.

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7

LETTERS OF SUPPORT

STATE HISTORIC PRESERVATION OFFICE



North Carolina Department of Natural and Cultural Resources State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

February 22, 2016

Mr. Peter Cvelich
Development Finance Initiative/School of Government
University of North Carolina at Chapel Hill
Campus Box 3330, Knapp-Sanders Building
Chapel Hill, NC 27599

Re: Broughton Hospital and North Carolina School for the Deaf Historic Districts
Conceptual Reuse Plans
Morganton, Burke County, NC

Dear Mr. Cvelich:

Thank you for your study submittal regarding the proposed conceptual reuse plans for the Broughton Hospital and North Carolina School for the Deaf buildings and sites within both National Register Historic Districts. Our staff has reviewed the information you provided, and we offer the following comments within the body of your February 10, 2016 email below.

During the course of the Broughton Hospital Study, DFI has developed a conceptual strategy for reusing and significantly improving the majority of historic hospital buildings and attracting additional private investment to surrounding public property. These conceptual plans would respect historic architecture and would expect to benefit from the Historic Preservation Tax Credits in so doing. Nevertheless, to adaptively reuse the historic buildings would require some modification to the historic campus and structures.

Per our prior conversations with your team at the N.C. State Historic Preservation Office (SHPO), we understand that there is agreement in principle to our proposed adaptive reuse strategies and conceptual site plans based on the historic district nomination forms and your interpretation of the scope of the proposed rehabilitation work, assuming it adheres to the following conditions:

- *Before any contributing structure be demolished, all alternatives to its preservation be explored.*
HPO response: In general demolition may be acceptable when the building or component is outside the period of significance of the district, it is so deteriorated or altered that its integrity has been irretrievably lost, or it is a secondary building or component that lacks historic, engineering, or architectural significance or does not occupy a major portion of the site and persuasive evidence is present to show that retention is not technically or economically feasible.
- *Interior architectural features and finishes in public lobbies and corridors and other principle interior spaces be preserved or are altered in accordance with the Standards based on review of detailed architectural drawings.* **HPO response:** We concur.

Mr. Peter Cvelich
February 22, 2016
Page 2

- *New building construction be sited and designed to be compatible with the historic scenic character and views of the site, based on review of detailed site plans and architectural drawings.* **HPO response:** We concur.

We respectfully request a signed letter from SHPO by Feb. 22, confirming that draft plans provided to SHPO for review are consistent with those principles, with the understanding that 1) decisions regarding HTC eligibility and qualified rehab expenses would not be rendered until specific application with development plans would be made to SHPO, and that 2) those decisions ultimately lie with the federal National Park Service and IRS. **HPO response:** We concur.

Please let me know if this is a reasonable time frame for SHPO to provide such a letter or if you have questions.

As a summary, below is the scope of site planning and building rehabilitation from the conceptual plans that we have presented and discussed:

- *Broughton Hospital historic district:* **HPO response:** We concur, with one comment below.
 - *Modifications to the Avery Building, a landmark property:*
 - *Construction of porches on back façade to match existing porches on two wings*
 - *Penetrations through parting walls between patient rooms on interior*
 - *Demolition of building fabric that is non-contributing:*
 - *Appendages to Avery and Machine Shop*
 - *Bricked-in porches on Bates*
 - *Walkways between Avery and Jones, Avery and Reece, Scroggs and F2-Dining, F2-Dining and Harper, F2-Dining and Thomas, and between sections of Bates*
 - *Demolition of non-contributing and unidentified structures outside the period of historical significance from the nomination:*
 - *Jones*
 - *Moran*
 - *Carpenter (aka Nurses Dorm)*
 - *Chiller Building*
 - *Demolition of a contributing structure that has been significantly modified so as to have lost any of its historic architectural character:*
 - *Thomas*
 - *Preservation of non-contributing, but culturally significant structures:* The Chapel
 - *Relocation of contributing structures:*
 - *Relocation of five small sheds in southern portion of district.* **HPO response:** Relocation must be sited to be compatible with the historic scenic character and views of the site, based on review of detailed site plans and architectural drawings.
- *NC School for the Deaf Historic District:* **HPO response:** We concur.

Mr. Peter Cvelich
February 22, 2016
Page 3

- *Demolition of non-contributing structures:*
 - *Rankin*
 - *Joiner Warehouse*
 - *Jeter*
 - *Henderson*
- *New construction: Nothing taller than 5 stories and sited so as to preserve prominent views to and from icon architecture and landscapes. HPO response: New building construction must be sited and designed to be compatible with the historic scenic character and views of the site, based on review of detailed site plans and architectural drawings.*

We appreciate the opportunities our staff had to meet with everyone. These meetings allowed for an understanding of the respect for the historic architecture being taken as well as the conceptual reuse plans for the buildings and sites within both National Register Historic Districts.

These comments are made in accord with G.S. 121-12(a) and Executive Order XVL. If you have any questions regarding them, please do not hesitate to contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919-807-6579 or renee.gledhill-earley@ncdcr.gov or Tim E. Simmons, Senior Preservation Architect and Income-producing Tax Credit Coordinator, at 919-807-6585 or tim.simmons@ncdcr.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Bartos" followed by a small "for" written below it.

Ramona Bartos, Deputy
State Historic Preservation Officer

cc: Patricia Mitchell
Michael Lemanski
Tyler Mulligan
Renee Gledhill-Earley
Tim E. Simmons

BURKE COUNTY CHAMBER OF COMMERCE RESOLUTION



RESOLUTION

WHEREAS, the mission of the Burke County Chamber of Commerce is to “Grow business” and “Build community;” and

WHEREAS, building a secure future for Burke County requires the creative use and re-use of the community’s many resources, both natural and man-made, historic and contemporary; and

WHEREAS, the Reimagining Broughton study exemplifies this imperative, as it respects the historic significance and importance of both the original and new Broughton Hospital, while presenting an equally extraordinary opportunity to re-envision of the use of the 800 acres of publicly-owned land surrounding the hospital, Western Piedmont Community College, the North Carolina School for the Deaf, and the North Carolina School of Science and Mathematics; and

WHEREAS, a study conducted by the Development Finance Initiative of the School of Government at the University of North Carolina determined that public-private partnerships across this land will generate economic returns for investors and the public, while preserving the site’s cultural legacy; and

WHEREAS, per the study, these investments have the potential to attract more than \$150 million in private capital to create a new mixed-use district; and

WHEREAS, components of this new district, once developed, would reflect a microcosm of Burke County’s economy including education, healthcare, technology, retail, agriculture, tourism, recreation, housing, and the arts and have a positive financial impact on Burke County’s tax base; and

WHEREAS, implementing the Reimagining Broughton study will create an exciting new gateway into Morganton and serve as a living symbol of Burke County’s promise and potential; and

WHEREAS, since the North Carolina General Assembly authorized the Reimagining Broughton study in 2014, the Department of Health and Human Services, the Department of Administration, the City of Morganton, Burke County and others have championed it as a unique and historic opportunity. THEREFORE BE IT

RESOLVED, that the Burke County Chamber of Commerce expresses its enthusiastic support for implementation of the Reimagining Broughton study as a transformative endeavor in the best interests of the greater community; and

BE IT FURTHER RESOLVED, that the Chamber calls upon all key stakeholders to commit to building on the momentum gained thus far and take all actions necessary to bring the Reimagining Broughton study to reality.

Adopted this 12th Day of March in the Year of Our Lord Two-thousand Eighteen.


Kathy C. Bailey
Chairman, Board of Directors


Jerry R. Davis
President & CEO

BURKE COUNTY TOURISM DEVELOPMENT AUTHORITY RESOLUTION

BOARD RESOLUTION OF BURKE COUNTY TOURISM DEVELOPMENT SUPPORTING "REIMAGINING BROUGHTON PROJECT"

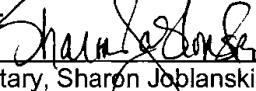
DULY PASSED ON March 20, 2018

- Whereas, the Mission of the Burke County Tourism Development Authority (TDA) is to develop and coordinate visitor-related activities and services in Burke County and to implement marketing programs that will grow the Travel and Tourism Economy in Burke County; and
- Whereas, the Reimagining Broughton Project has a strong hospitality and tourism component
- Whereas, the Hospitality Village concept has the potential to create accommodations opportunities including a hotel site
- Whereas, Tourism Economic Development will increase in Burke County with the addition of a broad campus structure where all areas of hospitality may be fostered and developed
- Whereas, this Transformative Opportunity for Burke County is happening now in 2018 and over the next few years

NOW, THEREFORE, BE IT RESOLVED that the Burke County Tourism Development Authority fully supports and endorses the Reimagining Broughton initiative and encourages all local and state government entities to move forward with this project.

Adopted this the 20th day of March, 2018.


Chair of the Board/ Polly Leadbetter

Attest: 
Secretary, Sharon Joblanski



8

EXPANDED CITATIONS
FROM DEVELOPER DEALBOOK

EXPANDED CITATIONS

BURKEMONT AVENUE HOTEL

- (1) NCDOT AADT Mapping Application. ArcGIS Web Viewer, <http://ncdot.maps.arcgis.com/apps/webappviewer/index.html?id=5f6fe58c1d90482ab9107ccc03026280>. Accessed 29 May 2018.
- (2) “Tourism.” Western North Carolina Vitality Index, n.d., <http://www.wncvitalityindex.org/employment-sectors/tourism>. Accessed 29 May 2018.
- (3) “Overnight Stays by Category and Year for Blue Ridge PKWY: 1979 to 2017” National Park Service Integrated Resource Management Applications (IRMA) Portal, [https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Overnight%20Stays%20\(1979%20-%20Last%20Calendar%20Year\)?Park=BLRI](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Overnight%20Stays%20(1979%20-%20Last%20Calendar%20Year)?Park=BLRI). Accessed 6 June 2018.
“Blue Ridge PKWY.” National Park Service Integrated Resource Management Applications (IRMA) Portal, [https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20\(1904%20-%20Last%20Calendar%20Year\)?Park=BLRI](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=BLRI). Accessed 6 June 2018.
- (4) “The 2013 Economic Impact of Travel on North Carolina Counties.” Prepared for the North Carolina Division of Tourism, Film and Sports Development by The U.S. Travel Association, <https://www.nccommerce.com/LinkClick.aspx?fileticket=9X817Jjdbno%3d&tabid=1586&mid=4665>. Accessed 29 May 2018.
- (5) “About Us.” Historic Morganton Festival, <https://morgantonfest.org/about/>. Accessed 29 May 2018.
- (6) STR Global Custom Report, “Trend Report – Hickory Market – Upscale.” Generated 29 May 2018.
- (7) Gercken, Tammie. “Morganton Mayor Shares Updates in ‘State of the City’ Address.” The News Herald, 3 April 2018. http://www.morganton.com/community/morganton-mayor-shares-updates-in-state-of-the-city-address/article_344f27e2-376a-11e8-b8d5-8fd105afce43.html. Accessed 4 June 2018.
- (8) “NCSSM-Morganton.” North Carolina School of Science and Mathematics, <https://www.ncssm.edu/morgantoncampus>. Accessed 29 May 2018.
“About WPCC.” Western Piedmont Community College, <http://www.wpcc.edu/about-wpcc/>. Accessed 29 May 2018.
“Nc School for the Deaf.” U.S. News & World Report – Education, <https://www.usnews.com/education/best-high-schools/north-carolina/districts/deaf-and-blind-schools/nc-school-for-the-deaf-147552>. Accessed 29 May 2018.
- (9) STR Global Custom Report, “Trend Report – Hickory Market – Upscale.” Generated 29 May 2018.
- (10) “Feasibility Study of: Proposed Hotel – Morganton, North Carolina, 28655”. Hotel and Club Associates of Virginia. Generated 9 September 2015.
Flanagan, Glen Luke. “A New Hotel Could Boost Morganton’s Economy, Officials Say.” Morganton News Herald, 3 April 2015. https://www.morganton.com/news/a-new-hotel-could-boost-morganton-s-economy-officials-say/article_38b38d8e-da5a-11e4-aace-e340f4f97fe5.html. Accessed 6 June 2018.

SILLO RIDGE

- (1) Niche.com. 2019 Best School Districts in North Carolina. <https://www.niche.com/k12/search/best-school-districts/s/north-carolina/>. Accessed September 8, 2018.
- (2) Bowen National Research. Burke County Preliminary Housing Needs Assessment. Report 17-677. Web. April 20, 2018.
- (3) Western Piedmont Council of Governments. “Burke County Housing Profile.” Burke County Housing Summit. Burke Development, Inc., Morganton, NC. 30 August 2017. Lecture.
- (4) Western Piedmont Council of Governments. “Burke County Housing Profile.” Burke County Housing Summit. Burke Development, Inc., Morganton, NC. 30 August 2017. Lecture.
- (5) Office of Policy Development and Research. U.S. Department of Housing and Urban Development. State of the Cities Data Systems Permit Database, <https://socds.huduser.gov/permits/>. Accessed 4 September 2018.
- (6) ESRI Business Analyst Online. Burke County, NC Housing Profile. Web. Accessed 21 June 2018.
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- (8) Bowen National Research. Burke County Preliminary Housing Needs Assessment. Report 17-677. Web. April 20, 2018.
- (9) Bowen National Research. Burke County Preliminary Housing Needs Assessment. Report 17-677. Web. April 20, 2018.

BROUGHTON TERRACE

- (1) Bowen National Research. Burke County Preliminary Housing Needs Assessment. Report 17-677. Web. April 20, 2018.
- (2) Western Piedmont Council of Governments. "Burke County Housing Profile." Burke County Housing Summit. Burke Development, Inc., Morganton, NC. 30 August 2017. Lecture.
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Bowen National Research. Burke County Preliminary Housing Needs Assessment. Report 17-677. Web. April 20, 2018.
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- (10) Bowen National Research. Burke County Preliminary Housing Needs Assessment. Report 17-677. Web. April 20, 2018.

HOTEL AVERY

- (1) NCDOT AADT Mapping Application. ArcGIS Web Viewer, <http://ncdot.maps.arcgis.com/apps/webappviewer/index.html?id=5f6fe58c1d90482ab9107ccc03026280>. Accessed 29 May 2018.
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- (3) "Overnight Stays by Category and Year for Blue Ridge PKWY: 1979 to 2017" National Park Service Integrated Resource Management Applications (IRMA) Portal, [https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Overnight%20Stays%20\(1979%20-%20Last%20Calendar%20Year\)?Park=BLRI](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Overnight%20Stays%20(1979%20-%20Last%20Calendar%20Year)?Park=BLRI). Accessed 6 June 2018.
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- (5) "About Us." Historic Morganton Festival, <https://morgantonfest.org/about/>. Accessed 29 May 2018.
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