CLARION UNIVERSITY I VENANGO CAMPUS

Facilities Master Plan Appendix

Perkins Eastman

ACKNOWLEDGEMENTS

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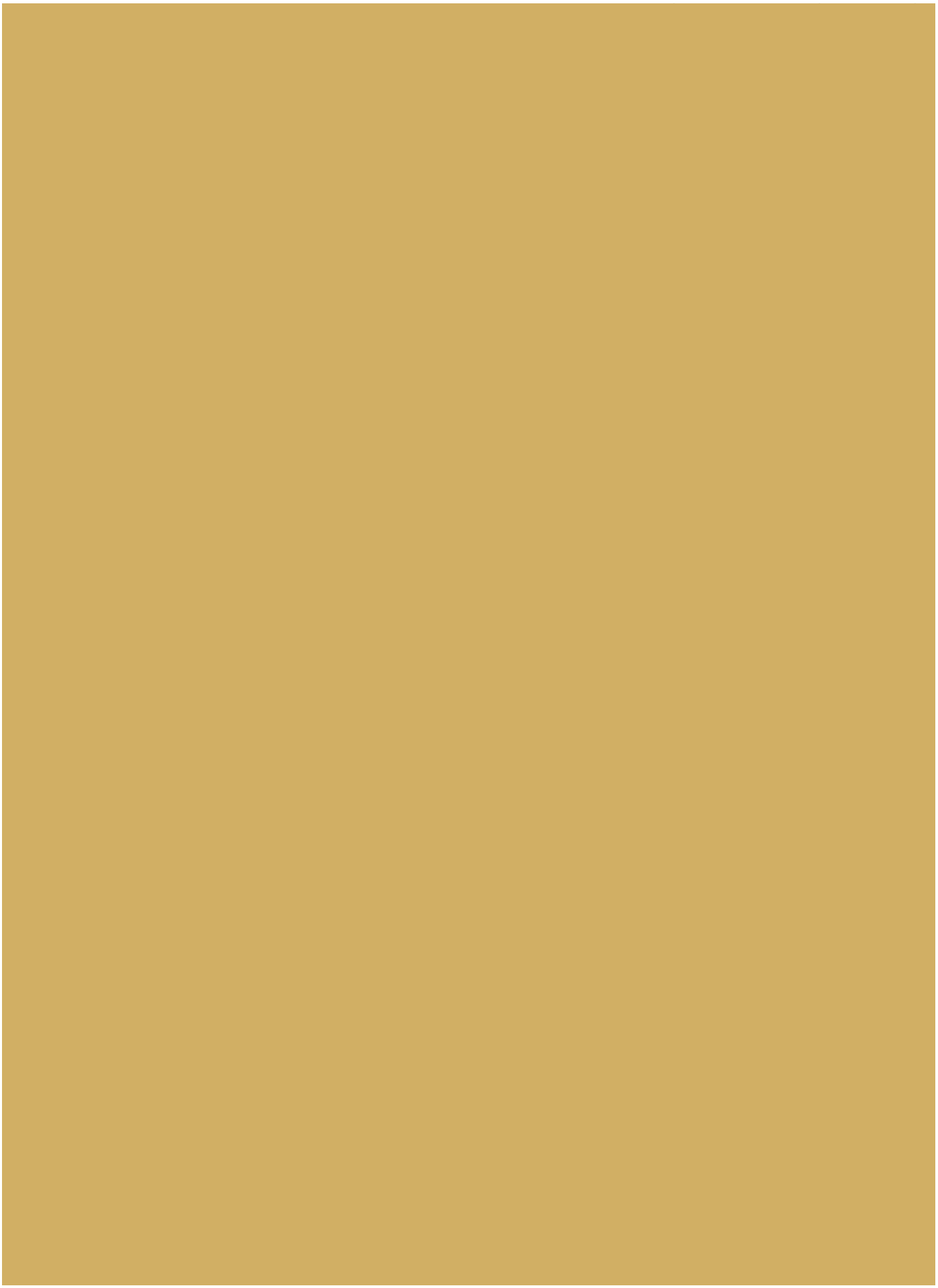

Clarion University Rural Creative Class

Clarion University is located in rural northwestern Pennsylvania, in an area with a declining population, high unemployment and relatively low household and personal incomes. As part of the master planning process, the Trustees of Clarion University wished to explore the potential of developing the "Rural Creative Class" in the environs of their campuses in Clarion Borough, Clarion County and Oil City, Venango County. The assumption being that strengthening the communities will increase the appeal of Clarion University and solidify its market share.

After providing an overview of conditions, the extent of the existing rural creative class is determined using indicators refined and developed by McGranahan, Wojan and Lambert for the U.S. Department of Agriculture based upon Richard Florida's work. These indicators include educational attainment, occupation, entrepreneurial efforts as well as the outdoor amenity scale for the counties as determined by McGranahan et. al. Locational characteristics that support creative class development, influencing trends and best practices from other institutions of higher education are then identified. This appendia will conclude with recommendations for Clarion University and the implication of these recommendations for the facilities master plan.

Area Overview

The following section provides basic reference information for the specified study areas of Clarion and Venango Counties as well as Clarion Borough and Oil City. At times, information for Pennsylvania, Franklin and Forest County are included to add context.

Population
Between 2000 and 2010, while the State of Pennsylvania increased in population by 3.4 percent, Clarion County lost some 1,777 residents (4.3%) and Venango Counties lost 2,581 residents (4.5%) as seen in the table below. Neighboring Forest County, however, gained 2,770 residents, an increase of 56.0 percent.

	2000	2010	Change	% Change
Pennsylvania	12,281,054	12,702,379	421,325	3.4%
Clarion County	41,765	39,988	(1,777)	-4.3%
Clarion Borough	6,185	5,276	(909)	-14.7%
Venango County	57,565	54,984	(2,581)	-4.5%
Oil City	11,504	10,557	(947)	-8.2%
Franklin	7,212	6,545	(667)	-9.2%
Forest County	4,946	7,716	2,770	56.0%

Graphic A.01
Pennsylvania, Clarion and Venango Counties: Population Change 2000-2010

Source: *US Bureau of the Census Demographic Profiles, 2000 SF1 And 2010 SF*

While both of the study area counties lost residents in the last decade, the loss was particularly pronounced in the central cities of Clarion Borough (909 persons, -14.7%) and Oil City (947 persons, -8.2%). Even Franklin, the Venango County Seat, lost 667 residents, or 9.2 percent of its population.

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Race and Ethnicity

As Graphic A.02 illustrates, Clarion and Venango Counties, and their included cities are not as diverse as Pennsylvania as a whole. Clarion and Venango Counties as well as Oil City are all more than 95 percent white, non-Hispanic. Clarion borough is the most diverse, likely due to the University, with 4.9 percent of the population being Black or African American, 2.2 percent Asian or Other, 1.6 percent identifying as Two or More Races, and 1 percent being Hispanic.

Graphic A.02
Pennsylvania, Clarion and Venango Counties: Mutually Exclusive Race/Ethnicity 2010

Source: *US Bureau of the Census Demographic Profiles, 2010 SF*

	White alone	Black or African American Alone	Asian/ Other	Two or More Races	Hispanic or Latino	White alone	Black or African	Asian/ Other Alone	Two or More Races	Hispanic or Latino
Pennsylvania	10,094,652	1,327,091	382,381	178,595	719,660	79.5%	10.4%	3.0%	1.4%	5.7%
Clarion County	38,724	468	265	286	245	96.8%	1.2%	0.7%	0.7%	0.6%
Clarion borough	4,770	256	117	82	51	90.4%	4.9%	2.2%	1.6%	1.0%
Venango County	53,052	567	305	582	478	96.5%	1.0%	0.6%	1.1%	0.9%
Oil City city	10,062	154	58	154	129	95.3%	1.5%	0.5%	1.5%	1.2%
Franklin city	6,060	177	71	154	83	92.6%	2.7%	1.1%	2.4%	1.3%

Housing Occupancy and Tenure

The study area's housing is characterized by high vacancy and relatively low ownership rates compared to the State standard, as shown in Graphic A.03 below.

Clarion County has 19,962 housing units according to the 2010 Decennial Census. Of these, 16,128 were occupied, 3,834 were vacant, yielding a vacancy rate of 19.2 percent. Of the occupied units, 68.3 percent are owner-occupied. Clarion borough has 1,972 or the county's units, with a much more healthy overall vacancy rate of 8.1 percent. However, the ownership rate is only 34.6 percent, likely a reflection of the student population.

Graphic A.03
Pennsylvania, Clarion and Venango Counties: Housing Occupancy and Tenure 2010

Source: *US Bureau of the Census Demographic Profiles, 2010 SF*

	Pennsylvania	Clarion County	Clarion borough	Venango County	Oil City	Franklin
Housing Units	5,567,315	19,962	1,972	27,464	5,058	3,175
Occupied	5,018,904	16,128	1,812	22,621	4,383	2,874
Owner	3,491,722	11,022	627	16,876	2,633	1,561
Renter	1,527,182	5,106	1,185	5,745	1,750	1,313
Vacant	548,411	3,834	160	4,843	675	301
Vacancy Rate	9.9%	19.2%	8.1%	17.6%	13.3%	9.5%
Ownership rate	69.6%	68.3%	34.6%	74.6%	60.1%	54.3%

Venango County has 27,464 housing units of which some 4,843 are vacant; a vacancy rate of 17.6 percent. However of the 22,621 occupied housing units, 16,876 are owner-occupied, yielding an ownership rate of 74.6 percent. The cities once again fare better in terms of occupancy with only 13.3 percent of Oil City's 5,058 units and 9.5 percent of Franklin's 3,175 units vacant. Ownership rates in the cities are not as high, Oil City's ownership rate is 60.1 percent; Franklin's is 54.3 percent.

Labor Force Participation

Labor force participation is characterized for the population 16 and older. Graphic A.04 provides data on labor force participation in Pennsylvania as a whole as well as for the component study areas. The labor force participation rates in our study areas are lower than the State average of 63.2 percent, with Franklin city having the highest rate at 60.4 percent, followed by Venango and Clarion Counties at 60.0 percent and 58.8 percent respectively. Clarion borough's labor participation rate is only 51.7 percent and Oil City's 58.2 percent. The relatively low rates in these municipalities reflect the presence of Clarion University as students are not considered members of the labor force.

	Pennsylvania	Clarion County	Clarion borough	Venango County	Oil City	Franklin
Population16 years+	10,147,567	33,316	4,892	44,562	8,205	5,481
In labor force	6,418,310	19,605	2,533	26,734	4,779	3,311
Civilian labor force	6,408,622	19,597	2,533	26,709	4,768	3,311
Employed	5,940,972	18,259	2,388	24,591	4,339	3,048
Unmployed	467,650	1,338	145	2,118	429	263
Armed Forces	9,688	8	0	25	11	0
Labor Force Participation Rate	63.2%	58.8%	51.7%	60.0%	58.2%	60.4%
Unemployment Rate	7.3%	6.8%	5.7%	7.9%	9.0%	7.9%

Graphic A.04
Pennsylvania, Clarion and Venango Counties: Labor Force Participation 2010

Source: *US Bureau of the Census Economic Profile, 2010 5-year ACS*

Unemployment in Clarion County, according to the ACS, is relatively low at 6.8 percent and even lower in Clarion borough at 5.7 percent. Venango has higher unemployment with a rate of 7.9 percent county wide and in Franklin and an even higher rate of 9.0 percent in Oil City.

[1] *http://www.ers.usda.gov/data-products/creative-class-county-codes/documentation.aspx*

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Rural Creative Class Indicators
The rural creative class is measured in terms of three primary characteristics: Occupation, Entrepreneurship and Educational Attainment.

Creative Class Employment
The USDA Economic Research Service (USDA ERS) created a methodology for uniformly and universally quantifying Creative Class status for every county, metro and rural, in the United States using 1990 and 2000 Census SF 4 resident occupation data[1]. The representative occupations are more exclusive than the original Florida creative class occupations. For example, in the Education, Training and Library Occupations category, only postsecondary teachers and librarians, curators and archivists are included, with the rationale that elementary and secondary school teacher employment are a product of population, not an indicator of innovation.

Graphic A.05
USDA ERS Creative Class Occupations

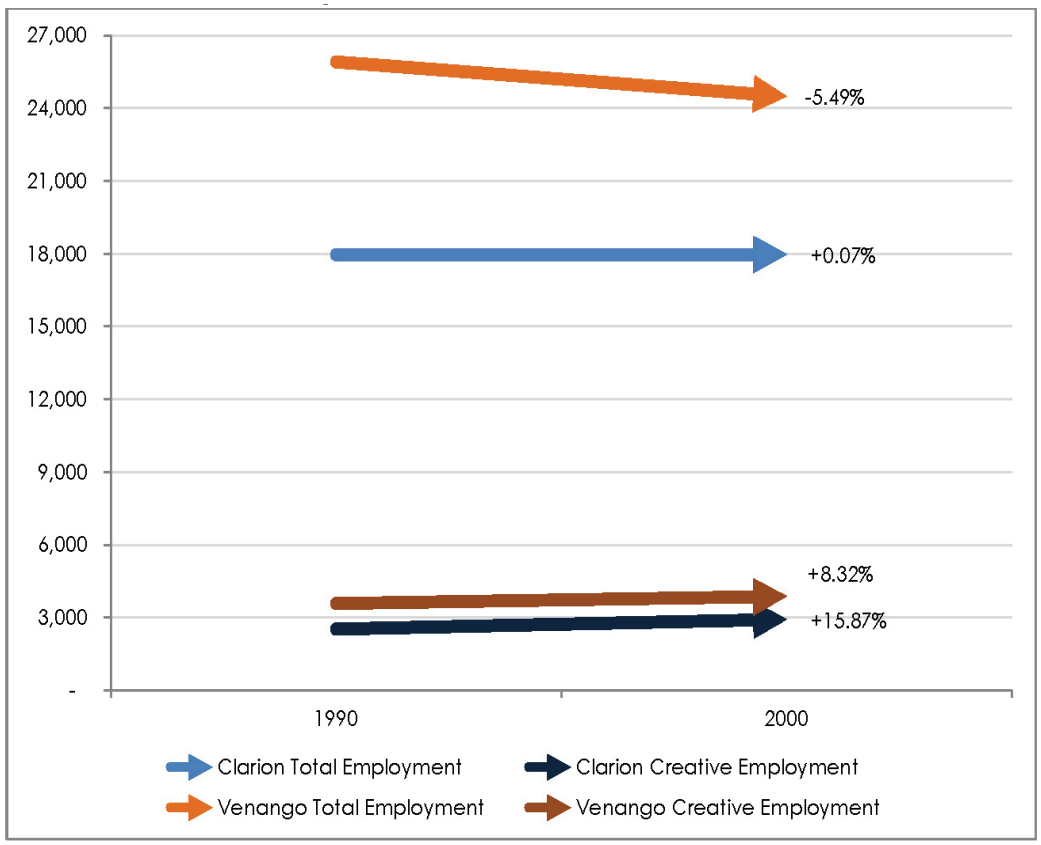
Source: *USDA ERS*

Occupation title	Standard Occupation Code (SOC)
Management occupations:	
Top executives	11-1000
Advertising, marketing, promotions, public relations, and sales managers	11-2000
Financial managers	11-3030
Operations specialties managers, except financial managers	11-3010, 11-3020, 11-3040 to 11-3070
Other management occupations, except farmers and farm managers	11-9020 through 11-9190
Business and financial operations occupations:	
Accountants and auditors	13-2011
Computer and mathematical occupations:	
Computer specialists	15-1000
Mathematical science occupations	15-2000
Architecture and engineering occupations:	
Architects, surveyors, and cartographers	17-1000
Engineers	17-2000
Drafters, engineering, and mapping technicians	17-3000
Life, physical, and social science occupations:	
Life and physical scientists	19-1000 and 19-2000
Social scientists and related workers	19-3000
Legal occupations:	
Lawyers	23-1011
Education, training, and library occupations:	
Postsecondary teachers	25-1000
Librarians, curators, and archivists	25-4000
Arts, design, entertainment, sports, and media occupations:	
Art and design workers*	27-1000*
Entertainers and performers, sports, and related workers*	27-2000*
Media and communications workers	27-3000 and 27-4000
Sales and related occupations:	
Sales representatives, services, wholesale and manufacturing	41-3000 and 41-4000
Other sales and related occupations, including supervisors	41-1000 and 41-9000

*These two categories comprise the arts occupation subset

[1] *http://www.ers.usda.gov/data-products/creative-class-county-codes/documentation.aspx*

In both years analyzed by the USDA, Clarion and Venango Counties fell short of the top 25th percentile classified as "Creative". The rough cutoff was 20 percent creative as a share of total employment. Clarion's creative score was 14.1 percent in 1990 and 16.3 percent in 2000 vs. Venango's 13.8 percent and 15.8 percent respectively. However, the adjacent county of Butler and nearby Allegheny, Washington and Westmoreland counties, were all classified in the top fifth in both 1990 and 2000. Forest County to the north, which, with Venango and Clarion, makes up PUMA 01500, had an even lower creative class score of 11.7 percent in 1990 and 13.3 percent in 2000.



Graphic A.06
Changes in Total and Rural Creative Occupational Employment from 1990 to 2000: Clarion and Venango Counties

Source: *USDA ERS*

While remaining a relatively small share of overall employment, it is important to note that while total employment held steady in Clarion County (+0.07%) and decreased in Venango County (-5.49%), rural creative class occupations increased in both counties by 15.87 percent and 8.32 percent respectively.

The ERS further broke down the occupational classificatio ns to identify the "bohemian" or "arts" category, consisting of Art and design workers, Entertainers and performers, sports, and related workers. The presence of these, in ERS' research, has served as an indicator of entrepreneurship and start-ups. Clarion County share of "arts" occupations declined from 0.75 percent in 1990 to 0.62 percent in 2000. Venango County increased its "arts" share from 0.58 percent in 1990 and 0.67 percent in 2000. Forest County's share increased from 0.10 percent to 0.66 percent over that same decade.

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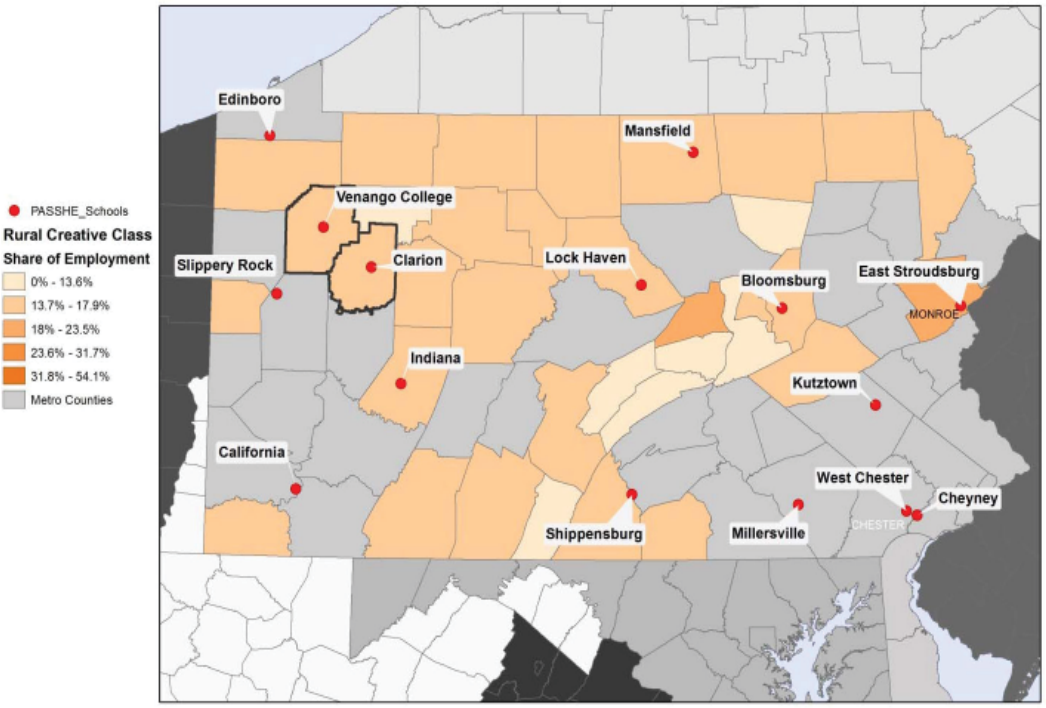
Graphic A.07 shows the PASSHE schools in relation to non-metropolitan county creative class employment in 2000. It is interesting to note that East Stroudsburg University is the only PASSHE institution in a rural area that is in a county (Monroe) with creative employment in a quintile higher than Clarion and Venango. All of the others are in counties with creative class employment ranging between 13.7 percent and 17.9 percent.

Graphic A.07
USDA ERS Creative Class Occupations

Source: *USDA ERS*



Current Creative Class Occupational Employment

Due to changes in how data are collected by the Census Bureau, current detailed occupation data has to be drawn from Public Use Microdata Sample (PUMS). This dataset enables very detailed cross-tabulations of many categories, but to protect the private information of the respondents, the data are available only for large tabulation areas referred to as PUMAs. The PUMA for the study area is 4201500 (Pennsylvania, 01500) and includes not only Clarion and Venango Counties, but Forest County as well. (The three counties together had combined USDA ERS creative class scores of 13.8 percent in 1990 and 15.9 percent in 2000.) The dataset used is the American Community Survey (ACS) 2007-2011sample file, a five-year aggregation that best identifies very detailed characteristics.

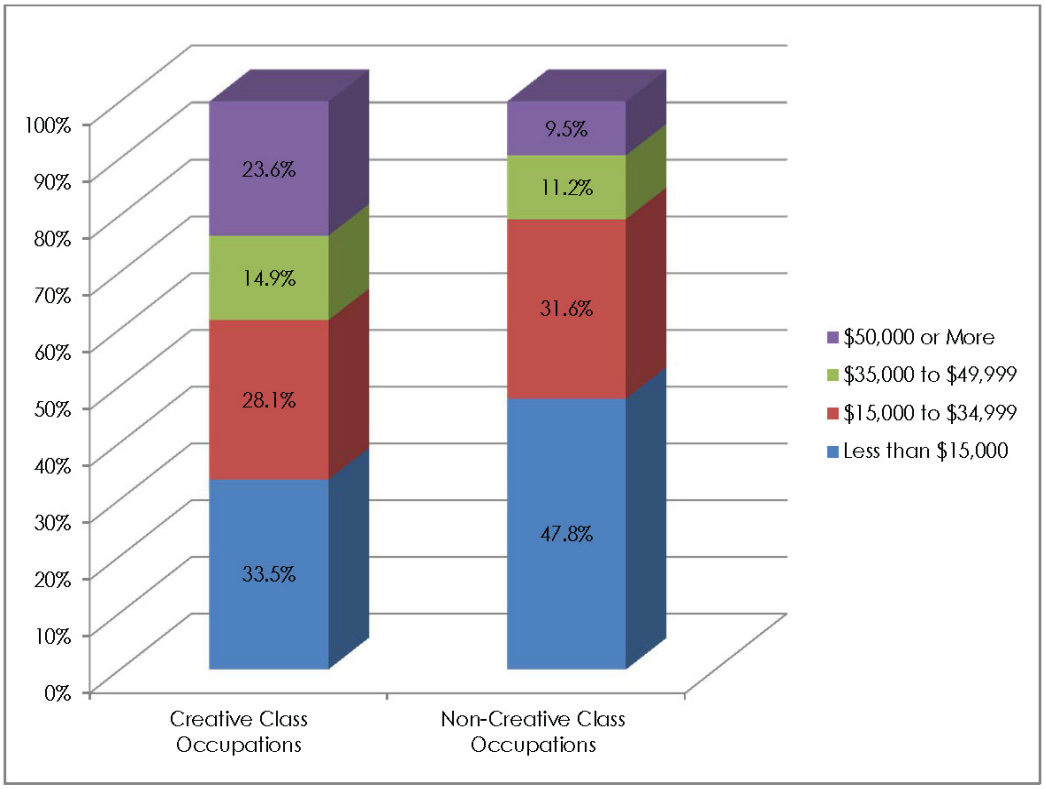
While a comparable score cannot be established for the individual counties, the data may be used to test the characteristics and economic status of the Rural Creative Class for the area at large. Using an adjusted methodology[2], the creative class in PUMA 01500 had

[2]*Occupation data since the adoption of the American Community Survey has not been as detailed at the County level as in previous decennial Censuses. To make the current creative measure comparable in the absence of better options, the 2000 data by county were examined to determine the creative occupation share within the larger occupational categories (e.g., the percentage of business and financial operations occupations held by accountants and auditors.). These were then applied to the larger categories in the 2007-2011 ACS dataset and the results summed to determine the number of creative workers in the counties.*

a creative class score of 14.4 percent, down from 2000. Looking at the "artistic core" or "Bohemian" component of that, 303 persons work in arts, design and entertainment occupations or 0.5 percent of all local resident workers. In that period between 2000 and 2011, the decline in population, increased unemployment, and different estimation methodologies have all had an impact on the estimate for 2011.

Despite larger socioeconomic trends, one characteristic of the rural creative class has remained consistent: i.e., wages for creative class workers tend to be higher than non-creative workers. The median wage for Clarion/Venango/Forest workers in 2011 was $17,787. The median wage for creative class occupations was $26,000, while the median wage for non-creative occupations was $16,567.

Graphic A.08, below, shows the wage distribution of creative and non-creative workers for PUMA 01500. One in every five workers in creative occupations makes $50,000 a year or more; while only one in ten non-creative workers can say the same. A greater share of creative workers (14.9%) compared to non-creative workers (11.2%) are in the next highest wage category, those making between $35,000 and $49,999. The most equitable comparison, the share of creative and non-creative workers making between $15,000 and $34,999 is quite similar at 28.1 percent and 31.6 percent, respectively. However, in the minimum wage category ($15,000 or less) are just over one third of creative class workers compared to almost half (47.8%) of non-creative workers.



Graphic A.08
Wage Rate Distribution for PUMA 01500(Clarion/ Venango/Forest Counties) 2011: Creative Class Occupations and Non-Creative Class Occupations

Source: *iPUMS American Community Survey 2007-2001*

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Entrepreneurship

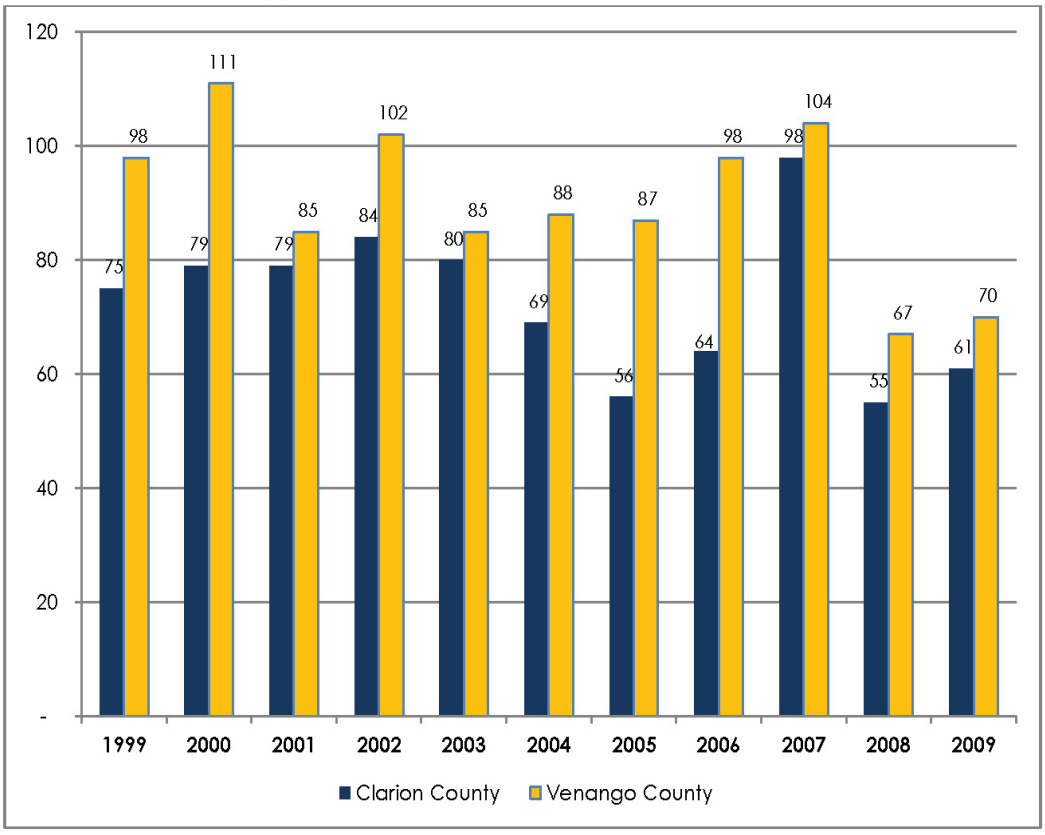
There are two ways to determine the level of entrepreneurship in an area, business births and non-employer statistics. Establishment Births - Births are establishments that have zero employment in the first quarter of the initial year and positive employment in the first quarter of the subsequent year. Non-employer establishments are generally self-employed individuals operating unincorporated businesses (known as sole proprietorships), which may or may not be the owner's principal source of income.

Data for both categories was collected at the county level from the Business Information Tracking Series (BITS), a file which links establishments in the annual County Business Patterns data from year to year. We use a series of matches to link establishments across years. The primary match links establishments having the same census identification number in both the initial and subsequent years. These are establishments which have undergone no ownership or organizational changes.

Establishment Births

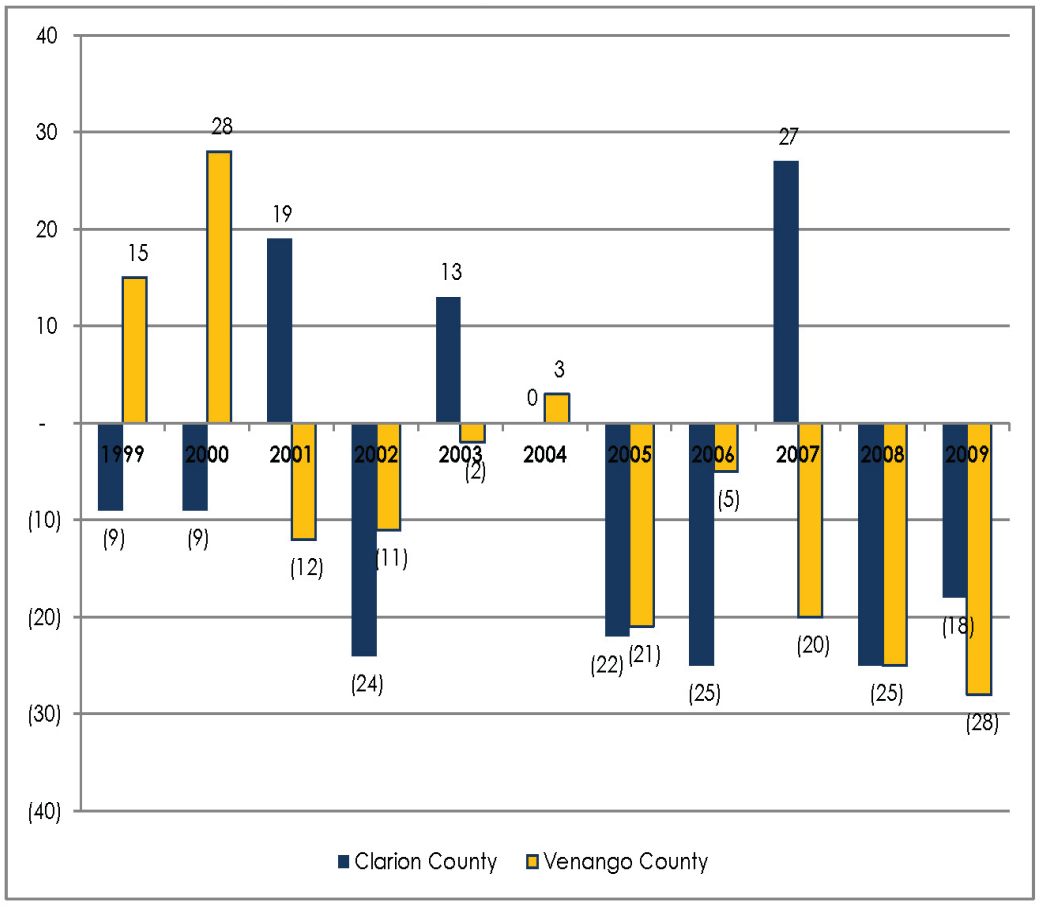
Graphic A.09
Clarion and Venango County
Business Births 1999-2009

Source: *Business Information Tracking Series*



Graphic A.09 illustrates the business births in Clarion and Venango counties from 1999 to 2009 (the most recent years for which data are available. Venango County shows more innovation in terms of business creation than Clarion County in each of the years for which data are available with 995 and 800 establishments, respectively. The number of new businesses in a given year follows economic cycles, with more business creation in 1999 and 2000 as well as 2006 and 2007, before the troughs that came with the collapse of the technology and housing market bubbles.

However, the number of businesses created each year is balanced by business deaths. Graphic A.10 shows the net change in the number of businesses in Clarion and Venango Counties from 1999 to 2009.



Graphic A.10
Clarion and Venango County Net Charge in Businesses: 1999-2009

Source: *Business Information Tracking Series*

While Venango County has seen greater numbers of births, it has also seen more business deaths. While the county saw net increases in businesses in 1999, 2000 and 2004 the remaining years saw more deaths than births. Clarion County saw net gains in 2001, 2003 and 2007; broke even in 2004 and had more deaths than births in the remaining years.

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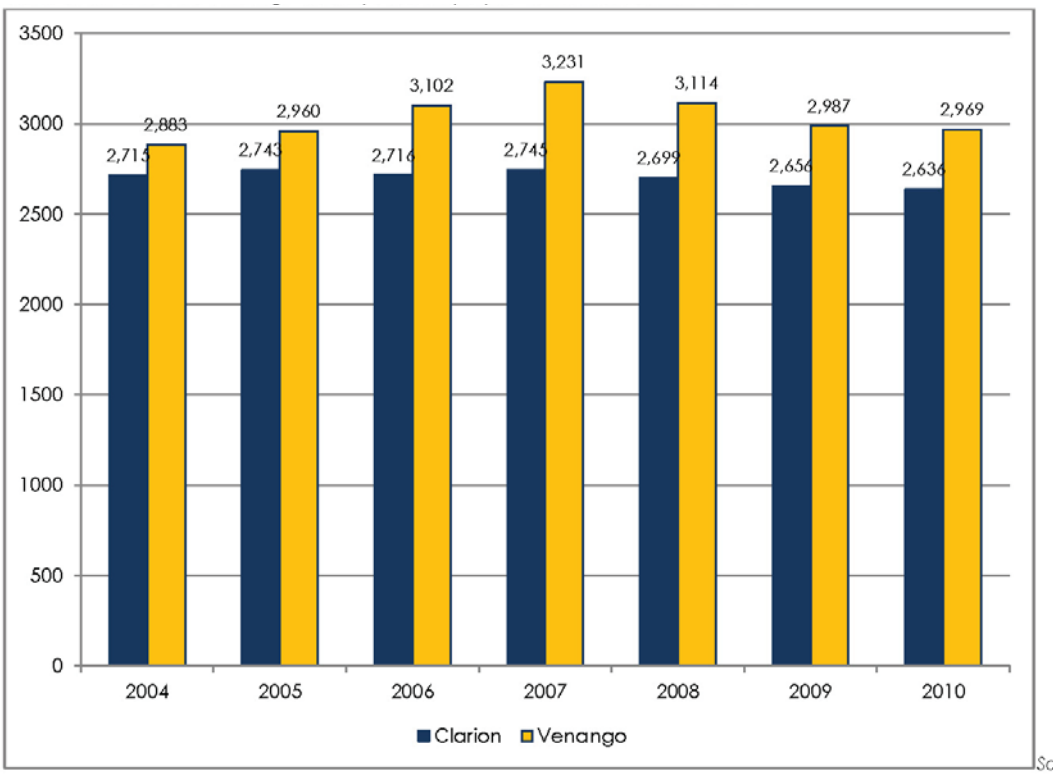
Non-employer Establishments/Sole Proprietorships

As seen in Graphic A.11, non-employer establishments also follow the economic cycle, with greater numbers in boom years like 2007. However, due to small size and relatively low overhead, these businesses do not follow the busts as sharply.

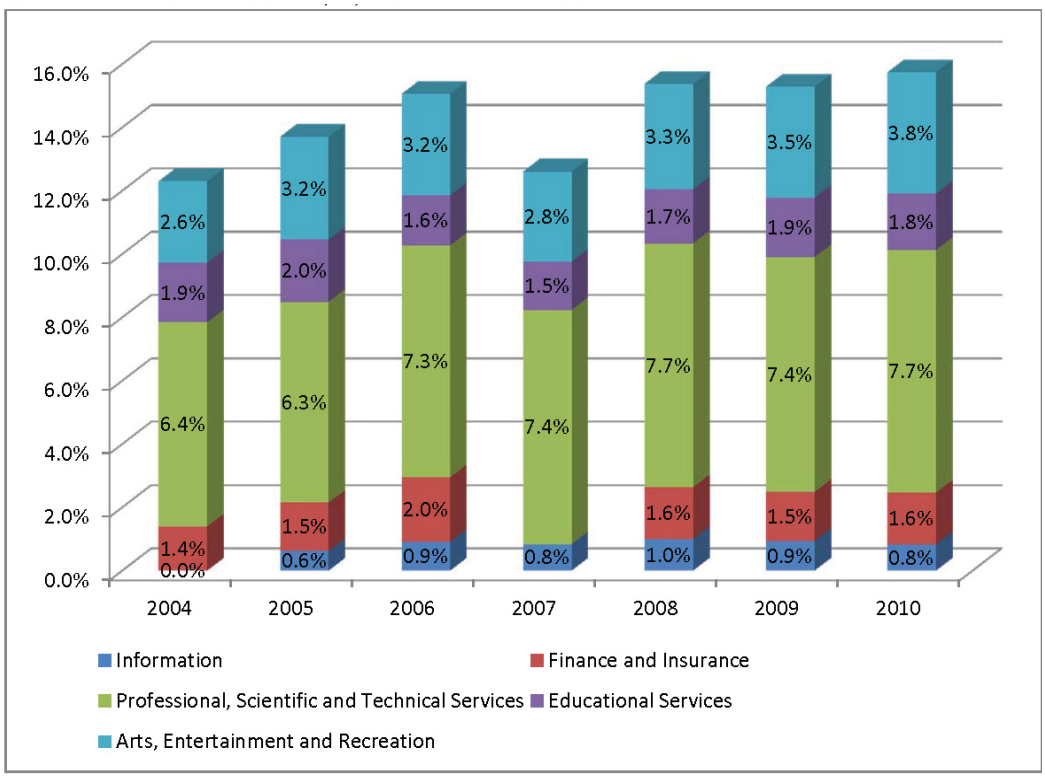
Graphic A.11
Clarion and Venango County Non-Employer Establishments: 2004-2010

Source: *Business Information Tracking Series*



Venango County had 2,883 establishments in 2004, which grew until it peaked in 2007 at 3,231 and has since declined to 2,969. However the overall change in numbers is 86 new small businesses or an increase of 3.0 percent. Venango County historically has had a larger number of non-employer establishments than Clarion County as well. Since 2004 Venango County has averaged 334 more non-employer establishments than Clarion in any given year. Clarion in the same time period has not seen the same growth. Beginning in 2004 with 2,715 non-employer businesses, the number has declined overall to 2,636 in 2010, a decrease of 79 of 3.0 percent.

Non-employer establishments are tracked by industry. While not directly comparable to creative class occupations, we have identified the share of non-employer establishments in the industries with the largest numbers of creative occupation workers. These include Arts, Entertainment and Recreation; Information; Finance and Insurance; Professional, Scientific and Technical Services; and, Educational Services. Graphic A.12 and A.13 illustrate Clarion and Venango County's share of Non-Employer Establishments in Creative industries from 2004 to 2010.



Graphic A.12
Clarion Share of Non-Employer Establishments in Creative Industries: 2004-2010

Source: *Business Information Tracking Series*

Note:2007 is an anomaly due to the absence of Finance and Insurance industry data.

Clarion County's share of non-employer establishments in creative industries has grown from a low of 12.3 percent in 2004 to a height of 15.7 percent in 2010. Professional, Scientific and Technical Services have always been roughly 50 percent of the creative sole-proprietorships, ranging from 6.3 to 7.7 percent of all business of this type. These are followed by Arts, Entertainment and Recreations ranging from 2.6 to 3.8 percent of all sole-proprietorships. Clarion does have a slight edge over Venango County in that the Information proprietorships have increased from 0 to 22 since 2004, making up 0.8 percent of the end year total.

In Venango County, as seen in the Graphic on the following page, the share of non-employer businesses in creative industries has ranged from 14.2 percent in 2004 to 18.2 percent in 2010. The greatest shares of these are the same as in Clarion County with the Professional, Scientific and Technical Services dominating with between 7.7 percent and 9.6 percent of sole proprietorships, followed by Arts, Entertainment and Recreations ranging from 3.2 percent in 2004 to 4.5 percent in 2010, possibly reflecting artist relocations through the ARTS Oil City program.

Educational service non-employer businesses have maintained a relatively steady share of the total in Ve-nango County, ranging from 1.3 to 1.8 percent over the 7 year period. Although it is only 0.7 percent of total sole proprietorships, the Information sector has grown from nothing to 20 Venango non-employer businesses in 2010.

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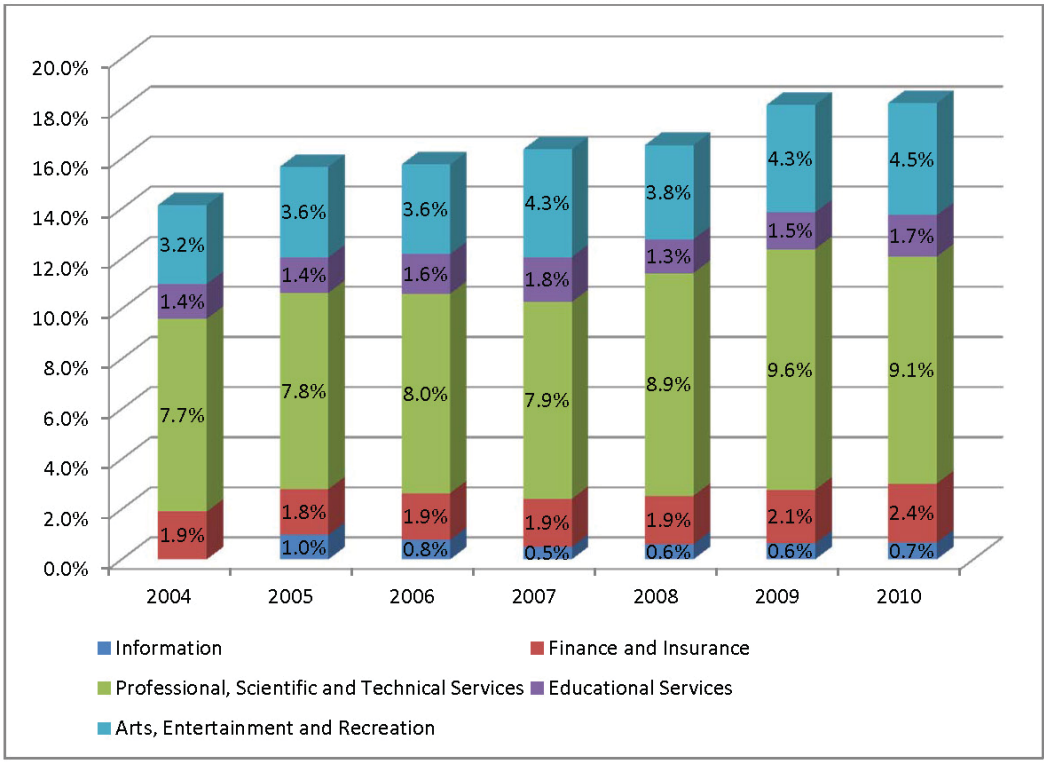
Graphic A.1 3
Venango Share of Non-Employer Establishments in Creative Industries: 2004-2010

Source: *Business Information Tracking Series*



Educational Attainment

The greater the level educational attainment in a place, relative to its surrounds, the greater is the potential for creative class growth. The following table shows the level of educational attainment for the population 25 and older for Pennsylvania as a whole, as well as the study areas in question.

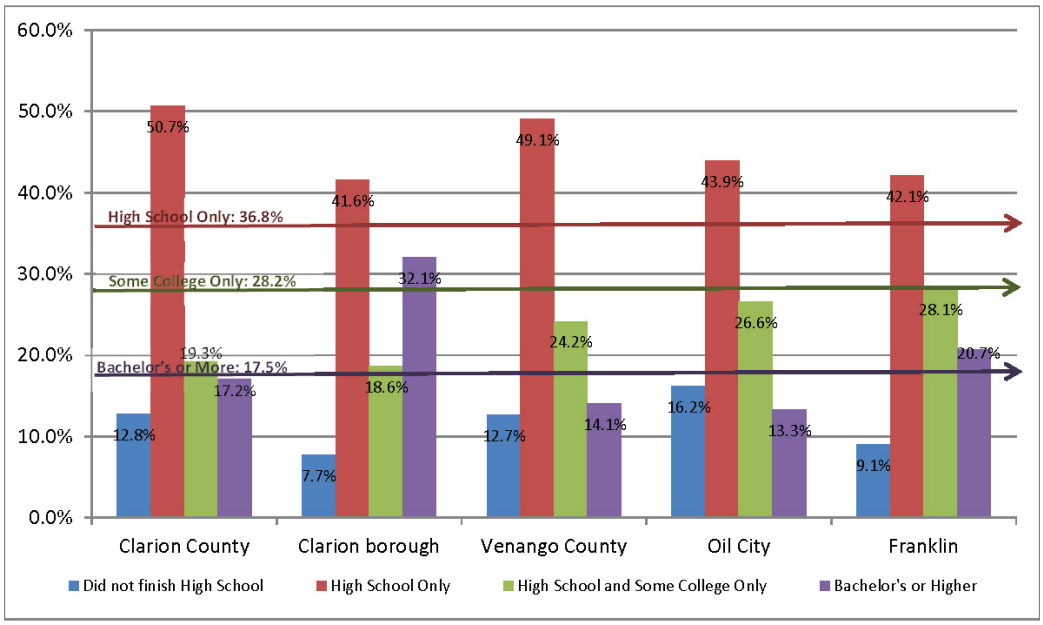
Pennsylvania's share of high school graduates or above is 87.4 percent of the total population age 25 or over. Both Clarion and Venango counties fall just short of this percentage at 87.2 percent and 87.3 percent, respectively. Clarion borough, surpasses it with a 92.3 percent of adult residents having at least a high school diploma. Clarion is followed by Franklin, which has a 90.9 percent rate of attainment at that level. Oil City however, falls almost four percentage points below the state average with only 83.8 percent of residents 25 or older having finished high school.

	Pennsylvania	Clarion County	Clarion borough	Venango County	Oil City	Franklin
Population 25 years and over	8,558,693	25,931	1,818	39,082	7,046	4,746
Less than 9th grade	338,102	1,071	53	1,200	138	51
9th to 12th grade, no diploma	739,122	2,252	87	3,752	1,005	379
High school graduate (includes GED)	3,236,194	13,150	756	19,188	3,093	1,999
Some college, no degree	1,362,754	3,212	269	5,950	1,210	782
Associate's degree	624,465	1,796	70	3,493	662	553
Bachelor's degree	1,396,678	2,814	307	3,601	586	630
Graduate or professional degree	861,438	1,636	276	1,898	352	352
Percent high school graduate or higher	87.4%	87.2%	92.3%	87.3%	83.8%	90.9%
Percent bachelor's degree or higher	26.4%	17.2%	32.1%	14.1%	13.3%	20.7%

Graphic A.14
Pennsylvania, Clarion and Venango Counties: Educational Attainment 2010

Source: *US Bureau of the Census Social Characteristic Profile, 2010 5-year ACS*

Roughly 1 in 4 Pennsylvania residents over age 25 has a bachelor's degree or higher. Of our study areas, only Clarion borough surpasses that with 32.1 percent of residents (almost 1 in 3) having a bachelor's or higher college degree. Even with the inclusion of that borough, Clarion County as a whole has only 17.2 percent of its population 25 and older with a college diploma. Venango fares still worse with a 14.1 percent rate; its component cities of Oil City and Franklin have rates of 13.3 percent and 20.7 percent, respectively. Graphic A.15 presents the same information in the context of national non-metropolitan area averages for mutually exclusive levels of educational attainment (as shown by the annotated arrows).



Graphic A.15
Study Area Mutually Exclusive Educational Attainment Compared to National Non-Metro Area Averages: 2010 (Persons Aged 25 and Older)

Source: *US Bureau of the Census Social Characteristic Profile, 2010 5-year ACS*

A RURAL CREATIVE CLASS

As seen in the Graphic A.15, the entire area falls short of the national non-metro area average for adults 25 and over who did not finish high school (17.5%) and exceeds the national average for those who have a high school diploma or GED (36.8%). With the exception of Clarion borough and Franklin however, this is not so much a measure of achievement so much as a shortfall in terms of the share of adults who finished high school and have some college or a B.A. or higher.

Community Characteristics

The potential to attract creative class members to Clarion and Venango counties is influenced by several community characteristics that follow. These include the Natural Amenity Index, Transportation Access to Density, Communications Access, and School District Quality.

Natural Amenity Index
The amenity index developed for the U.S. Department of Agriculture's Economic Research Service is based on 6 characteristics:

- Mean temperature in January
- Mean hours of sunlight in January
- Mean temperature in July
- Mean relative humidity in July
- Land and surface topography
- Percent of water area

Each of these characteristics are uniformly coded for each county in the United States and then given a value for deviation from the national mean. The deviations are then aggregated to form the Natural Amenity Scale. The counties, which have amenity scales that run from 11.17 to -6.40, are then assigned ranks from 1 to 7, with 1 being the lowest and 7, the highest.

Graphic A.16
Natural Amenities Index US, Pennsylvania, Clarion and Venango Counties

Source: *USDA Economic Research Service*

			Standard deviation from Mean scores (higher score is higher amenity)					
	Overall Natural Amenities Rank*	Natural Amenity Scale	January Temperature	January Hours of Sunlight	July Temperature	July Humidity	Typography**	Water Area
Clarion County	3	-0.30	-0.5427	-1.8218	0.9545	-0.5481	1.5354	0.1220
Venango County	3	-0.86	-0.5427	-1.8218	0.9545	-0.5481	0.9287	0.1683
Pennsylvania average	3.4	-0.18	-0.4047	-0.8076	0.5171	-0.4132	0.9717	-0.0413
US Average	4	0.02	0.0041	0.0024	0.0030	-0.0092	0.0030	0.0212

Higher than Pennsylvania or US Averages
Higher than both Pennsylvania AND US Averages

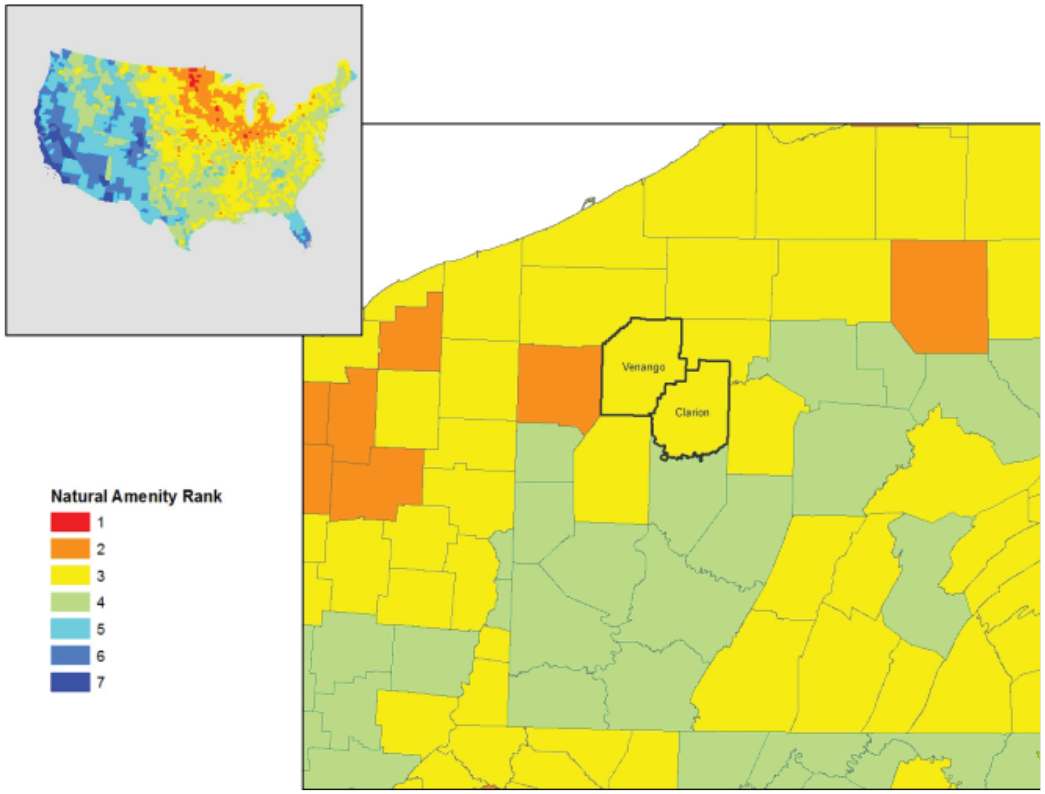
[3]*Topography is rated by degree of variation--hills and mountains ranking higher than plains. Full topography codes may be found in the appendix.*

Both Clarion and Venango counties have an overall natural amenities rank of 3, lower than the Pennsylvania average of 3.4 and the national average of 4; the cold winters and high summer humidity taking a toll on the overall score. (See Map 2 on the following page.) However, both counties have above average scores in terms of July temperature and total water area. Pennsylvania has a topography score of .97, much higher than the national average of .003. Venango County's topography score is slightly less than the State's, but remains much higher than the national average. Clarion County's topography score is 1.5, higher than both the state and the nation largely due to the stunningly dramatic Clarion River. It is possible, that the beauty of the area will allow for some to overlook the harshness of the winters. Graphic A.18 compares the topography rankings for all the counties in the nation with an overall natural amenities rank of 3.

A RURAL CREATIVE CLASS

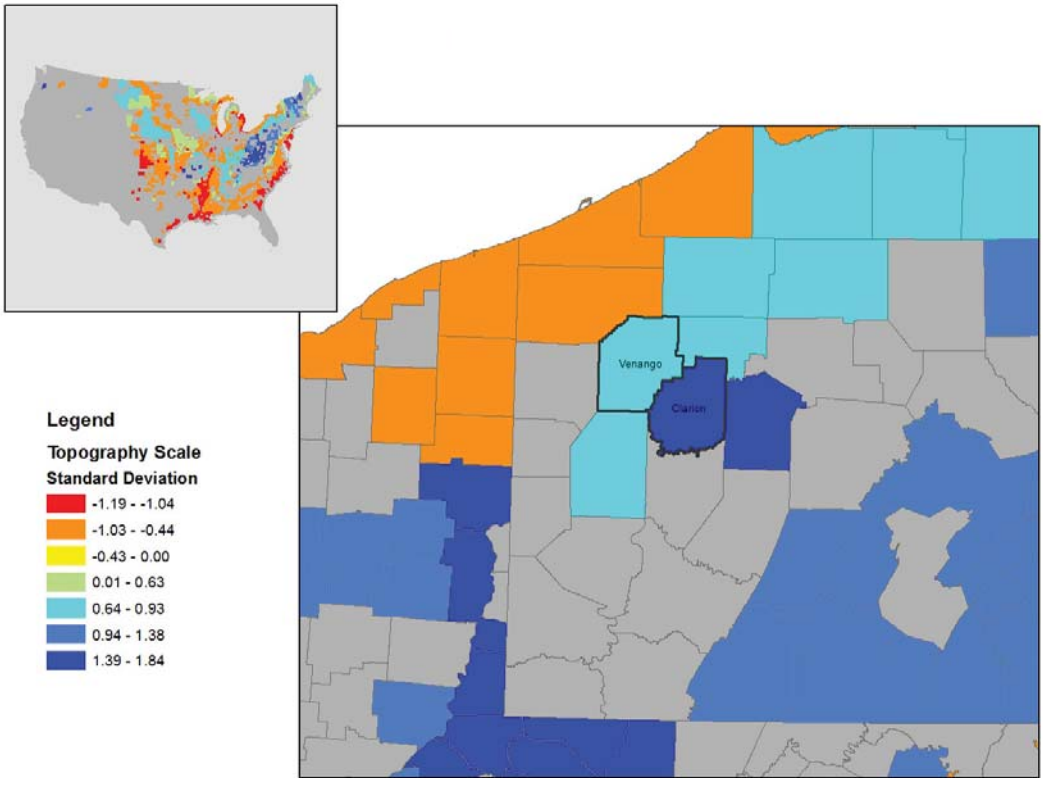
Graphic A.17
All Counties by USDA ERS
Natural Amentity Rank

Source: *USDA ERS*

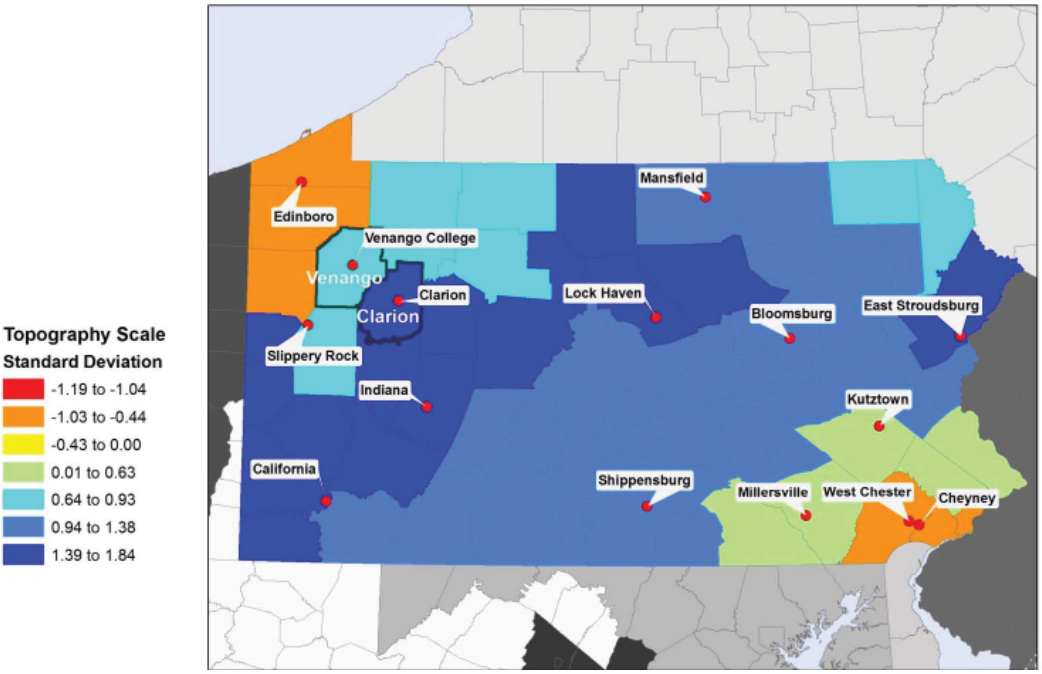


Graphic A.18
All Counties with a Natural
Amenity Rank of 3: Topography
Score Standard Deviation

Source: *USDA ERS*



The following map compares the topography index of all the PASSHE school counties.



Graphic A.19
Pennsylvania State System of Higher Education Institutions BY County Topography Score Standard Deviation

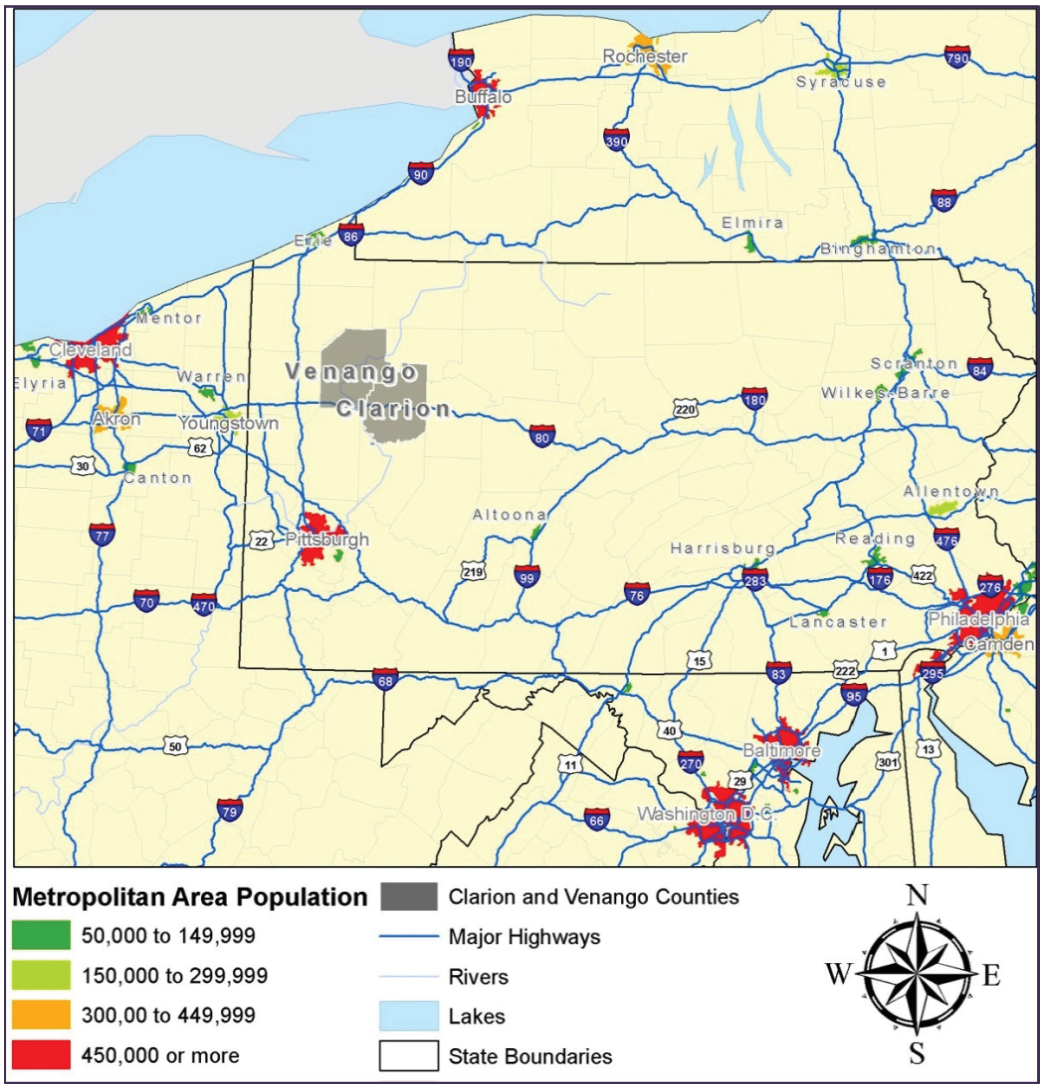
Source: *USDA ERS*

As is illustrated by the map above, California, Indiana, Lock Haven and East Stroudsburg Universities are located in counties within the same range as Clarion County in terms of topography.

Transportation Access to Density
Access to more densely populated areas supports growth in the creative class. As seen in Graphic A.20 on the following page, Clarion and Venango Counties are both on I-80 and Clarion borough is indicated often in signage along both I-80 and I-79.

A RURAL CREATIVE CLASS

Graphic A.20
Metropolitan Area Population



Clarion is within a two hour drive of the cities of Pittsburgh, Erie, Youngstown, Warren and Akron. Currently, both Clarion and Oil City are served by public transportation, but the only private services that links Clarion or Oil City to more densely populated areas in the region is the Chinatown bus that runs from New York City to Cleveland—passengers may text the location of any BP station along I-80 to the bus company for pick-up or drop off. However no inter-city public or private transportation services are available within town. A summary of available transportation services follows.

Residents of Clarion and Venango counties are both served by fixed-route rural public transportation networks. In Clarion County, the Area Transportation Authority of North Central Pennsylvania (ATA) operates two hourly neighborhood shuttle routes, the Clarion Mall Express Loop and the Clarion Campus Loop.

These routes serve students at Clarion University but are also open to the general public. The Clarion Mall shuttle runs from 8:20 am to 8:15 pm from Monday to Friday with extended Saturday hours while the Clarion Campus route runs from 8:20 am to 9:55 pm during weekdays only. Transit services are available free for Clarion students and senior citizens while the general fare for all other adults is $1.25[4].

In Venango County, VenanGo Bus offers two fixed route city shuttles serving riders in the cities of Franklin and Oil City. Additionally, an inter-city shuttle operates between Franklin and Oil City, serving city riders as well as commuters from Cranberry Township and Sugarcreek Borough. VenanGo Bus runs from 7:00 am to 5:30 pm seven days a week. Adults pay a full-priced fare of $1.50, youth between the ages of 6 and 11 years pay half-priced fares while children under 5 years of age and senior citizens ride free[5].

Shared ride/demand response transportation services are also available to all residents of Clarion, Forest, and Venango counties with discounted services available to seniors and individuals with disabilities[6].

There are no public or privately operated inter-city passenger bus services available for residents of Clarion, Forest, or Venango counties[7].

Communications Access
One of the key factors in enabling the expansion of the creative class is ensuring the ability to perform work anywhere through high speed internet access and phone service.

The State of Pennsylvania received some $309.6 Million of $7.2 Billion awarded in 2009 to improve broadband access across the nation. Clarion and Venango Counties have both benefited from the State's share, in particular, from the $28.8 million Middle Mile Infrastructure Deployment, and its included Broadband Technologies Opportunities Program Middle Mile to enable last mile internet service providers access to the 32 counties north of I-80, including Clarion and Venango to both improve the public safety radio network, increase bandwidth to enable high-speed Internet and to connect "last mile" service providers and anchor institutions.

The results of these programs are tracked under the grants through the Broadband Mapping program, which was launched in January 2010 and will be maintained and updated semi-annually. This interactive map not only shows coverage by type as self-reported by proprietors, but allows the public to comment on the accuracy of the reporting. The map may be shown to reflect compliance with NTIA or PA Act 183 standards[8].

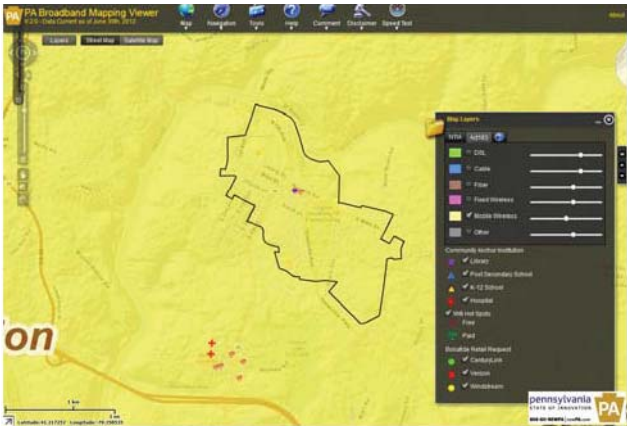
The following pages catalog mobile wireless, DSL, cable, fiber and fixed wireless services as well as service requests for Clarion borough and County and Oil City and Venango County. A map of coverage areas is shown next to each brief description.

[4]Clarion University, Clarion Area Transit Bus Schedule, 2012
[5]County of Venango, Pennsylvania, VenanGo Bus, 2011
[6]Pennsylvania Department of Transportation, Bureau of Public Transportation Services and Programs Map, 2013
[7]Ibid.
[8]NTIA Definition of Broadband: Data transmission technology that provides two-way data transmission to and from the Internet with advertised speeds of at least 768 kbps downstream and at least 200 kbps upstream. Act 183 Definition of Broadband: Data transmission technology that provides two-way data transmission to and from the Internet with advertised speeds of at least 1544 kbps downstream and at least 128 kbps upstream.

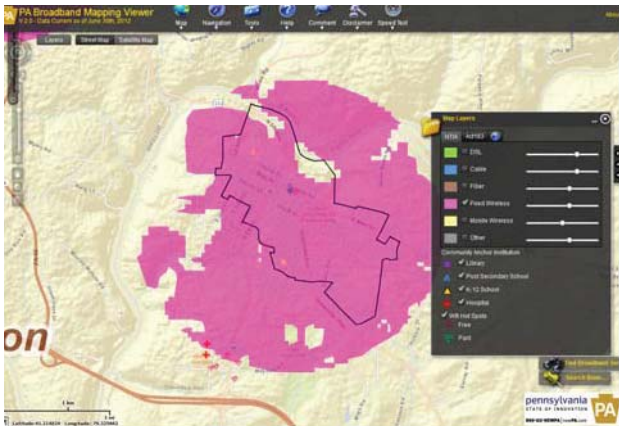
A RURAL CREATIVE CLASS

Clarion Borough

Under NTIA and Act 183 standards, the entire municipality has mobile wireless coverage.

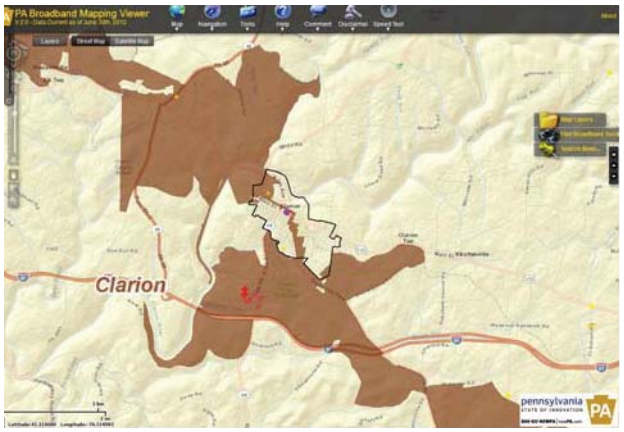


There is fixed wireless coverage meeting NTIA standards in almost the entire borough, as well as two free wifi hot spots on Main Street, at or near the library



DSL service meeting both standards covers the majority of the Borough with nine reported blocks without access, one of which is in the center of the Campus.

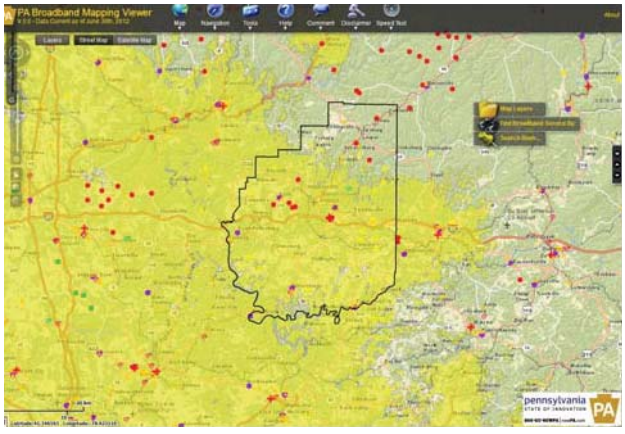
High Speet Cable service overlaps the DSL in much of the borough as shown by the dark green portions on the map. While cable coverge is less comprehensive (see light green areas), it does fill in two of the blocks not served by DSL.



Large areas of Fiber coverage exist to the south of the borough, in the area surrounding the Clarion Oaks Golf Club and Clarion Hospital and to the northwest from Clarion County Airport to Rapp Run. Within the borough itself, fiber coverage runs along Greenville Avenue, including portions of the Clarion University Campus, north to the block between Liberty and Main Streets, extending west until joining with the larger area beyond 1st Avenue.

There are no bona fide retail requests for service.

While overall, coverage is generally good in all but the most rural areas, speed is an issue. For that reason Clarion University is in the process of extending fiber access within Clarion borough.



Clarion County
Mobile wireless covers the majority of the county with the exception of higher altitude areas in the southern border as well as more widespread lack of service to the higher altitude areas in the northern part of the county along Highways 66 and 36.

A RURAL CREATIVE CLASS

There are numerous free and one paid wifi hotspots in the County as shown by the red and green fans, respectively. There are also a number of bonafide service requests, 8 of Verizon, shown in red, and 10 of Windstream north of I-80. South of the Interstate, there are 9 service requests to Windstream. When 25 service requests are noted within a single service area, the provider is obligated to oblige.

Broadband DSL is available in the majority of the county as shown by the green on the map to the right, with gaps primarily in the more mountainous northwestern portion. Notable gaps (gaps in towns) are found in the Fryburg, Marble and Lickingville areas.

Indicated by blue and dark green, broadband cable service in the county is available wherever there are sufficient customers to make the service viable, i.e., in more densely populated towns, leaving more than 50 percent of land area without this service, it does fill in some of the gaps left by DSL—particularly in the areas along Highways 66 and 368.

In addition, fiber service cuts through the county from Ashland Township on the Venango border down to Beaver Township in Jefferson County.

Oil City
Oil City is well covered however the age and construction of the older buildings in the city can limit all but hard-wired service.

Under NTIA and Act 183 standards, the entire municipality has mobile wireless coverage. However, in the downtown, many of the older buildings, such as the National Transit Arts Building, are too solidly constructed to permit access.

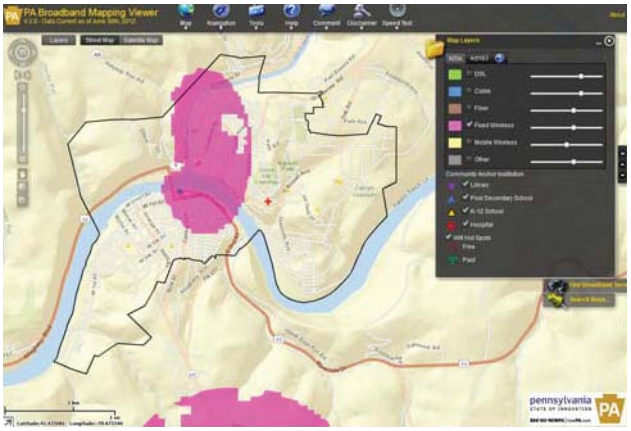
DSL is available in the majority of the city. Blank spots include the cemetery.

A RURAL CREATIVE CLASS

Cable
Cable broadband access covers the majority of the city, as shown in the map on the righ in dark green and blue. The bule areas indicate the blocks without DS: that are served by cable.

Fiber
Fiber optic coverage extends only to the southwestern most parts of Oil City.

Fixed Wireless
NTIA standard fixed wireless service in Oil City centers on the Clarion University Venango campus, extending across the river. There are two free wifi hotspots in the City, including one at the library.

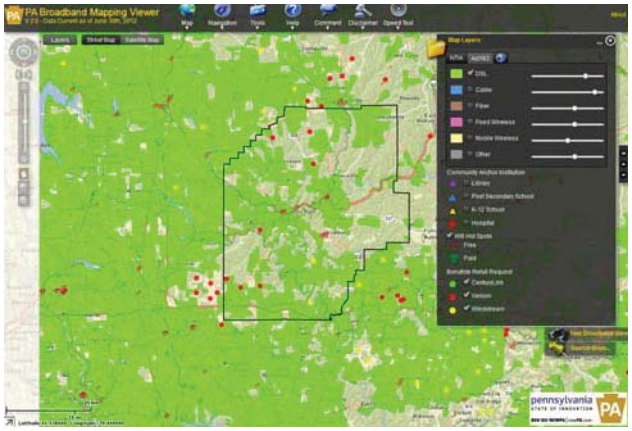


Venango County

Coverage in Venango County is not nearly as comprehensive as Clarion County, due largely in part to its more rural nature and therefore, limited demand. It is likely not in the best interest of the service providers to provide service where there are few customers to counter the cost of providing the infrastructure.

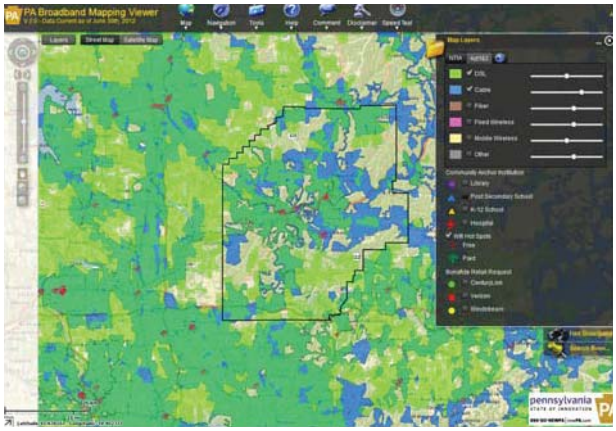
Mobile Wireless

Wireless phone service covers the southwestern three quarters of the county, coverage is lost as elevations increase.



DSL

DSL is available in most of the incorporated areas of Venango County, with lesser coverage in the areas to the east.



Cable

Cable, as shown in dark green and blue, provides service to several areas not covered by DSL. However, this coverage is also spotty in Venango County.

A RURAL CREATIVE CLASS

Fiber
Fiber optic service follows a thin stretch through the county. It currently serves as an alternative for those who live in its very limited coverage area.

Fixed Wireless.
Outside of Oil City, there are three free wifi hotspots in Cranberry Township, two in Franklin and one along the U.S. 62 retail corridor.
Requests for Service: Two of Windstream and seven of Verizon

Building Stock
In describing housing to support the rural creative class, the three A's hold true: Availability, Affordability and Adequacy. Both places have adequate supply in terms of availability: according to realtor.com, a national multiple listing service, there were 28 houses for sale in Clarion borough and 108 units for sale in Oil City[9]. The much greater supply of housing in Oil City is indicative both of the greater area of the municipality, but also of the extent of the population loss suffered since 2000.

The following images are of housing currently listed in each municipality at the median asking price.

[9] *Realtor.com accessed on 2/6/2013*

Even given low ho usehold incomes in the area, Clarion is quite affordable[10], with listings ranging from $68,000 to $220,000 with a median asking price of $127,000. Oil City on the other hand is beyond affordable with extremes in housing prices. Recent listings ranged from $6,000 (for a house) to $280,000. The median asking price of the 108 listings was $69,000.

Adequacy is defined as completeness of kitchen and plumbing facilities as well as lack of overcrowding. The vast majority of housing in both municipalities is adequate: less than one percent of units in either are overcrowded or lacking plumbing and/or kitchen facilities.

Beyond the housing standards, there is also the question of the attractiveness of the municipality, or appeal. Clarion and Oil City diverge here as well, not that one is more appealing than the other, but that they appeal to different personalities. Given their relative proximity, this is an advantage.

Clarion borough has the feel of a quaint college town. The downtown primarily consists of one, two and three-story buildings with ground floor shops including clothing stores, coffee houses where events are held, and the American Legion Hall. The downtown is very walkable, with little slope.


Main Street, Clarion


American Legion, Clarion

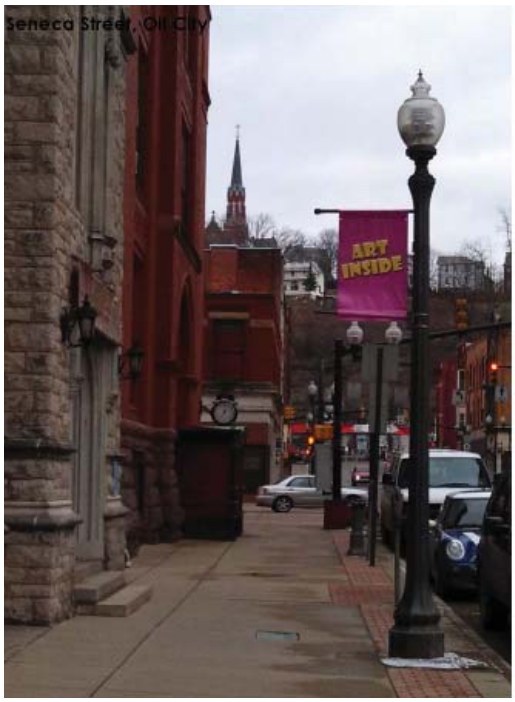
Café Performance, Clarion

Organic Grocery, Clarion

[10]*Affordability in terms of housing purchases is defined as three (3) times household income.*

A RURAL CREATIVE CLASS

Oil City is much denser, with taller (up to 8-story) office and loft buildings, narrower streets and a gritty, almost urban feel, reflecting the City's historic role in the petroleum industry in North America. Nestled into steep hills, the downtown is split by Oil Creek, which lends another scenic aspect and edge to the ambiance.



School District Quality

High quality public school education is both a major contributor to a municipality's economic performance and a highly sought after public good desired by existing and potential residents. Similarly, poorly performing schools can act as a barrier to the creative development of individuals in their youth, effectively closing the opportunity to develop creative skills in later years.

Comparing standardized test averages such as the College Board's SAT and Pennsylvania System of School Assessment (PSSA), the quality of public education in Clarion and Venango Counties presently ranks lower than both state and national averages. Improvement to public schools at both the primary and secondary level will foster new opportunities for the advancement of artistic talents among youth and attract young artist families that value education as a community asset.

	Math	Verbal	Writing	Total Composite Score
Clarion County	483	472	456	1,412
Percent Below National Average	6.4%	5.1%	7.0%	6.1%
Percent Below State Average	3.7%	4.0%	5.3%	4.2%
Venango County	482	474	454	1,409
Percent Below National Average	6.6%	4.6%	7.5%	6.3%
Percent Below State Average	3.9%	3.6%	5.7%	4.5%
Clarion Area High School	489	481	468	1,438
Percent Below National Average	1.4%	6.9%	4.3%	4.2%
Percent Below State Average	2.5%	2.1%	2.6%	2.4%
Oil City Area Senior High School	457	461	424	1,342
Percent Below National Average	8.5%	11.5%	15.1%	11.6%
Percent Below State Average	9.6%	6.5%	13.2%	9.7%
National Average	514	496	488	1,498
State Average	501	491	480	1,472

Graphic A.21
Average SAT Scores among 12th Grade Test Takers for the 2011-2012 School Year

Source: *The College Board. (2012). 2012 College-Board Seniors, State Profile Report: Pennsylvania & Pennsylvania Departmant of Education. (2012). Public School SAT Scores 2001-1012 [data file].*

Clarion County

Clarion County is served by seven school districts with an enrollment of 6,056 students during the 2010-2011 school year. On average, 90.3 percent of twelfth graders graduated high school in the 2011-2012 school year, markedly higher than the state and nation's graduation rates of 83.0 and 75.5 percent, respectively, (Pennsylvania Department of Education, 2012 & National Center for Education Statistics, 2012).

Of the 2011-2012 graduating class of high school students in Clarion County, the mean SAT composite score among test takers was 1,412 out of a maximum 2,400 points. Compared with the national average SAT score of 1,498, the average score of Clarion County test takers was 6.1 percent lower. In all three academic categories of the SAT exam, Clarion County test takers lagged behind national average SAT scores. Average math scores among Clarion County test takers were 6.4 percent lower than the national mean while test scores in the verbal and writing sections of the exam were 5.1 percent and 7.0 percent lower, respectively (College Board, 2012 & Pennsylvania Department of Education, 2012).

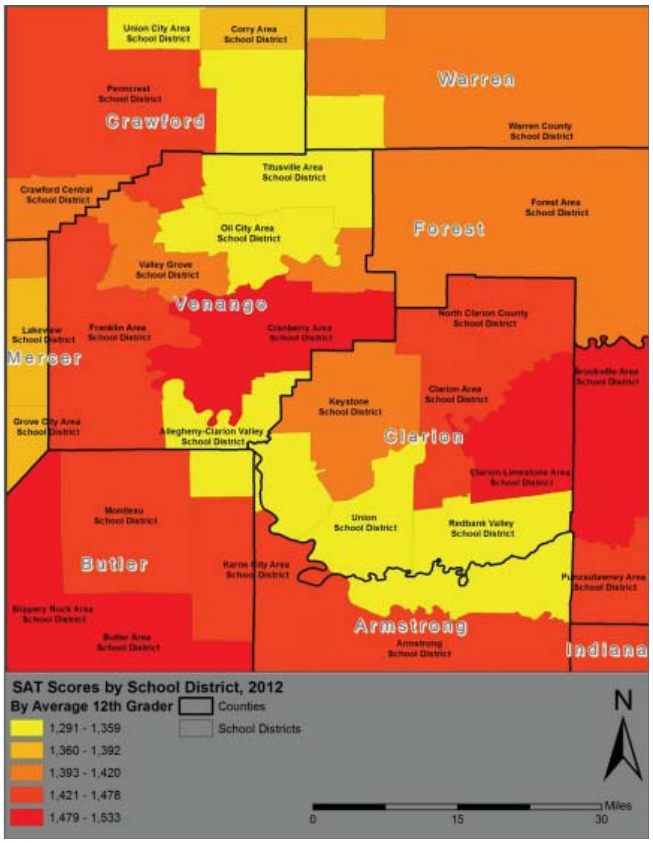
Student performance results produced from the state's academic proficiency exam, the Pennsylvania System of School Assessment (PSSA), which evaluates academic performance among students in grades 3-8 and 11, revealed that the share of Clarion County students performing at or above the state proficiency level was 69.4 percent in reading and 71.8 percent in math during the 2011-2012 academic school year. The number of students proficient in reading and math was 1.6 and 2.2 percentage points lower than the state average, respectively (Pennsylvania Department of Education, 2012). Based on PSSA test scores, all schools in Clarion County achieved average student proficiency in math at a level of 70 percent or greater. Two schools, Rimersburg Elementary and Allegheny-Clarion Valley High School performed below 70 percent proficiency in reading.

[11]The nation's graduation rate among public high school students in the 12th grade level is based on the 2008-2009 school year.

A RURAL CREATIVE CLASS

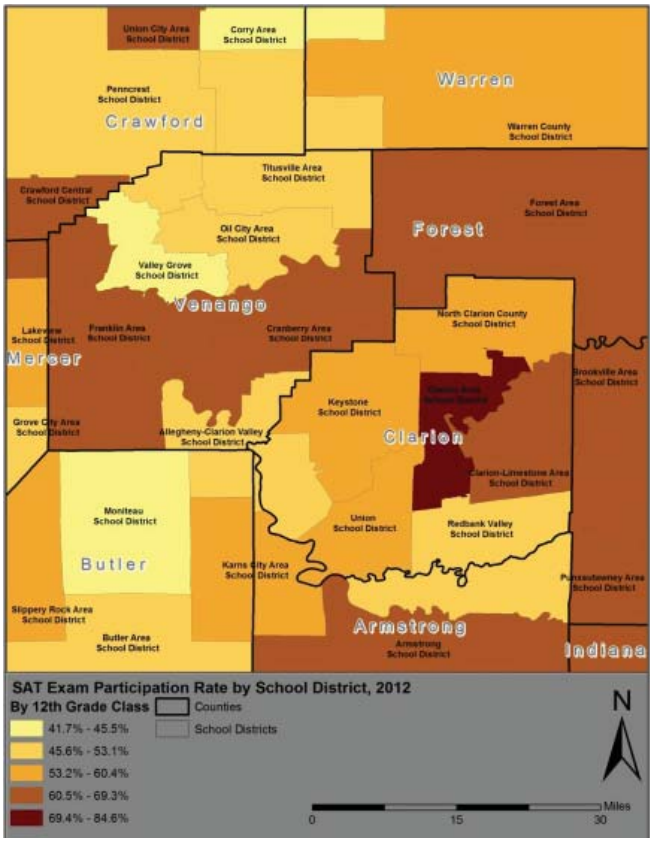
Graphic A.22
Average SAT Scores by School District among 12th Grade Test Takers, 2011-2012 School Year

Source: *The College Board. (2012). 2012 College-Bound Seniors, State Profile Report: Pennsylvania and Pennsylvania Department of Education. (2012). Public School SAT SCores 2001-2012 [data file].*



Graphic A.23
SAT Exam Participation by School District among 12th Grade Test Takers, 2011-2012 School Year

Source: *The College Board. (2012). 2012 College-Bound Seniors, State Profile Report: Pennsylvania and Pennsylcania Department of Education. (2012). Public School SAT SCores 2001-2012 [data file].*



Clarion Borough

The Borough of Clarion, along with Monroe, Paint, and Highland Townships, is served by the Clarion Area School District. With approximately 805 students, the school district operates two schools, Clarion Area Elementary and Clarion Area High School.

Clarion Area Elementary is a pre-kindergarten through grade 6 school with 399 students. Overall, students tested highly in the state's 2011-2012 proficiency exams with a mean academic proficiency score of 79.8 percent in reading and 83.6 percent in math. Economically disadvantaged students performed considerably worse with an average scores of 59.1 percent in reading and 71.2 percent in math (Pennsylvania Department of Education, 2012).

Clarion High School is a public junior/senior high school for students in grades 7 to 12. It underwent a major renovation process in 1997 which brought modern technology to the school's curriculum. The school offers a variety of extra-curricular activities and is known for excellence in the performing arts. Nearby Clarion University maintains a close relationship with the school, permitting students enroll in college courses or participate in enrichment activities such as the University's annual Summer Academy. On average, graduating 12th graders that participated in SAT exam testing scored 4.2 percent lower than the national mean of test takers. In math, Clarion test takers scored 1.4 percent lower the national mean while in the verbal and writing sections, test takers scored 6.9 and 4.3 lower than the national average, respectively (College Board, 2012 & Pennsylvania Department of Education, 2012).

Students at Clarion High School achieved an average level of academic proficiency on state exams of 70.2 percent in math and 81.7 percent in reading. Economically disadvantaged students had a mean proficiency of 61.5 percent in math and 69.2 percent in reading, both below the state average level of 71 percent in reading and 74 percent in math (Pennsylvania Department of Education, 2012).

Venango County

With 8,466 students enrolled in its five school districts in the 2010-2011 school year, Venango County's total enrollment was almost 40 percent larger than Clarion County. In the 2011-2012 school year, approximately 90.2 percent of twelfth graders graduated high school, higher the national and state averages and nearly equal to the graduation rate in Clarion County.

In 2012, slightly more than one out of two (52.9%) twelfth graders participated in the College Board's SAT examination. SAT participation in Venango County was markedly lower than Clarion County and Pennsylvania where one out of six twelfth graders took the exam. Among the 355 students that took the SAT test, the mean composite score was 1,409, just three points lower than neighboring Clarion County. Comparatively, Venango County test takers scored 6.3 percent lower than the average American test taker and 4.4 percent lower the average student state-wide. By subject matter, Venango County test takers showed a wide gap in achievement levels compared with national averages. Verbal scores were 4.6 percent lower than average American test taker while math scores were 6.6 percent lower than average American test taker. The difference in SAT scores was widest in the writing section, where Venango County scores were 7.5 percent lower than the national average (College Board, 2012 & Pennsylvania Department of Education, 2012).

A RURAL CREATIVE CLASS

Graphic A.24
Academic Proficiency on State Exams for the 2011-2012 School Year

Source: *Pennsylvania Department of Education. (2012). School Adwequare Yearly Progress Performance Report.*

Note: Performance based on average scores from PSSA, PSSA, PSSA-M, and PASA state examinations of students in grades 3-8 and 11.

	Reading	Math
Clarion County Average	**69.4%**	**71.8%**
Clarion Area School District	**80.0%**	**77.0%**
Clarion Area Elementary School	79.0%	84.0%
Clarion Area Junior/Senior High School	81.7%	70.0%
Venango County Average	**67.0%**	**72.7%**
Oil City School District	**67.0%**	**70.0%**
Oil City Area Senior High School	56.9%	53.2%
Oil City Middle School	65.5%	72.3%
Hasson Heights Elementary School	72.3%	61.9%
Seventh Street Elementary	73.4%	66.0%
Smedley Street Elementary School	NA	NA
Oakland Elementary School	97.2%	100.0%
State Average	**71.0%**	**74.0%**

In the Pennsylvania System of School Assessment (PSSA), the average level of academic proficiency among Venango County students during the 2011-2012 school year was lower than the state in both reading and math. The level of proficiency in reading was 4.0 percentage points lower than the state average while math scores were 1.3 percentage points lower. Four Venango County schools including Titusville High School, Oil City Area High School, Franklin Area High School and Rocky Grove Junior High School, had low levels of academic achievement with less than 70 percent of students performing proficiently in either math or reading. Seven schools failed to achieve average student academic achievement of 70 percent or greater in math and 10 out of the county's 24 schools did not perform above 70 percent in reading. Oakland School, an elementary school performed exceptionally on the PSSA with 97.2 percent of students proficient in reading and 100 percent competent in math (Pennsylvania Department of Education, 2012).

Oil City

Households in Oil City are served by the Oil City Area School District, one of eight school districts in Venango County. Other communities also served by the District include the borough of Rouseville, and townships of Cornplanter, Oakland, and President. The District's enrollment included 2,148 students during the 2010-2011 school year. Oil City Area School District operates four elementary schools, Hasson Heights, Oakland, Seventh Street, and Smedley Street, in addition to the Middle School and High School.

In the 2010-2011 school year, Oil City Senior High School served 674 students in grades 9 to 12. In 2012, Oil City twelfth graders graduated at a rate of 92 percent, two percentage points higher than Venango County. Of those twelfth graders that participated in SAT exams, students scored on average, 11.6 percent lower than the national mean. In the verbal section, Oil City students scored 8.5 percent below the national mean. In math, the average score was 11.5 percent below the national average. The greatest gap in student achievement was in the writing section, where Oil City students scored 15.6 percent below the national mean (College Board, 2012 & Pennsylvania Department of Education, 2012).

In state proficiency exams, students at the Oil City Senior High School and Middle School both performed below the state mean of 71 percent proficiency in reading and 74 percent in math, with slightly more than one out of two students testing adequately. Among Venango County high schools, Oil City Senior High School out-performed only Franklin Area High School students, where just 54.2 students could read at the state-guided proficient reading level. In math achievement, Oil City High School students tested at 53.2 percent proficient, slightly higher than Titusville Senior High School, the lowest performing high school in the county (Pennsylvania Department of Education, 2012).

Among the two elementary schools where performance data was available, Oil City students had attained levels of achievement slightly higher than the state average. Students tested below the state average in math with just one out of six students testing for proficiency. Only Oakland Elementary School students performed beyond state average competency rates. Located outside of Oil City, in the Borough of Cooperstown, nearly every student was proficient in both reading and math (Pennsylvania Department of Education, 2012).

Recreation and Tourism

Rural areas that have successfully transitioned from factory or farm towns have generally had economic bases in retirement, recreation, trade centers or near urban areas[12]. Recreation and retirement communities are the fastest growing rural areas, e.g., Forest County, which has had a 56% increase in population in the past decade. Drawing outsiders is another way to encourage the growth of the creative class. This section discusses ways in which newcomers are brought into Venango and Clarion Counties as well as Clarion borough and Oil City. The next step is destination development, find ways to bring more visitors and to make both municipalities places where these workers and visitors want to stay.

Community and Entertainment Draws

Clarion University is the most obvious draw to both Clarion borough and Oil City. Out of state and out of town attendance bring not only faculty and students, but visiting parents and friends to the area as well.

The tourism in both communities has been expanding. Geocaching in particular has been bringing people to Clarion and Venango Counties. According to geocaching.com, the official geocaching website, there are 230 caches within ten miles of Clarion and 295 caches within ten miles of Oil City. The Clarion Chamber of Business and Industry reports that 3000 visitors stopped in last year to have their cache finds validated and get their Allegheny GeoTrail coin.

[12]Measures and Methods: Four Tenets for Rural Economic Development in the New Economy. Anita Brown-Graham and William Lambe for the Carsey Institute, Policy Brief No. 9, Fall 2008.

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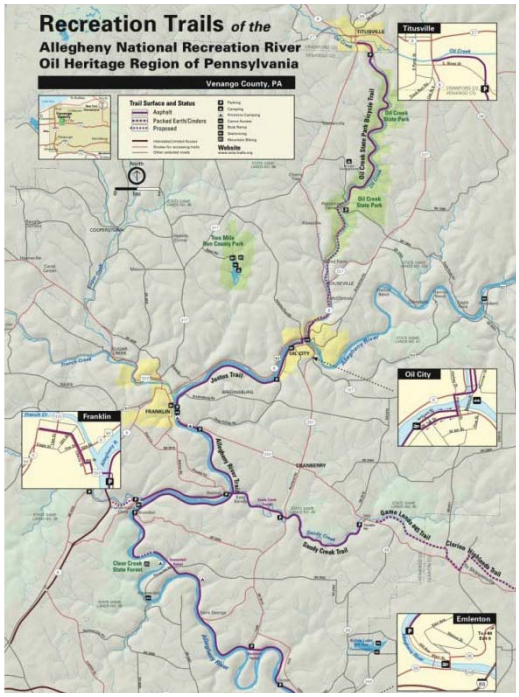
Key annual events include:

The Autumn Leaf Festival attracts 500,000 people to the Clarion Area. During the 9-day festival, there are numerous events including:

- Farmers & Crafters Da
- Cornhole Tournament
- Motorcycle Dice Run
- "PA State Old Time Fiddlers' Championship"
- Miss Junior Teen ALF Pageant
- Miss Teen ALF Pageant
- Kiddies Parade
- "Tournament of Leaves" Parade
- Junior Olympics
- Antique Tractor Show

Oil City hosts an annual Bluegrass Festival and Oil Region Indie Music Festival, as well as First Night activities and Second Saturdays at National Transit Studios and Art Center.

Looking beyond the Universities host municipalities, destination development hinges on linkages to regional activities such as the Allegheny GeoTrail as well as timing the Autumn Leaf Festival to run in to the Franklin Apple Festival. Other opportunities include the Erie to Pittsburgh Trails/Waterways, and the Artisan Trail in the PA Wilds. In addition, Heritage Tourism has potential in the region for both oil industry history as well as the Underground Railroad.



Graphic A.25
Recreation Trails of the Allegheny National Recreation River Oil Heritage Region of Pennslyvania

Commutation
Given high local unemployment rates, it is important that job creation focus on existing residents. However, current commuters, who work in the study area and live elsewhere, are potential new residents.

According to the US Census' 2010 Local Employment Dynamics (LED)[13], some 12,129 of the 20,426 Venango County jobs in 2010 are held by county residents. The remaining 8,297 local jobs (40.6%)are held by persons coming from outside the County. In Oil City, only 1 in every 4 jobs is held by an Oil City resident. In Clarion County, 6,706 of 14,018 county jobs (47.8%) are held by persons living outside the county. In Clarion borough, only 1 in 10 jobs is held by a borough resident.

Commuters are coming from great distances. Even Pittsburgh residents commute to work in Clarion and Venango counties (348 and 408, respectively). These numbers have grown more or less steadily since 2002, when they were 289 and 257, respectively.

Second Homes
Clarion and Venango Counties are well known for their picturesque vistas and scenic Clarion and Allegheny rivers, both popular with outdoor recreational enthusiasts. These natural attractions, along with the Farmers National Bank Autumn Leaf Festival, East Brady Riverfest, and the region's many historic sites, all contribute to demand from creative individuals looking for recreational or seasonal homes. Like tourists, seasonal residents support area restaurants and retail establishments.

As shown in Graphic A.26 on the following page, in Clarion County, over 1,900 seasonal homes are concentrated in the north east section of the county, in towns such as Farmington, Highland and Millcreek where outdoor recreational opportunities are plentiful. In southeast Venango County, along the Allegheny River, Scrubgrass, Richland, and Rockland Townships are also popular areas for seasonal residents, with 1,111 homes in that area's census tract.

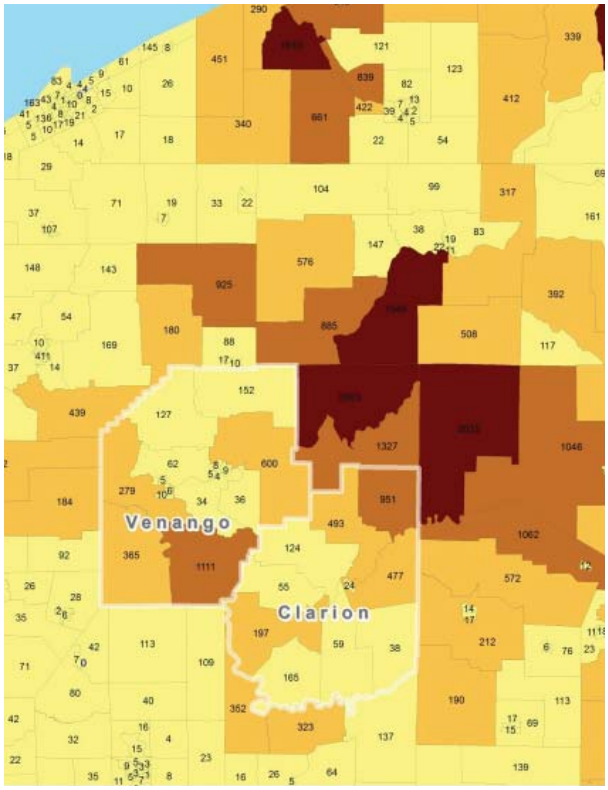
[13]The LED is the only current dataset that tabulates Journey-to-Work data in detail. It is derived from the Longitudinal Employer-Household Dynamics (LEHD), a program within the U.S. Census Bureau that uses modern statistical and computing techniques to combine federal and state administrative data on employers and employees with core Census Bureau censuses and surveys while protecting the confidentiality of people and firms that provide the data. Accessed through http://onthemap.ces.census.gov/

A RURAL CREATIVE CLASS

Graphic A.26
Seasonal Homes by Census Tract, 2010

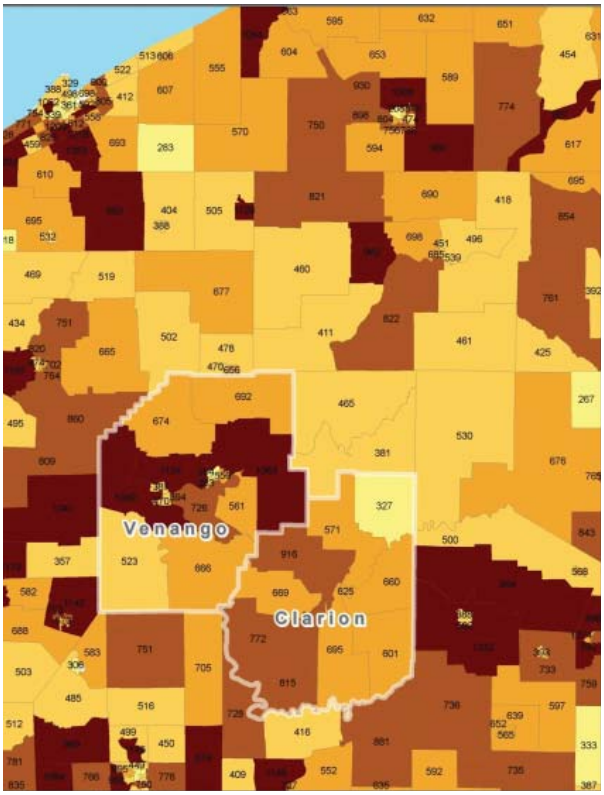
Source: *US Census. (2010). Summary File 1.*

Note the relatively large number of second homes in Forest County..



Graphic A.27
Persons Aged 70+by Census Tract, 2010

Source: *US Census. (2010). Summary File 1.*



In addition to seasonal occupancy, the presence of retirees supports creative class development, especially the arts. Distribution of the resident population 70 and older can be seen in Graphic A.27.

Conclusions on Existing Creative Class and Potential

Neither Clarion nor Venango counties ranks highly compared to Pennsylvania or Nation in terms of the Rural Creative Class Indicators. Both are average in terms of Natural Amenities and entrepreneurship, and rate lower than the state average on creative class occupational employment, and educational attainment.

In terms of supporting factors, while high speed communications access is almost universal in the two counties and improving thanks to Stimulus grants, there is no private or public transit to Pittsburgh or any other high density area and public school performance is well below State and National averages.

Community draws however, have expanded. A large share of local workers are in-commuters; and, along with the University, the number of local festivals has increased in the past decade and attendance is steadily growing; and the number of second homes is increasing, especially in the areas northeast of Clarion and Venango. The tourism industry is growing throughout the region as a whole, and the Oil Region Alliance is developing a plan for Northwestern Pennsylvania that should tie in to any local efforts.
However, just because a substantial creative class does not already exist, does not mean efforts to support its expansion in Clarion and Venango are not worthwhile, especially given current levels of unemployment and the relative strength of wages for creative class workers versus workers in non-creative occupations.

National Trends Opportunities
The definition of rural creative class employment was last refined in 2003, before the emergence of several economy-changing trends including the Farm to Table Movement, artisanal food and beverages, and boutique agri-business.

The Farm to Table Movement is a global organic and local-sourced trend with huge economic potential. The Amish vegetable auctions in Southern Clarion County sell $600,000 in produce annually to Pittsburgh restaurants. Local partnerships between farmers and restaurants and suppliers already exist. While beef is most commonly sourced locally by shops such as Sage Meadow or the Eat & Park chain, farms such as Organic Edibles do supply some local establishments. Clarion University already purchases some meat, vegetables and mushrooms directly from local suppliers. Developing this trend can be difficult because, due to the long hours worked by both farmers and restaurateurs, making connections and establishing partnerships is a challenge. The Farm to Table trend culminates in fine dining of fresh locally sourced regional cuisine. This trend is evidenced in downtown Franklin, which is replete with restaurants and coffee houses. And while there currently may be insufficient demand in Oil City and Clarion to support such an enterprise, as more tourists are drawn to the region, demand will grow. The IUP Academy of Culinary Arts located in nearby Punxsutawney may provide opportunities for future partnership.

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More and more people are seeking out artisanal foods and beverages that are representative of the area it was produced as food becomes a proxy for entertainment and travel. Most common among these are local cheeses, baked goods, honey and alcoholic beverages.

Here too, there is some regional activity. Clarion and Venango Counties are already home to three wineries. The Penn State Extension is providing seminars in bee-keeping and honey production. Beer production is the obvious missing link—given the beer-drinking preference of the region at large as well as the oil industry history, the image of the mountains and rivers cutting through the landscape and the old manufacturing building stock, particularly in Oil City. It would be the perfect place for someone to open a brewery or distillery.

Other agri-business opportunities include production of retail good such as wool, fiber arts and soaps. While the official agricultural census data are dated, having last been performed in 2007, a search of the 2013 AgMap directory of agricultural businesses shows a surprising number of wool-producing animal farms within 50 miles of Clarion including: 36 llama farms; 55 goat farms; 12 rabbit farms and 10 alpaca farms (as shown in the inset illustration). Many of these farms produce and sell their own fiber arts and, for example, goats milk soaps in on-site shops.

Best Practices

Other rural areas around the country have used four key strategies to encourage growth of the rural creative class and turn around local economies:

1. Increases in Innovation (Talent and Technology)
2. Capital Investments in People, Products, and Places
3. Preservation of Natural Resources
4. Creating Connections (People, Institutions, Places)

This section will examine local and national efforts, especially those made by or through institutions of higher education, to identify best practices that Clarion University could use to support the local creative class.

Oil City, PA
The arts are the most obvious and core representatives of the creative class. One of the best sponsorship programs in a rural area is the local Oil City Arts Initiative, which is building on assets to attract artists[14]: The Artist Relocation Programs established in 2007 required a partnership to attract artists to downtown Oil City. These included:

- Zoning Change to allow live/work studio spaces in the Downtown
- 100% Financing from local bank for all buildings within R2 zone, mortgage insurance waived
- $5000 down payment from Venango County Affordable Housing
- Tax abatements for façade improvements on blighted city center commercial buildings

The $175,000 total investment from City between 2006-2012 to relocate 28 artists since 2007, has had a $1.2 million returns based on the Oil City Arts economic impact study. Due to the program, there have been:

- 21 home sales
- 27 rent-paying artists in the National Transit Arts Center
- 2 new commercial building rehabs (restaurant/gallery space),
- four new storefronts: photo gallery, catering business, hair salon, custom stitchery
- increased public events
  - Pipeline Alley lunch concerts
  - Bluegrass Festival
  - Oil Region Indie Music Festival

[14]http://www.keystoneedge.com/features/oilcityartists0117.aspx?utm_source=VerticalResponse&utm_medium=Email&utm_term=Why+Are+Artists+Flocking+to+Oil+City%3F&utm_content=%7BEmail_Address%7D&utm_campaign=The+Gush+is+Back+on+in+Oil+City

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o2nd Saturdays at the National Transit Art Center Houses

- (porcelain painting)
- (photography, scrapbooking and paper arts)-relocated from Seneca, PA
- (metal clay jewelry)
- (Trans-Avantgarde painting) - relocated from MA
- (stained glass)
- (wire and stone bead jewelry) - relocated from CA
- (mixed media) - relocated from MA
- (yoga and reiki)
- (watercolors, colored pencils) - relocated from FL
- (poetry, oil painting, pastels, charcoal) - relocated from IL
- (pastels, watercolors, mixed media)
- (mixed media)
- (paper arts, photography)
- (illustration) - relocated from Pittsburgh, PA
- (videographer, guitarist/singer)
- (mixed media and paper artist)
- beading and embellished gourds - relocated from WA
- (polymer clay sculpture)
- The Performing Arts Academy with Darin Paden (dance)
- (oil painting) -relocated from NC
- (painter)
- (painter) - relocated from FL
- (stained glass restoration)
- (wood sculpture)
- 2nd Saturdays at the National Transit Art Center Houses

Clarion University and Venango College already have a relationship with the program in that art classes taught by regional artists at the Center are promoted by Venango College.

Opportunity for Clarion: Continue involvement with visiting artist programs/lectures.

Plymouth State University of New Hampshire: Improving Quality of Place by Integrating with the Community
The campus at Plymouth State University of New Hampshire (PSU) folds around a section of Main Street. Perkins Eastman incorporated that aspect into Campus Facilities Plan. Now PSU includes Main Street stores and services in amenities lists and recommendations for prospective students

Opportunity for Clarion: Minimize Town-Gown barriers by integrating signage, promoting local activities to students

Best Practices: Provide Website Development Services for Entrepreneurs/ Creative Class Businesses
Websites are the primary source of information for tourists, travelers and job-hunters under the age of 45. Most small businesses in Clarion and Venango Counties, especially those in the creative sectors, lack a virtual presence.

Opportunity for Clarion: Website Development for Entrepreneurial Efforts: Partner Certified Web Designer program students with local businesses as part of the curriculum

Operation Intern, North Dakota
In an effort to connect students to internships in order to retain talent and help local businesses, the North Dakota Department of Commerce provides student internship placement services in targeted industries: advanced manufacturing, energy, value-added agriculture, tourism and technology. As part of the program, the State provides businesses with $6,000 in matching funds per intern. Since the program began in 2007, 400 interns have been placed in 200 companies.

Opportunity for Clarion: Enable Internships for Business, Communications, Art and Marketing Students: Liberal Arts education with real world experience is a very salable combination.

Hazard Community College, Kentucky School of Craft: Arts and Entrepreneurship Training
Few, if any, four-year schools have played an active role in developing the rural creative class; meanwhile, community colleges perhaps because they bridge the gap between education and employment for many, have played an active role for several years. Hazard Community College, Kentucky School of Craft provides instruction in metals/jewelry design, wood/furniture design and ceramics linked to cultural history of region. In 2004, they opened a new dedicated facility in a renovated historic building.

What makes the Kentucky School of Craft unique is that they provided a full process curriculum for the arts including business and marketing training so that students have the knowledge to run their own studios. In addition, through a relationship with The Appalachian Artisan Center, they provide incubator space for graduates. The program has been so successful that current expansion plans (less than 10 years after opening) include new facilities for ceramics, fiber arts, and blacksmithing.

Opportunities for Clarion: Include entrepreneurship training in Arts majors; develop arts/ entrepreneurship center tied to heritage tourism.

Recommendations

The recommendations provided are presented in terms of short, mid- and long-term strategies and include implications of implementation on the Facilities Master Plan. It should be understood that some recommendations, especially those pertaining to integration with downtowns, will apply more to one campus than to the other.

Short-Term (1-2 years)
Minimize Town-Gown barriers by integrating signage, promoting local activities to students. This is most relevant to Clarion University in the short term. Due to the distance between the Venango College campus and downtown Oil City, integration would likely require the establishment of a physical presence in the guise of a classroom building or dormitory.

Implications for Facilities Master Plan (in Clarion) involve improved wayfinding, signage and building orientation.

Mid-Term (3-5 years)
Fine and Performing Arts Entrepreneurship: Encourage students to show/sell art or perform off-campus in local shops and venues as well as including entrepreneurship training in Arts Programs.

Website Development for Entrepreneurial Efforts: Partner Certified Web Designer program students with local businesses as part of the curriculum.

Enable Internships for Business, Communications, Art and Marketing Students: Liberal Arts education with real world experience is a very salable combination.

Implications for the Facilities Master Plan include potential demand for additional lab and office space for collaborative web design as well as internship coordination, respectively.

Long-Term (5-10 years)
Develop Arts and/or Entrepreneurship Center linked to current arts programs, regional heritage tourism or development of a culinary arts facility tied in to the developing culinary scene as evidenced in Franklin.

Implications for the Facilities Master Plan would include determining potential facility siting.

Funding Sources

If Clarion University and Venango College were to move ahead with any additional programs to support the rural creative class, additional funding sources would need to be identified. Grant-issuing organizations have begun to recognize the value of artists' organization in overall community development. Examples of these include the following:

ArtPlace Public-Private Consortium: $26.9 Million: Led by the National Endowment for the Arts, with 13 national foundations including Ford, Rockefeller, Bloomberg and Mellon in partnership with HUD, HHS, USDA, Departments of Education and Transportation, it has given 80 grants to 76 organizations in the past two years.

Ford Foundation, Shifting Sands Initiative gave out $9.5 Million from 2003-2009 for programs in areas with "rapidly changing communities" and, while not necessarily focused on rural areas, the rapid shifts in employment and population certainly apply.

Ford Foundation Worldwide Goal, Supporting Diverse Arts Spaces: $29.03 Billion has been distributed to support the Foundation's mission to promote a new generation of 21st-century arts spaces and arts leadership that reflect the cultural richness of diverse communities

APPENDIX B | LANDSCAPE APPROACH

Appendix B provides extra detail to the landscape approach outlined in Section 7 of the FMP. It begins by describing effective landscape principles that are common across most campuses, before describing strategies and initiatives that could be implemented at Venango.

PRINCIPLES OF EFFECTIVE CAMPUS LANDSCAPES

While every campus is different, there are fundamental principles that can be derived from the most successful campuses that offer a positive image and functional campus landscape. Effective campus landscapes generally perform the following functions:

- **Reinforce an Inherent Sense of Place**: The campus landscape should reinforce the unique qualities of the campus itself, the community within which it resides, as well as the region within it is located. This includes taking into consideration the climate and microclimate, topography, how the campus relates to the community both physically and visually, and how materials used on the campus are associated with the region.
- **Emphasize Broad Lawns and Large Canopy Trees for Useable Open Space Areas**: Some of the most memorable campus images are usually comprised of prominent buildings, broad open lawns and large shade trees. Broad lawns provide places to gather and play as well as the settings befitting institutional buildings. Large deciduous trees provide scale and shade while allowing views and vistas beneath their canopies. Large deciduous trees and stands of large evergreens also result in the greatest visual impact for the least amount of investment. This landscape objective needs to be balanced with sustainability objectives such as creating biodiversity on campus and minimizing high maintenance lawn areas. In some places, such as open spaces that are primarily visual and do not serve as gathering or recreational areas, meadow grasses may be used in place of lawns and other areas (where visibility is not critical), woodland landscapes with a full understory and over-story can be utilized.
- **Support Campus Organization**: While architecture is the predominant element that defines campus spaces, landscape elements, including formal and informal groupings of trees, walls and shrub masses can be equally effective in defining spaces on their own or reinforcing spaces defined by architecture. Effective landscapes also reinforce pedestrian and vehicular circulation routes and help provide clarity to the campus and a sense of orientation.
- **Utilize Simple, Bold Masses of Shrub Plantings**: Effective campus landscapes utilize shrubs in bold simple masses where they are appropriate and make the most impact. Effective shrub beds are limited to many plants of a few varieties which can help to reinforce spaces or anchor significant buildings. Ineffective shrub beds are comprised of one or a few plants—each of many varieties—resulting in a spotty, "fussy" landscape. Similarly, shrubs should be planted and allowed to grow together as a mass or hedge, rather than be maintained as individual objects. Unless maintenance budgets are generous, shrub beds should be restricted to a few areas where they make the most impact; at building entrances, intimate garden settings and heavily used outdoor gathering areas.
- **Emphasize Seasonal Interest**: Most campus activity occurs between the fall and spring seasons and, in colder climates, landscapes with seasonal interest are important, particularly in the winter. Seasonal interest can be achieved through the use of evergreens, trees with interesting bark or branch structure, early flowering plants and the use of plants that color late in the fall season.

B CAMPUS LANDSCAPE

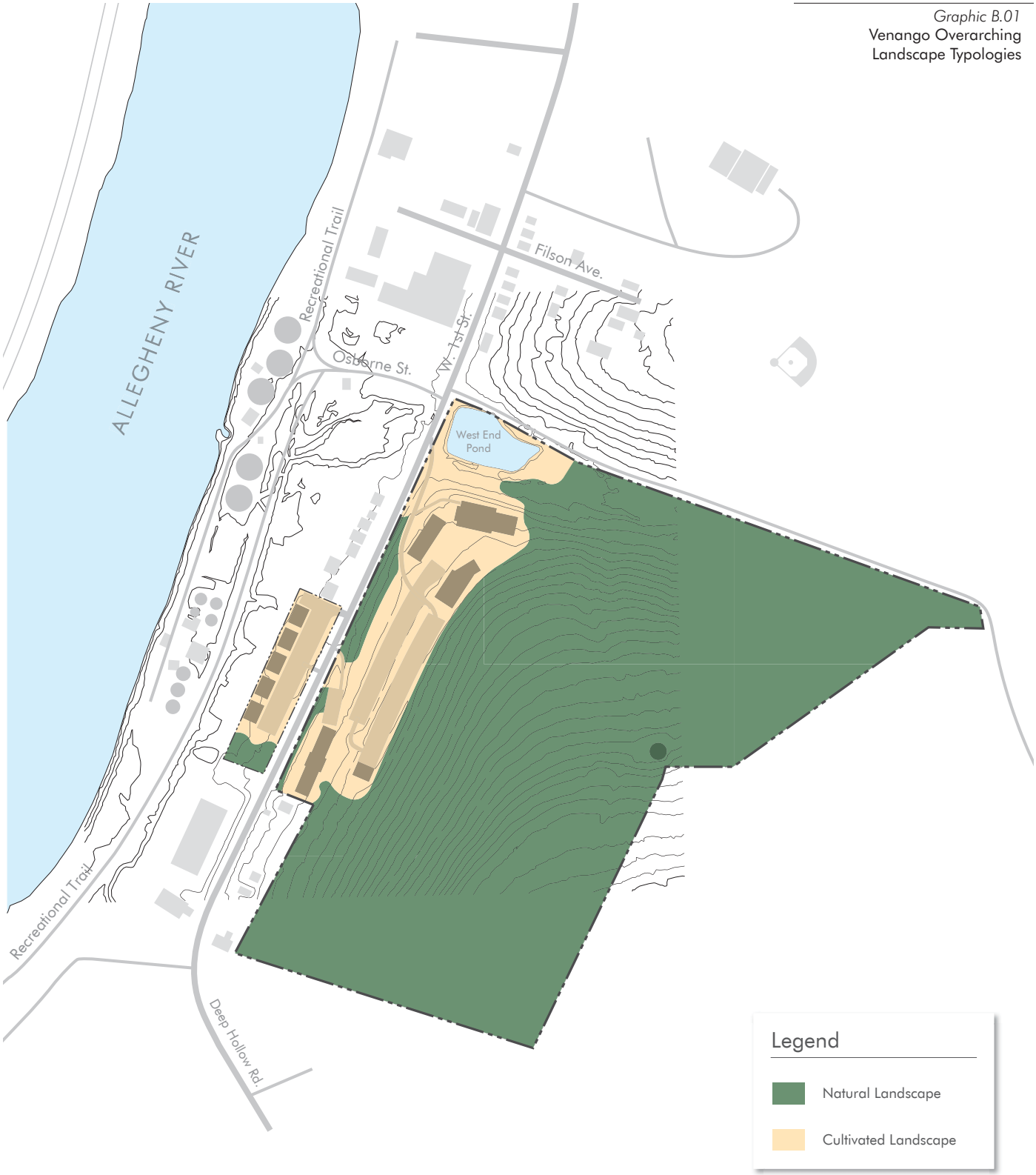
- **Use Plant Species Appropriate to the Location**: Using the right plant (size, form, density, etc.) in the right location is very important yet often overlooked. A grove of flowering trees planted on a hillside can be a powerful visual element, however, the same flowering tree planted next to a large blank gymnasium wall can feel out of place and offer no meaningful impact.
- **Unify the Campus Through the use of a Common Palette of Materials and Plant Species**: Most campuses outgrow their original campus plan and often grow organically as new property becomes available. In addition, trends in architectural design, tastes of changing administrations and differing amounts of available funding for each building project results in a variety of architectural styles throughout the campus. While some campuses adopt a strict architectural vocabulary, this is seldom the case. Therefore, the use of a unified palette of landscape materials and plant species can knit the different parts of a campus together and provide continuity among campus spaces. This is not to say that a campus cannot deviate from these standards for unique places within the campus; rather, a uniform standard should predominate.
- **Observe Sustainable Practices and Enhance Biodiversity**: More recently, successful campus landscapes incorporate sustainable practices which may include managing storm water runoff, increasing tree canopy, emphasizing a palette of native plant materials, utilizing recycled materials and replacing unusable lawn areas with lower maintenance and more habitat-friendly plantings. The appropriate practices need to be balanced with functional goals of the open space as described above.

VENANGO CAMPUS LANDSCAPE OBJECTIVES

For Clarion's Venango campus, there are four primary landscape objectives that all site projects should take into consideration. These are:

- Enhance campus aesthetics and "sense of place": Utilize landscape to enhance the visual appeal of the Venango campus for both campus users and those who only experience the campus along its perimeters. Utilize landscape enhancements that create a consistent landscape image and that reinforce Venango's location within the Appalachian Plateau physiographic province of Pennsylvania, using a plant palette that is predominantly native to this region.
- Reinforce function of campus spaces: Beyond aesthetics, utilize landscape to reinforce how the campus functions by defining spaces, making outdoor places more comfortable to the user, and reinforce circulation patterns.
- Unify disparate campus spaces: Utilize landscape to physically, visually and thematically connect different parts of the campus into a seamless whole.
- Enhance landscape as a laboratory for real-world learning: Consider how the campus landscape can offer experiential learning for students, the faculty and greater community.

Graphic B.01
Venango Overarching
Landscape Typologies



B CAMPUS LANDSCAPE

VENANGO CAMPUS LANDSCAPE STRATEGIES

The following strategies provide a route map for meeting the landscape objectives described above.

Strategy 1: Extend the Forest

Rather than leaving a distinct boundary between the forested natural landscape and campus cultivated landscape (as currently exists along the eastern perimeter of the campus), use landscape to extend the forest into the campus. In most instances this will be more of a figurative expression rather than a literal one, but would allow for a stronger connection between the campus and the surrounding natural environment. Furthermore, this will reinforce the unique sense of place for the campus. This can be accomplished through:

- Emphasis on a significant use of native canopy trees to transition the forest landscape into the campus landscape.
- Use of some evergreens and flowering understory trees to provide more visual interest along the forest edge.

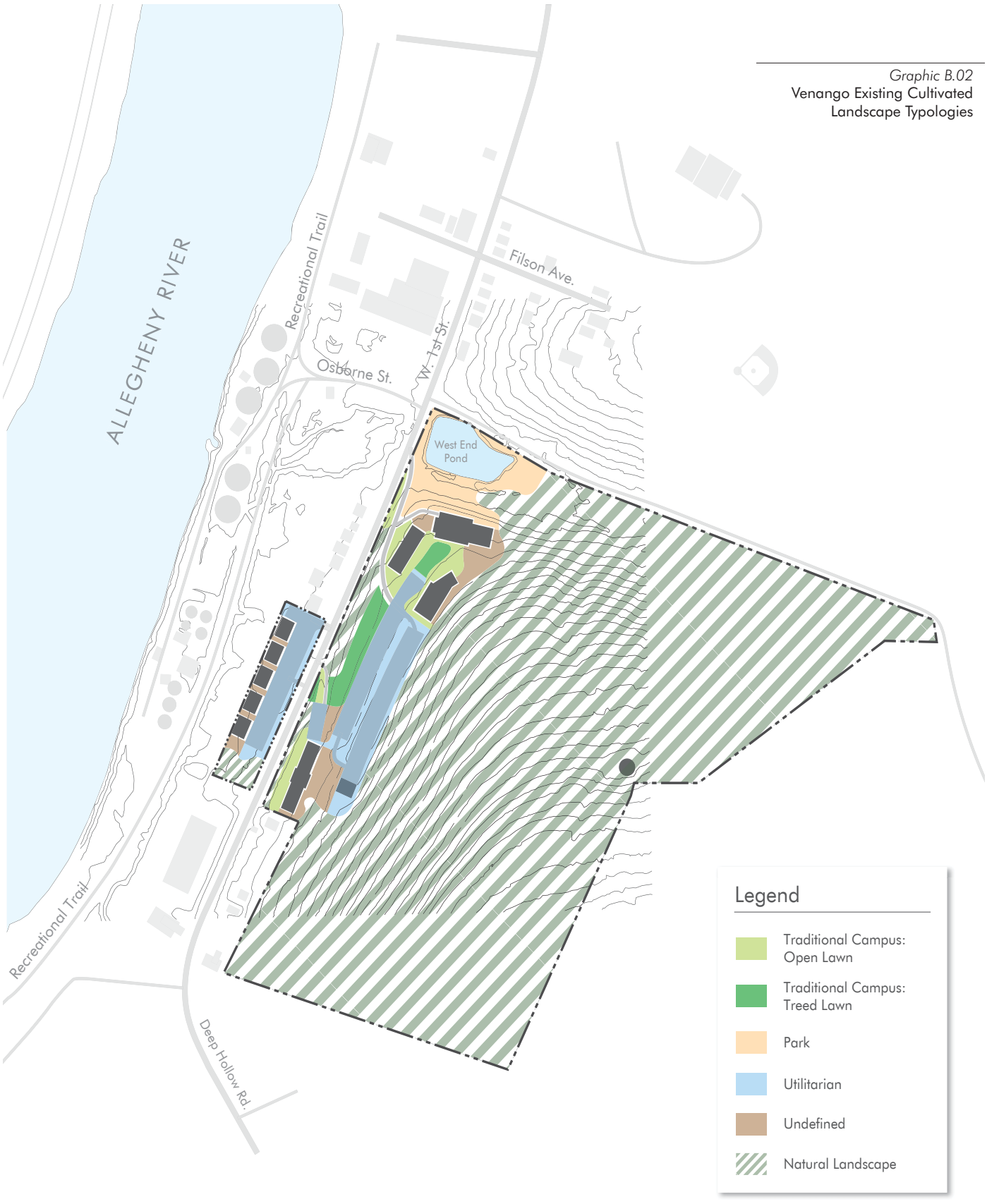
Strategy 2: Define Landscape Types

As an underlay to the forest extension and non-forest extension areas, three overall landscape typologies should be reinforced: pastoral landscapes, campus groves and woodlands. Within each of these typologies, the execution and design of the landscape of different spaces may still vary greatly; however, they will be characterized by the general qualities defined below.

- Pastoral Landscapes: These landscapes are predominantly open and may include mowed lawns or meadows. These spaces are mostly defined by trees (and buildings) along their perimeters and are open within. A few well-placed specimen trees may be located within these spaces as focal points. Within the campus, this landscape type would be found around the West End Pond and in quadrangles. Meadow landscapes could also be used on some sloped areas.
- Campus Groves: Campus groves are useable open lawn areas with a significant number of trees located throughout. The tree cover is generally high-canopied allowing for views through and within the space. Within the campus, this landscape type would be found in transition areas between quadrangles and transition areas adjacent to the woodland edges.
- Woodlands: Woodlands are more naturalized, heavily treed spaces with a naturalized understory. Within the campus, these areas would primarily be located along steep slopes, particularly those adjacent to the West End Pond and the steeper slopes along West First Street. Additionally, woodlands are used to extend the existing forest.

CAMPUS LANDSCAPE B

Graphic B.02
Venango Existing Cultivated Landscape Typologies



Strategy 3: Exploit Seasonal Color/Interest

This strategy will provide another layer to the landscape typologies, allowing for their character to change from season to season. The key components of this strategy include:

- Evergreen Accents: Unlike the Clarion campus, evergreens will be used less intensively on the Venango campus since they are not found in the adjacent forest. Rather, select groupings of evergreen trees will provide variety throughout the seasons and serve as a backdrop to other plant materials during the fall, winter and spring.
- Fall Color: Deciduous trees with outstanding fall leaf color will provide visual interest along key sightlines and throughout the campus.
- Spring Color: Spring color in the form of flowering trees and shrubs will provide visual interest throughout the campus, particularly along woodland edges and adjacent to gathering areas and building entrances.
- Winter Interest: Winter interest includes plant materials with interesting forms, bark textures and colors, leaves that persist late into the season, and colorful berries. For example, trees with light colored bark against a backdrop of evergreens can be visually powerful.

Strategy 4: Establish Consistent Materials

While there will be much variety in plant materials throughout the campus, it is important that hardscape – paving, site furnishings and lighting – provide a consistent positive image throughout the campus. Consistent materials should include:

- Lighting (vehicular and pedestrian scale)
- Furnishings (benches, trash/recycle receptacles, portable tables and chairs, ash urns, bike racks/storage)
- Signage
- Railings
- Paving (pedestrian and vehicular surfaces)
- Wall Elements

There should only be two exceptions to the above, the area around the West End Pond which will reinforce the informal, park quality currently established there and the pedestrian spine formed by University Walk.

Strategy 5: Create an Internal Open Space Network

Define a series of spaces throughout the campus that creates a connected network. The network includes:

- Hierarchy of Spaces: Spaces may be significant gathering spaces serving the entire campus as well as smaller quads serving a residential community or intimate courtyards serving a specific building.
- Buildings and Trees as Definition: Both buildings and trees will be used to provide definition of spaces and transition from one space to another.
- Parking Lots as Open Space: The surface parking lots cover a significant amount of land area and separate use areas from one another on the Venango campus. Therefore, they are treated as part of the open space network and enhanced with tree planting and pedestrian circulation.

Strategy 6: Identify (Name) Campus Spaces

Naming campus spaces, not just buildings, will elevate their importance, reinforce place-making and help make the campus more legible to users. Additionally, naming spaces will provide opportunities for donors to contribute to or sponsor landscape enhancements in addition to building projects. The primary naming opportunities for the Venango campus include the spaces outlined below. For some spaces, generic names were used for purposes of this master plan; however, they present opportunities for specific names tied to significant donors. The following spaces are identified, the naming of which could be altered to better indicate use or to reflect donor support:

- Academic Quad: This is the most significant op en space on campus and serves as the "living room" and northern campus open space anchor. It is defined by Frame Hall to the west, Rhoades Center to the north, Suhr Library to the east and a new drop-off circle to the south.
- West Grove: This is the sloped area along West First Street defined by Frame Hall to the north, Montgomery Hall to the south, Hillside Lot to the east and West First Street to the west. This area includes the West First Street Crossing.
- Montgomery Lawn: This is the lawn terrace on the west side of Montgomery Hall.
- South Grove: This is the sloped area on the east side of Montgomery Hall and serves as the southern campus open space anchor.
- South Lawn: This is a potential open lawn area on the east side of the Verizon Building.
- West End Pond: This area includes the pond and the surrounding land area.
- Hillside Lot: This is the main parking area located between the Academic Quad and South Grove.
- West Lot: This is the parking lot that serves the Student Apartments.

Strategy 7: Reinforce a Clear Hierarchy of Pedestrian Circulation Routes

The use of landscape and materials will help to reinforce pedestrian circulation patterns and establish a hierarchy within the campus. The overall pedestrian network will be organized around the campus-wide Pedestrian Spine (University Walk), linking the principal parts of the campus. Specifically, the pedestrian network will be characterized by:

- University Walk: The Pedestrian Spine will form the backbone of the pedestrian network on campus and will extend from the north between Rhoades Center and Frame Hall and will extend southward through the West Grove, transition down the slope on the west side of Montgomery Lawn and terminate at West Frist Street near the south end of Montgomery Hall. The Pedestrian Spine is characterized by:
    - Consistent width throughout
    - A continuous design where secondary and other paths intersecting with the spine are interrupted by the spine.
    - Consistent tree species along the length of the spine, marked by the use of a dominant species, but not a single species. The tree planting will depend upon the character of the different spaces through which it passes.
    - Uniformly spaced trees when the spine passes through the Academic Quad and Montgomery Lawn.

- Secondary Pedestrian Paths: Several secondary paths will extend off of the Pedestrian Spine, linking other areas of campus. These secondary paths include:
  - Pond Link: This walk provides utilizes the existing walkway that extends from the Academic Quad to and around the West End Pond.
  - River Link: This walk extends from the Pedestrian Spine at West First Street and extends down to the existing riverfront recreation path.
  - West First Street Crossing: This mid-campus connection links West First Street with the Pedestrian Spine through the West Grove and includes a grand stair.
- Other Pedestrian Paths: Additional walkways and sidewalks will extend from the Pedestrian Spine and secondary paths described above and will generally be characterized by shorter lengths or narrower widths. These walkways will be highly localized to a specific part of the campus.

Strategy 8: Reinforce Campus Edge

A cohesive character along the public perimeter is important for establishing a positive and cohesive image for the campus, specifically along West First Street. Conditions such as slopes, overhead utilities and property ownership require that the design treatment varies along the frontage.

Strategy 9: Establish a Campus-Wide Arboretum

As with the Clarion campus there is an opportunity at the Venango campus to designate the majority of the campus as an arboretum. This will provide for the opportunity to better utilize the campus's living collection of trees for scientific study, provide landscape donor opportunities and create an attraction for visitors. While a detailed arboretum plan and program needs to be developed, following are some criteria to consider:

- General Approach: Designate the entire campus as an arboretum and use it to highlight trees as well as the University's collection of public art.
- Consider the predominant use of tree species native to the region; however, provide occasional non-native but adaptive species.
- Avoid invasive species.
- Consider predominant plantings of specific tree species to help unify the campus landscape and serve as a backdrop for more unique specimens. The collection may include:
  - Groves, groupings and allee´s of a single species
  - Individual specimens as accents and focal points
  - Woodland plant communities
  - Wetland plant communities within bio-retention and rain garden areas
- Develop a consistent and easy to administer tree Identification system with tree tags.
- Provide interpretive signage throughout the campus.
- Develop a brochure for self-guided walking tours.
- Develop an arboretum link to the University's website and regularly update it with information about the arboretum and a listing of the collection. Provide updates on the arboretum with alumni newsletters or e-blasts to ensure visibility and promote donor programs.
- Use every site development project as an opportunity to expand the arboretum collection.
- Create a cohesive, yet distinct, arboretum experience from that at the Clarion campus.

Strategy 10: Accommodate a Phased Approach to Implementation

The landscape recommendations of this master plan will be implemented over many years as new buildings are developed, areas of the campus are reconfigured and as funding becomes available. Significant landscape projects are described during the phasing milestones of 2018, 2023 and 2033 as outlined below. However, opportunities may arise to implement landscape enhancements outside of these significant projects. Additionally, consideration should be given to planting some new trees early on (outside of the project areas described below or during early phases of projects slated for 2023 and 2033) to take advantage of their growth over time. Young trees are relatively inexpensive and a few planted in 2015 could make a significant positive impact to the campus in 2033. Consideration does need to be given, however, to only planting in areas not likely to be disturbed by future construction.

Abbreviated Schematic Design & Criteria

The following recommendations and approaches are intended to assist with the development of a signage program that uniquely expresses the operational and branding needs of the University.

Some of the key components to consider:

- It is understood that the two locations of Clarion University are to be treated similarly and the current differentiation will no longer hold in the new branding or ultimately in the signage program.
- Technology based education and forward thinking policies are integral to the future success of Clarion University and are to be expressed visually.
- Find opportunities to always express the brand intent of pride, influence and inspiration.
- User groups include the greater community; on, multi and off-campus students, staff and economic development partners.
- All communication touch points should be considered equally: signage, websites and marketing collateral, to ensure that the messages delivered are on brand and relevant.
- Respect is to be shown towards the landscape.
- Signs are to be easily maintained and cost effective to produce.

Recommended Sign Type Family

Exterior/Identification:

- Campus Identification
- University/College Branding
- Building Identification, Freestanding
- Building/Entrance Identification, Building Mounted
- Parking Lot Identification/Prohibitive
- Bike Lot Identification
- Bus Stop Identification/Kiosk
- Arboretum: Tree Identification/Interpretative
- Regulatory Information

Exterior/Wayfinding:

- Vehicular Directional
- Pedestrian Kiosk
- Pedestrian Directional

Interior/Identification:

- Building Identification
- Department Identification
- University/College Branding
- Special Area Identification
- Room & Door Identification
- Toilet Identification

Interior/Wayfinding:

- Building Directory
- Floor Directory
- Directionals

Interior/Regulatory:

- Distraction Markers
- Fire Stair
- Elevator Egress

C SIGNAGE AND WAYFINDING

General Recommendations:

- Create a more modern, clean, contemporary graphic aesthetic for the signage program, not harken back to a historic or traditional design. The intent is to add an unique visual element to the varied architectural vocabulary present on both campuses that speaks to the brand mission and can insert itself without being offensive to its physical surroundings.
- Use the signage program (and other visuals including web and collateral) to promote the goals, ideals and aspirations of the University. This can be accomplished by expanding the messaging to include timeless facts, encouragements and accomplishments.
- Combine visually the student experience, regardless if a resident, commuter or on-line student, as a single Clarion experience.
- Employ a color coding program to distinguish Colleges within the University. This will allow for the totality of the University to be paramount in the visual look and feel, but acknowledge the differences and legacy of Venango and promote the other Colleges as well.
- Celebrate donors and corporate contributors visually on campus. Illustrate to students the connections that Clarion University has in the region and in specific areas of experience. Use these partners as a method to inspire students, alumni and other corporations to become more involved in the Clarion community. *(Signage as a development tool.)*
- Consider applying zoning names to segments of each campus to minimize named directionals. The creation of districts, whether academic, residential, athletic or activity centric can allow for additional branding opportunities as they respond to differing audiences.
- Ensure that all means of navigational communication are aligned, whether via google maps (and others), GPS, internal app or websites: University, College, Department, etc. and static signage.
- Create a comprehensive messaging approach that standardizes all nomenclature, room numbering and icon usage. In regards to wayfinding directionals, it is best to keep the total number of directions to four steps. This can be accomplished by creating zones or areas from which people are sub-directed; for example: building name, floor, corridor, room.

The following defines differences based on each sign type's needs and applications. This is not about design, but about establishing the appropriate criteria in order to create a comprehensive and holistic signage program that is effective, minimal and infuses the overall campus with greater brand awareness.

Exterior Identification

Identification and definition of entrances are key to the success of a wayfinding program, as are the "you have made it" markers.

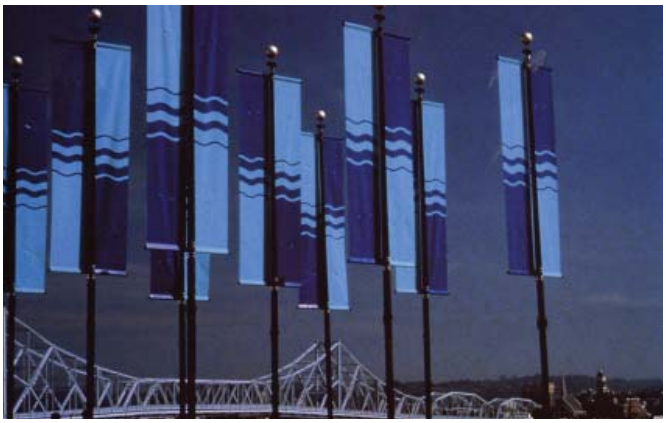
Campus Identification

To identify the entrances of the campus, establish a sense of arrival and in many instances a focal point of pride.
Typical messaging:
- Clarion University
- Clarion University, Venango College

Suggestions:
Entrances need to be better celebrated and defined. Combine supplemental branding, such as banners, with static and digital signage at key entrance points, with a diffused application to expand along the campus edge.

University/College Branding

To be used as long or short term supplemental identification as well as providing a variety of branded experiences for events or programs. These elements can be used in conjunction with building identification for department and college identification and allow for additional promotional exposure, announcements.
Typical messaging:
- Courageous, Confident, Clarion



Suggestions:
Make the most of branded opportunities whether static or digital, throughout both campuses to inspire students and illustrate community connectivity. Highlight brand attributes of pride, innovation, engagement and potential. Create visual focal points for promotional opportunities, whether for student instagram photos or press reporting back drops. Consider impacting pavement, wall/window surfaces, banners, light gobos and/or digital projections.

C SIGNAGE AND WAYFINDING

Building Identification: Freestanding/Building Mounted
Signage will be located in proximity to the buildings entrances and to contain building name, entrance designation, Primary Occupant Listing and/or Donor Recognition.
Typical messaging:
- Alumni Association: Foundation and Development Offices

Suggestions:
Entrance identification should be readily recognizable, friendlier and provide more information regarding interior uses without being overwhelming.

Parking Lot Identification/Prohibitive
Signs to be located at the entrances to parking lots, indicating a sense of arrival. When appropriate, signs are to be related to occupancy uses and indicating limitations.
Typical messaging:
- Lot 9, Employee Permit Required

Suggestions:
Signage should be scaled for vehicular recognition and should be connected to the visual of the vehicular wayfinding approach. All prohibitives should be more legible and reworded to be easily understood. (If more language is mandated to be on signs, can it be relocated to the University website or be located elsewhere?)

Bike Lot Identification
Signs to be located at the entrances to bike parking lots, indicating a sense of arrival.
Typical messaging:
- Ralston Bike Lot

Suggestions:
Celebrate the use of bikes and treat bike lots similarly to vehicular lots. This is an opportunity to provide information on Clarion's green initiative.

SIGNAGE AND WAYFINDING C

Bus Stop Identification/Kiosk
Kiosks to be located along bus routes at designated spots and waiting areas. They will display information pertinent to the bus rider including a transit map, timetables, and regulatory messaging.

Suggestions:
Provide better identification for bus stops and information on bus operations.

Arboretum: Tree Identification/Interpretative
Based on the Master Plan's recommendation to expand the tree cover deeper onto both campuses, provide information on tree species and ecological benefits.

Suggestions:
Provide content that celebrates this ecological initiative with sign armatures that do not impact nor harm trees and are positioned in a manner that will not transform the general landscaping maintenance approach.

Regulatory Information
Except for standard DOT signs, such as stop and yield signs, all new proposed regulatory signs are to be intended to be positive in nature (the word "no" to be excluded).
Typical message:
- Be mindful of bicycles
- Student Crossing

Suggestions:
Ensure that all messaging is Clarion-friendly and not omnipresent on campus. Provide all regulatory information on the University's website and pedestrian kiosks to minimize the "lollipop" sign appearance on the physical campus.

C SIGNAGE AND WAYFINDING

Exterior Wayfinding

The proposed wayfinding approach for Clarion University is broken into groups, based on the transportation method used: vehicular, public transport and pedestrian. We envision these groups will relate to each other, but directed at a particular user. Graphics directed at vehicles require a different scale and requirements than those directed at pedestrians and each contain specific intended messaging. The ultimate goal of the pedestrian wayfinding will help students, staff and visitors self-navigate around the central academic and residential cores.

Vehicular Directionals

Directional signs will be at key intersections alongside primary roadways to direct drivers efficiently from point A to point B, typically to a specific parking lot. Designs will be in accordance with the MUTCD for viewing at designated speed limits; typically a minimum cap height of three inches.

Typical messaging:

> Admissions

Suggestions:

Ensure that mapping software and the University website is current with the most direct directionals to key campus locations and associated parking lots. Focus on getting drivers out of their cars at the closest available parking lot to their intended destination. Keep directionals to a minimum, zone or group segments of the campus if needed. Group destinations according to arrow direction nearest to furthest.

SIGNAGE AND WAYFINDING C

Pedestrian Kiosk

Directional kiosks will be provided at key locations on pedestrian walkways. Using campus and smaller district plans, it will aid in directing foot traffic from zone to zone and building to building, indicating walking time ranges within a 5–30 minute radius. It will also show parking lots, buildings, services and areas of interest. Regulatory messaging will also be included.

Suggestions:
Kiosks are to become a highly recognizable, visual focal point of the pedestrian wayfinding experience. They can present a variety of content opportunities and be tailored to the zone in which they are located.

Pedestrian Directionals

The secondary directional signage will be used as "breadcrumbs" for the primary kiosk. Messaging will be repeated at decision points.
Typical messaging:
∧ Admissions
Eagle Commons
> Carlson Library

Suggestions:
Unlike vehicular directionals, which are larger scaled and are to be viewed while in motion, pedestrian directionals can be positioned in the landscape as punctuation highlighting routes, acting as breadcrumbs towards the desired destination.

C SIGNAGE AND WAYFINDING

Interior Identification

The interior signage experience should be a visual continuation of the character of the exterior program. As each building has a different appearance, the signage needs to be neutral enough to blend in and be equally as functional.

Building Identification

The final "breadcrumb" and verification of arrival at each building lobby.
Typical messaging:
- Tippin Gym Natatorium

Suggestions:
Acts as a reminder of building identify. Can be teamed with directory or directionals dependent on location.

Department Identification

The final "breadcrumb" and verification of arrival at entrances to departments.
Typical messaging:
- Department of Sociology

Suggestions:
Entrances need to be better defined within corridors. Allow for supplemental content, such as paper posting areas, professor office hour listings and major/minor requirements.

University/College Branding

To be used as long or short term supplemental identification as well as provide a variety of branded experiences for events or programs. These elements can be used in conjunction with building identification for department and college identification and allow for additional promotional exposure, announcements.
Typical messaging:
- Courageous, Confident, Clarion

Suggestions:
Building interiors provide many opportunities to showcase a brand and visual attributes that are associated with the brand and sub-brands. Almost any surface can be impacted, walls, windows, floors, ceilings, via applied and/or projected. Graphics and content can be developed according to location, for example, athletics being different in intent than a residential or academic space. Applications can be long term or temporary based on overall needs.

SIGNAGE AND WAYFINDING C

Special Area Identification
The most important areas within a semi-public structure are circulation entrances, toilets and services. By improving the recognition of these spaces, one eliminates many of the questions asked by users and also promotes a better sense of place.
Typical messaging:
- Elevators/Stairs
- Toilets

Suggestions:
The personality of the graphic application can be uniquely expressed in these components as there are minimal defining code requirements. With long corridors, flag mounted applications tend to be more visual, icons more legible.

C SIGNAGE AND WAYFINDING

Room & Door Identification
Complying with the recent version of the Americans with Disabilities Act, all operable rooms are to receive signs adjacent to the non-swing door jamb with tactile lettering and Grade 2 Braille defining the primary identifier of the room, whether room number or descriptor. Signs may include integrated insert holder for occupant name or room schedule.
Typical messaging:
- Elevators/Stairs
- Toilets

Suggestions:
Graphic to be part of the comprehensive program. Use a neutral colored background to work uniformly across all building styles.

Toilet Identification
Complying with the recent version of the Americans with Disabilities Act, all toilet room signs are to be placed adjacent to the non swing door jamb with tactile lettering and Grade 2 Braille with corresponding gender icon. If toilet is not physically accessible, sign is to incorporate directional towards nearest compliant room. If any room within the building is not physically compliant, those rooms that are will require the international symbol of accessibility.
Typical messaging:
- Women

Suggestions:
Graphic to be part of the comprehensive program. Use a neutral colored background to work uniformly across all building styles.

Interior Wayfinding

Wayfinding should be a visual continuation of the exterior program. Wayfinding is to empower the visitor with tools, maps and directionals to self navigate.

Building/Floor Directories

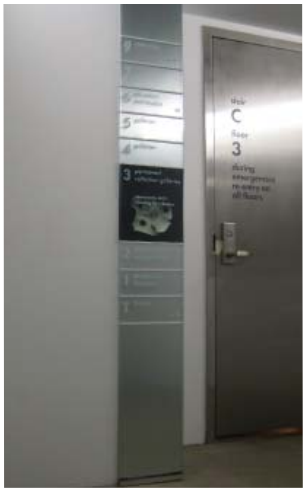
Building directories, with associated maps, should be in all entrances of all buildings. The directories are intended to show in a single glance where vertical circulation, toilets, services and departments reside within the structure.

Suggestions:
Graphic to be part of the comprehensive program. Use a neutral colored background to work uniformly across all building styles. Provide a snap shot of the building plan with key areas: circulation, toilets, departments indicated. Use integrated inserts to hold changeable content, such as individual offices.

Directionals

These are navigational "breadcrumbs" that assist the user with finding their way throughout the facility. Each direction, left, right, ahead, are to be individual units or grouped together when needed. This creates a circulation program that uses visual decision focal points for destination points such as departments, the cafeteria, and toilets.
Typical messaging:
> Toilets (Icon)
> Cafeteria (Icon)

Suggestions:
Keep the level of directional messaging to a minimal, focusing on zoning and immediate next decision points. Use icons where available and understood. Graphic to be part of the comprehensive program. Use a neutral colored background to work uniformly across all building styles.



C SIGNAGE AND WAYFINDING

Interior Regulatory

Distraction Markers
Any large expanse of glass without distraction is subject to being misunderstood as an open area. In order to prevent individuals from walking into these glass panels, a graphic is applied to certain regions, at eye and foot levels to visually alert that is not an opening.

Suggestions:
Use this opportunity to express a brand symbol, pattern or architectural element on glass surface.

Fire Stair
Identification of fire stair and associated re-entry information.

Suggestions:
Graphic to be part of the comprehensive program. Use a neutral colored background to work uniformly across all building styles.

Elevator Egress
Identification of elevator bank/cabs with usage information based on emergency situations. In some cases, egress maps are integrated to illustrate closest means of egress out of the building.

Suggestions:
Graphic to be part of the comprehensive program. Use a neutral colored background to work uniformly across all building styles.

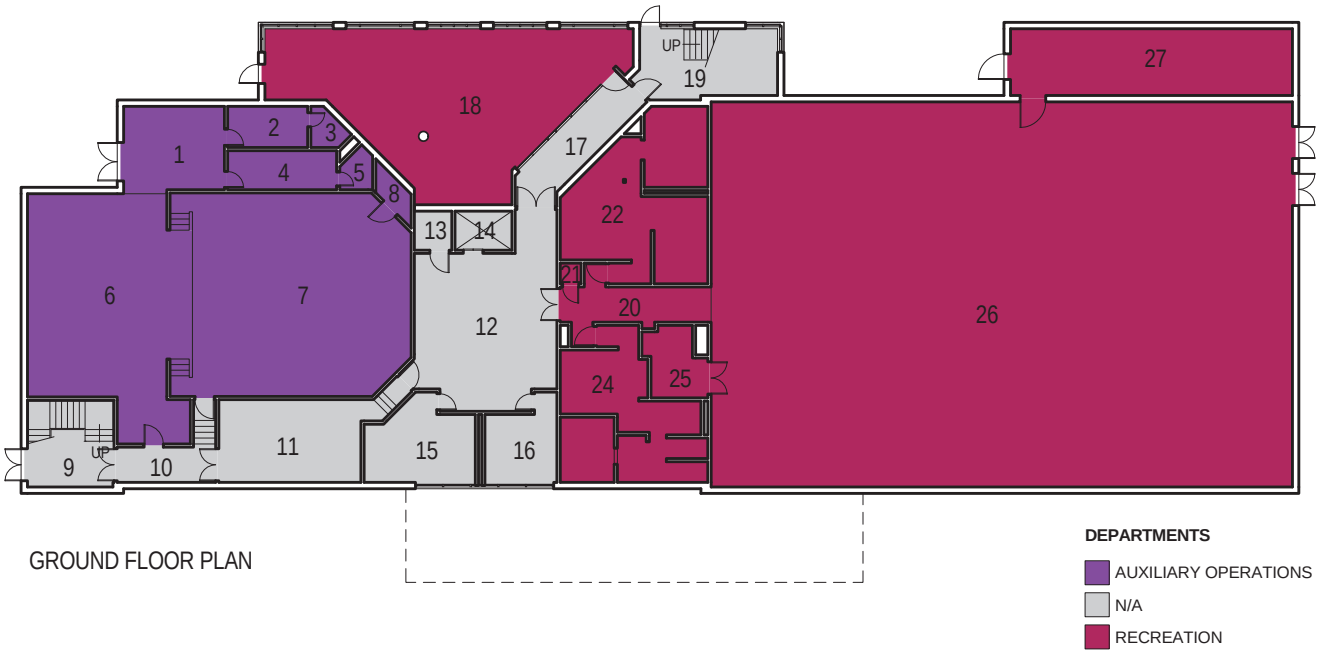
SIGNAGE AND WAYFINDING C

BUILDINGS LAYOUTS AND ASSESSMENT D

D BUILDING LAYOUTS AND ASSESSMENT

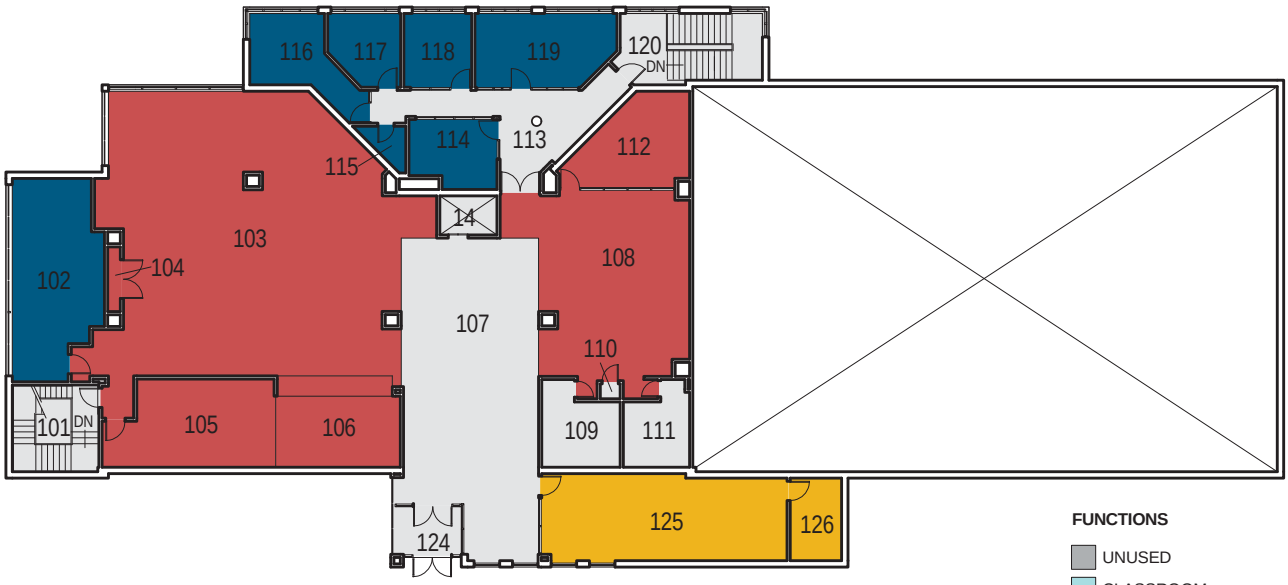
Departments
RHOADES HALL

FIRST FLOOR PLAN



GROUND FLOOR PLAN

Functions
RHOADES HALL



FIRST FLOOR PLAN

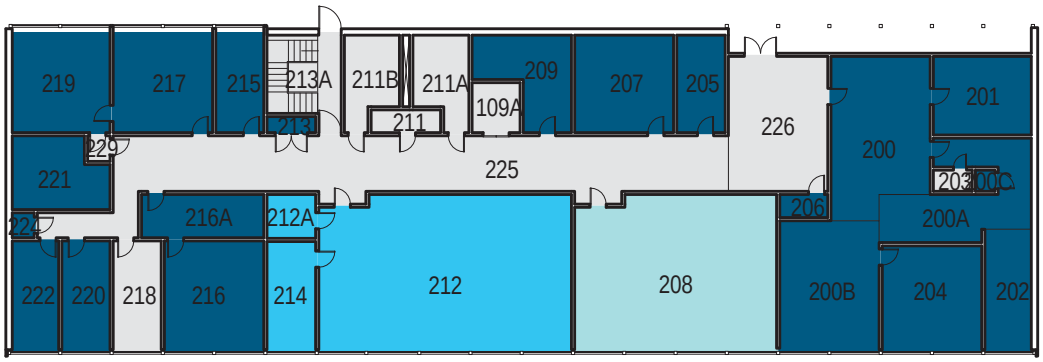
FUNCTIONS
- UNUSED
- CLASSROOM
- CLASS LAB
- OFFICE
- STUDY
- SPECIAL USE
- GENERAL USE
- SUPPORT
- HEALTH CARE
- RESIDENTIAL
- NON-ASSIGNABLE
- UNKNOWN

GROUND FLOOR PLAN

D BUILDING LAYOUTS AND ASSESSMENT

Frame Hall
Building Use by Function

- Classroom
- Class Lab
- Office
- Study
- Special Use
- General Use
- Support
- Health Care
- Residential
- Non-Assignable
- Unused



LEVEL 2

LEVEL 1

N

DEPARTMENTS

- ADMISSIONS
- BIOLOGY
- CONTINUING EDUCATION
- DEAN'S OFFICE
- FINANCE AND ADMINISTRATION
- GENERAL ACADEMIC
- MARKETING
- N/A

FIRST FLOOR PLAN

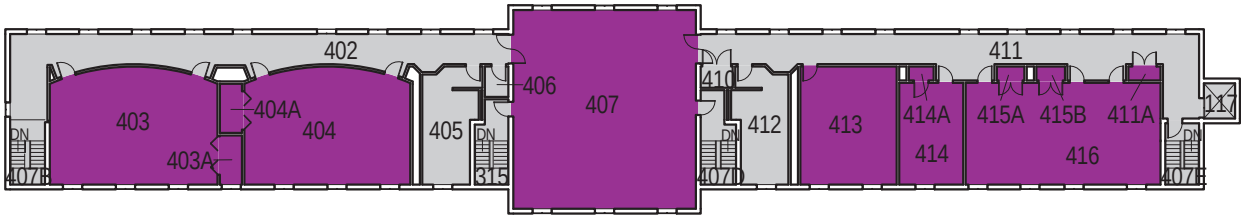
DEPARTMENTS

- ADMISSIONS
- BIOLOGY
- CHEMISTRY & BIOCHEMISTRY
- GENERAL ACADEMIC
- N/A

GROUND FLOOR PLAN

D BUILDING LAYOUTS AND ASSESSMENT

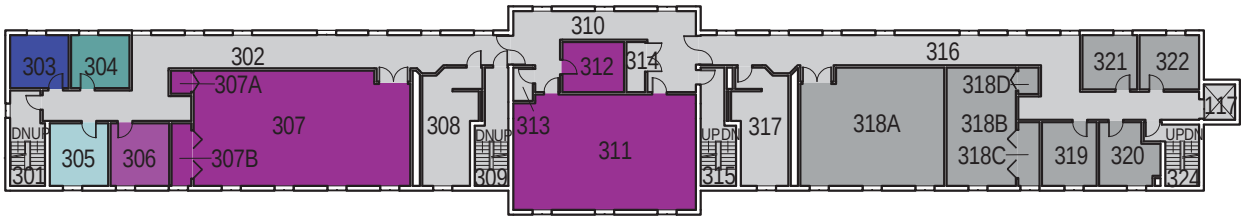
Departments
MONTGOMERY HALL



DEPARTMENTS

- GENERAL ACADEMIC
- N/A

FOURTH FLOOR PLAN

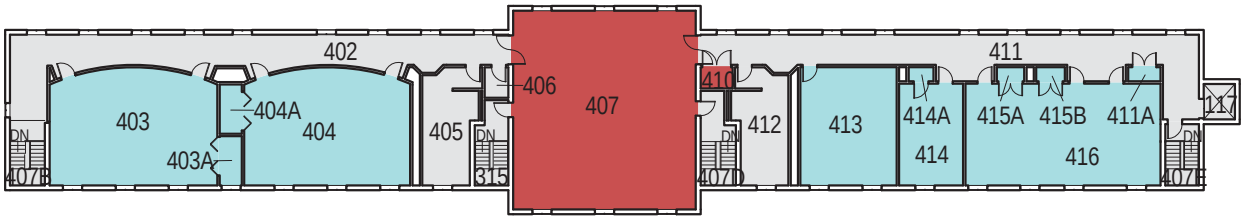


DEPARTMENTS

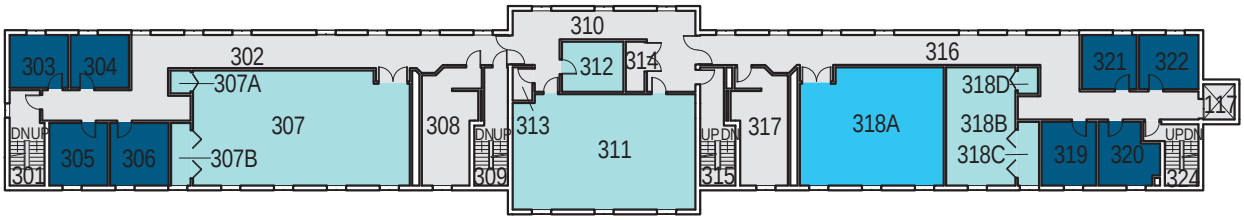
- ACADEMIC ENRICHMENT
- ENGLISH
- GENERAL ACADEMIC
- HUMANITIES AND SCIENCES
- MATHEMATICS
- N/A
- PSYCHOLOGY

THIRD FLOOR PLAN

Functions
MONTGOMERY HALL



FOURTH FLOOR PLAN



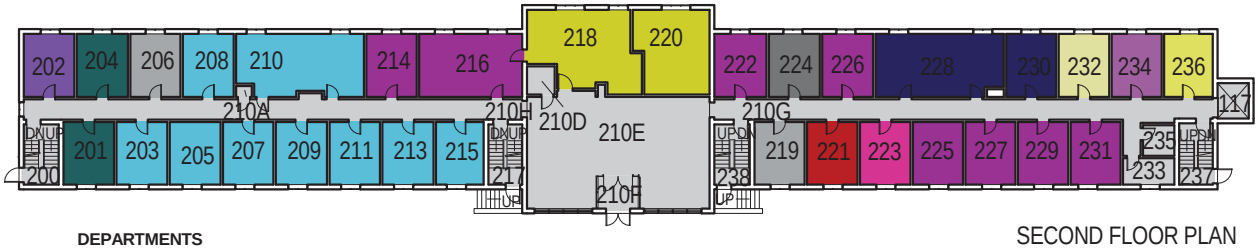
THIRD FLOOR PLAN

FUNCTIONS

- UNUSED
- CLASSROOM
- CLASS LAB
- OFFICE
- STUDY
- SPECIAL USE
- GENERAL USE
- SUPPORT
- HEALTH CARE
- RESIDENTIAL
- NON-ASSIGNABLE
- UNKNOWN

D BUILDING LAYOUTS AND ASSESSMENT

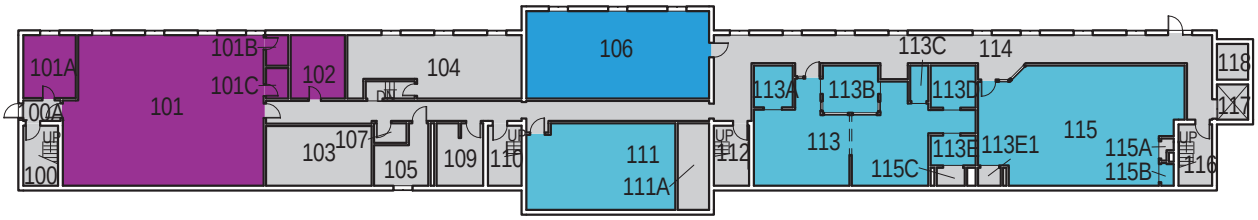
Departments
MONTGOMERY HALL



DEPARTMENTS

- ACADEMIC ENRICHMENT
- ADMINISTRATIVE SCIENCE
- ALLIED HEALTH
- CAREER SERVICES
- COUNCELING SERVICES
- COUNCILING SERVICES
- DEAN'S OFFICE
- EDUCATIONAL TALENT SEARCH
- FINANCE
- GENERAL ACADEMIC
- HONORS
- N/A
- NURSING
- VIRTUAL CAMPUS

SECOND FLOOR PLAN

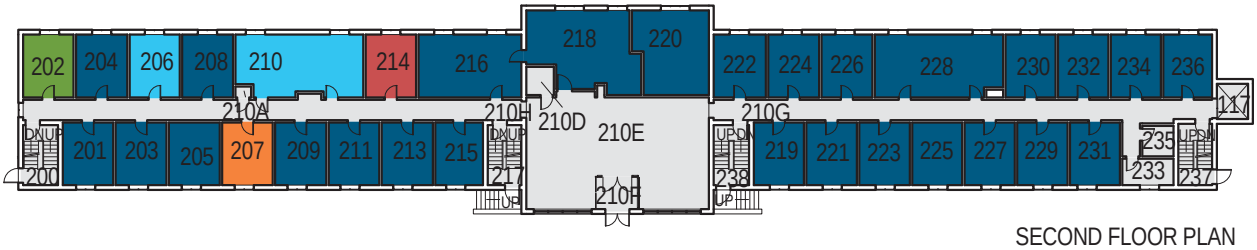


DEPARTMENTS

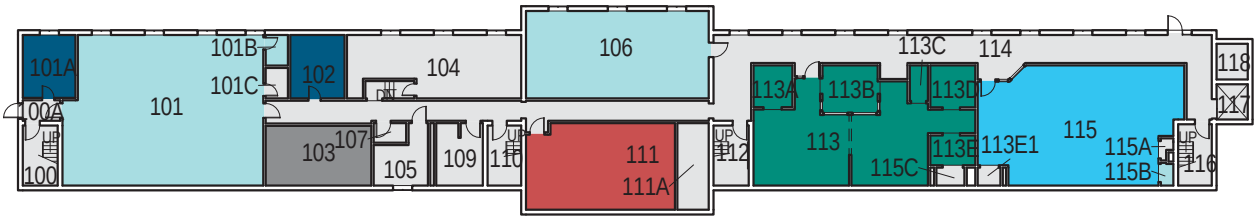
- CONTINUING EDUCATION
- GENERAL ACADEMIC
- N/A
- NURSING

FIRST FLOOR PLAN

Functions
MONTGOMERY HALL



SECOND FLOOR PLAN



FIRST FLOOR PLAN

FUNCTIONS

- UNUSED
- CLASSROOM
- CLASS LAB
- OFFICE
- STUDY
- SPECIAL USE
- GENERAL USE
- SUPPORT
- HEALTH CARE
- RESIDENTIAL
- NON-ASSIGNABLE
- UNKNOWN

D BUILDING LAYOUTS AND ASSESSMENT

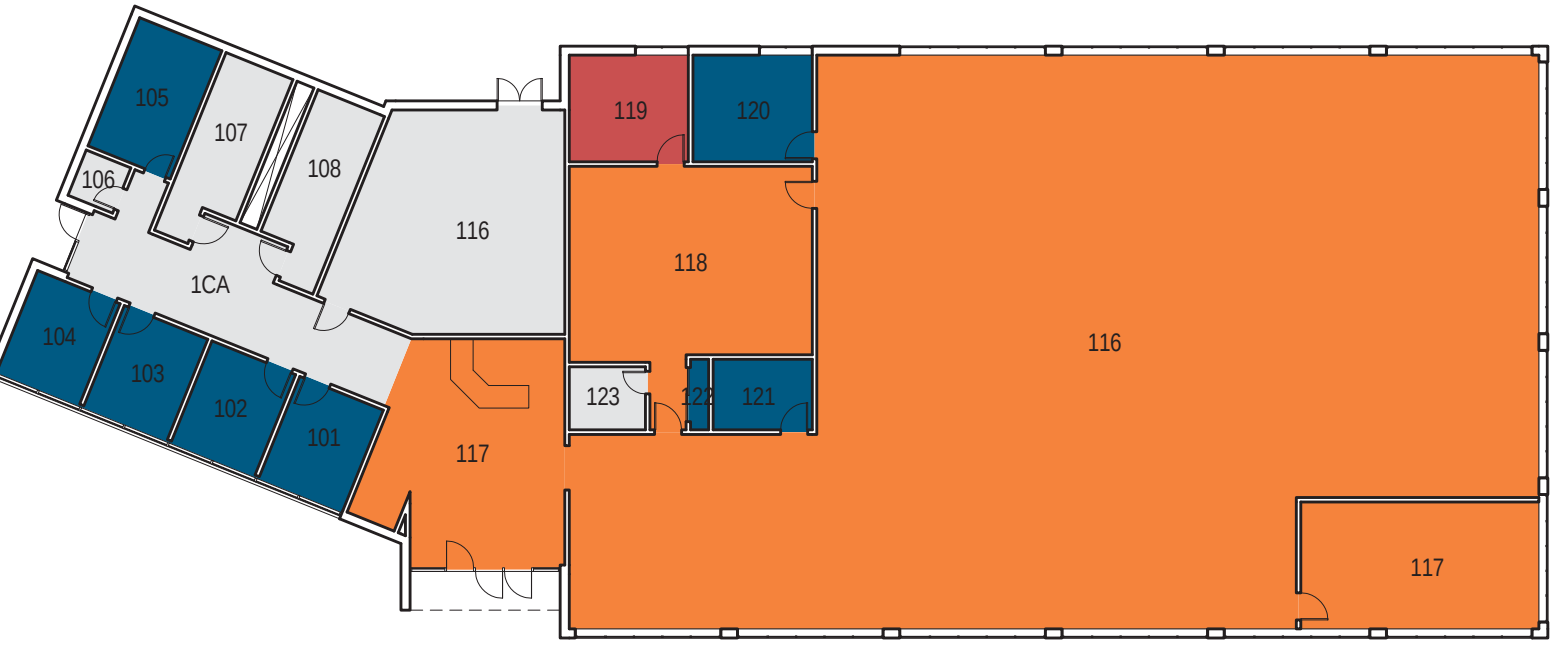
Departments
SUHR LIBRARY

FIRST FLOOR PLAN

DEPARTMENTS

- COMPUTING SERVICES
- LIBRARIES
- N/A

Functions
SUHR LIBRARY



FIRST FLOOR PLAN

FUNCTIONS

- UNUSED
- CLASSROOM
- CLASS LAB
- OFFICE
- STUDY
- SPECIAL USE
- GENERAL USE
- SUPPORT
- HEALTH CARE
- RESIDENTIAL
- NON-ASSIGNABLE
- UNKNOWN

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Frame Hall

BUILDING INFORMATION

Date Built:	1965	Construction type:	
Additions:	N/A	Use Group:	
Height:	2 Stories	Principal Uses:	Offices, classrooms and laboratory
Size:	16,380 GSF 10,354 ASF		

BUILDING CONDITION DESCRIPTION AND ASSESSMENT:

BUILDING SITE

Description	The building site is a hillside, descending from east to west. The ground floor of the building is built into the hillside. The building is surrounded by lawn, with an access drive on the south end. There are no signs of site drainage impacting the building itself.
Condition	Good
Rating:	2.5
Recommendations	Maintain existing site conditions.

BUILDING STRUCTURE

Description	The building structure consists of reinforced concrete slab on grade foundation walls. Floor and roof construction consists of open web bar joists and concrete plank. The supporting superstructure appears to be combination of masonry bearing walls and steel framing.
Condition	Good
Rating:	3.0
Recommendations	Maintain the existing structural system condition.

BUILDING EXTERIOR: ENCLOSURE

Description	The building exterior enclosure consists of a steel frame, brick veneer and aluminum and glass curtain wall. Wood soffits are installed above the two primary building entrances. Cast concrete "stone" has been installed at the north entrance.
Condition	Generally good. Cracked and broken brick observed in one location, near east entrance. Steel corrosion observed.
Rating:	2.5

EXISTING BUILDING ASSESSMENT

Campus:	Clarion University of Pennsylvania: Venango Campus
Building Name:	Frame Hall

Recommendations	In general, maintain the existing condition of the building enclosure. Replace cracked and damaged masonry. Remove corrosion and refinish steel surfaces.

BUILDING EXTERIOR: ROOF

Description	The building roofing consists of a single ply membrane, with flashing into an aluminum gravel stop.
Condition	The membrane appears to be in good condition. The age of the roof is unknown.
Rating:	2.5
Recommendations	Periodic inspections and maintenance are recommended to maintain existing roof conditions.

BUILDING EXTERIOR: WINDOWS

Description	The window systems at the east entrance are single glazed units in steel frames. Window units in the brick wall areas and in the west façade curtain wall are double glazed, in fixed and operable configurations. The curtain wall contains fixed, operable and spandrel glass units.
Condition	The window systems appear to be in good condition.
Rating:	3.0
Recommendations	Periodic inspections and maintenance are recommended to maintain existing window conditions.

EXTERIOR ENCLOSURE: DOORS/DOOR HARDWARE

Description	Exterior entrance doors are aluminum and glass, furnished with lever handle and panic bar hardware. Power assist door operation is installed at the east entrance. Service entrances consist of hollow metal doors and frames.
Condition	Doors and hardware are in good condition.
Rating:	3.0
Recommendations	Maintain the existing condition of the exterior doors and hardware

INTERIOR FINISHES: PARTITIONS

Description	Partition finishes consist of painted gypsum board and ceramic tile.
Condition	Good
Rating	3
Recommendations	Maintain existing partition condition.

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Frame Hall

INTERIOR FINISHES: CEILINGS

Description	Ceiling finishes include suspended acoustical tile, hardwood strip.
Condition	Good
Rating	3.0
Recommendations	Maintain existing ceiling finishes

INTERIOR FINISHES: FLOORS

Description	Terrazzo, vinyl tile and carpet are installed in the building. The tile size suggests the possibility of asbestos content.
Condition	Good where observed
Rating	2.5, based on the potential for asbestos content
Recommendations	While friable conditions were not observed and the general condition of the tile appears to be good, the University should perform testing to determine its composition and, if positive for asbestos, develop a policy for its maintenance or replacement.

INTERIOR FINISHES: DOORS AND DOOR HARDWARE

Description	Room entrances consist of hollow metal and wood frames with wood doors. Knob and lever handle hardware are both used in the building.
Condition	Good
Rating	3.0
Recommendations	Maintain doors and hardware in existing condition.

INTERIOR FINISHES: TOILET ROOMS

Description	Floors: Ceramic mosaic tile, vinyl tile Walls: 4.25 x 4.25 ceramic tile wainscot, with painted gypsum board above Ceiling: Suspended acoustical tile
Condition	Good
Rating	3.0
Recommendations	Maintain toilet room finishes in existing condition.

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Frame Hall

INTERIOR FINISHES: BUILT-IN FURNITURE

Description: Not observed

Condition Rating:

Recommendations:

ACCESSIBILITY (2010 ADA Standards for Accessible Design) :

Unless triggered by alterations, buildings are generally not required to meet accessibility standards enacted after their construction. The purpose of this section is to provide an indication of the building's accessibility, as measured by current standards.

Entrance:	Accessible	Elevator:	Accessible
Signage:	Accessible	Hardware:	Not accessible: Non-compliant knob hardware
Toilet Rooms:	Accessible	Stairs and Circulation:	Not accessible: Not accessible due to stair design
Overall Rating	2.5		

HEATING, COOLING AND VENTILATION SYSTEMS:

Description: This building heating source is two gas fired hot water boilers that appear to be in good condition. Portions of the building are cooled with a split DX air handler and two other unitary split systems. The larger rooftop condensing unit has been recently replaced while the two smaller condensing units are older and appear to be in fair condition. The second floor air handler provides conditioning and ventilation air for approximately 4 rooms and some offices on the second floor. Ventilation for most of the building is through unit ventilators. An older fume hood provides lab exhaust in the Chemistry Lab. Roof top exhaust fans provide general exhaust for the building. The fans appear to be in a variety of conditions. The building hot water pumps appear to be in fair condition. The hot water piping and valves appeared aged, but leaks were not apparent. The unit ventilator and hot water finned tube appear aged. Building controls are a combination of pneumatic and DDC.

Condition: 2

Rating: Fair

Recommendations: Plan for HVAC upgrades within the next 10 years. Some items, like the boilers and condensing unit may be useful beyond 10 years.

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Frame Hall

PLUMBING SYSTEMS:

Description	The restroom fixtures have been recently updated with china lavatories with wrist blade faucets. The urinals and water closets have manual flush valves installed. The distribution piping is copper and utilizes cast iron drain, waste and vent piping. The water service to the building is a 1 1/2"" line with backflow prevention and maintenance bypass and a meter installed. The domestic hot water is a 50 gallon GE Smartwater natural gas unit that serves the needs of the building. There is hot water recirculation provided via a Grundfos inline pump. There is a 2" natural gas service that enters the building underground. Water coolers are newer bi-level Oasis units.
Condition	Good
Rating:	3
Recommendations	The plumbing system is in good condition

ELECTRICAL SYSTEM: POWER

Description	The building is served from the utility via an exterior, power company owned, transformer. The main distribution panel (MDP) is rated at 400A-3phase-4W-208/120V. There is surge suppression installed on the MDP. The branch panels are original to the building (1962) while others have been replaced. The wiring is installed in conduit. Emergency power is provided by a new Kohler manufactured, natural gas fueled, generator. The automatic transfer switch has also been replaced and it serves both the life safety loads and the mechanical equipment connected to standby power through normal-emergency and emergency-only panelboards. The generator is rated at 30KW-3 phase-4W-208/120V.
Condition	Fair - Good
Rating:	3
Recommendations	The existing panelboards that have not been replaced should be. The equipment that has been replaced is in good condition.

ELECTRICAL SYSTEM: LIGHTING

Description	The system consists of mostly T-8 fluorescent lamped fixtures installed in surface and recessed mounted fixtures. Occupancy sensors have been installed in corridors and classrooms, the rest of the lighting controls are manually operated.

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Frame Hall

Condition	Good
Rating:	3
Recommendations	System has many years of useful life remaining

TELECOMMUNICATIONS AND SECURITY

Description	The building is served by fiber optic cabling and copper phone lines. The distribution is Category 5E cabling. There is limited space available in the racks for expansion. Wi-Fi is installed in the corridors. There is no security systems installed in the building.
Condition	Good
Rating:	3
Recommendations	System has many years of useful life remaining

FIRE PROTECTION SYSTEM:

Description	There is no fire protection system provided
Condition	N/A
Rating:	N/A
Recommendations	N/A

FIRE ALARM SYSTEM:

Description	There is a Simplex 4020, audio/visual system installed in the building. There are audio/visual devices installed in the classrooms.
Condition	Fair
Rating:	2
Recommendations	System should be replaced when building is renovated

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Frame Hall

PHOTOGRAPHS:

Figure 1: East entrance of Frame Hall

Figure 2: West façade curtain wall

Figure 3: Interior corridor

Figure 4: Cracked and broken brick masonry and steel corrosion

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Frame Hall

OVERALL RECOMMENDATIONS:

Building Component / Attribute	Recommendations	Replacement Period		
		1 yr	5 yrs	10 yrs
Site:				
Skin:				
Roof:				
Windows:				
Exterior doors:				
Interiors:				
Accessibility				
HVAC	Plan for HVAC replacement within the next 10 years. Some items, like the boilers and condensing unit may be useful beyond 10 years.			X
Plumbing	System is in good condition			X
Power:	System has many years of useful life remaining			X
Lighting:	System has many years of useful life remaining			X
Telecom and Security	System has many years of useful life remaining			X
Fire Protection:	N/A			
Fire Alarm:	System should be replaced when building is renovated		X	

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Montgomery Hall

BUILDING INFORMATION

Date Built:	1998	Construction type:	
Additions:		Use Group:	
Height:	3 Stories and Basement	Principal Uses:	Classrooms, Simulation Labs and Offices
Size:	31,351 GSF 19,105 ASF		

BUILDING CONDITION DESCRIPTION AND ASSESSMENT:

BUILDING SITE

Description	Sloping site, descending east to west. Building basement is constructed into the hillside. Landscape and around the building, with walks on the north and east sides. A parking lot is located on the north side of the building. No site drainage issues observed.
Condition	Good
Rating:	3.0
Recommendations	Maintain existing landscape and hardscape.

BUILDING STRUCTURE

Description	The building structure consists of a concrete slab on grade with reinforced concrete foundation walls. The superstructure was not observable.
Condition	Good. No structural deficiencies were observed.
Rating:	3
Recommendations	Maintain existing structural system conditions

BUILDING EXTERIOR: ENCLOSURE

Description	The exterior enclosure consists of brick veneer, concrete masonry and concrete sills, with aluminum fascia and soffits at the north entrance.
Condition	Good
Rating:	3.0
Recommendations	Maintain existing building enclosure conditions

BUILDING EXTERIOR: ROOF

Description	Roof system consists of a single ply membrane on tapered roof insulation.
Condition	Fair. Age of the roof is unknown. Ponding observed.
Rating:	2.0
Recommendations	Perform periodic inspections and maintenance to maintain the integrity of the roofing system.

EXISTING BUILDING ASSESSMENT

Campus:	Clarion University of Pennsylvania: Venango Campus
Building Name:	Montgomery Hall

BUILDING EXTERIOR: WINDOWS

Description	The windows consist of fixed and operable aluminum and glass units.
Condition	Good.
Rating:	2.5
Recommendations	Maintain existing window conditions.

EXTERIOR ENCLOSURE: DOORS/DOOR HARDWARE

Description	Building entry doors are aluminum and glass units with pull and panic bars hardware. Power assist operation is installed at the north and east building entrances. Hollow metal doors and frames, with pulls and panic bar hardware, are installed at service entrances.
Condition	Fair. Corrosion noted at hollow metal doors and frames.
Rating:	2.0
Recommendations	Remove corrosion and refinish hollow metal doors and frames.

INTERIOR FINISHES: PARTITIONS

Description	Interior partitions include painted concrete masonry and painted gypsum board.
Condition	Good
Rating	3.0
Recommendations	Maintain existing partition finishes.

INTERIOR FINISHES: CEILINGS

Description	Ceiling finishes include painted plaster and suspended acoustical ceiling tile
Condition	Good
Rating	3.0
Recommendations	Maintain existing ceiling conditions.

INTERIOR FINISHES: FLOORS

Description	Floor finishes include concrete and vinyl composition tile
Condition	Good. Local cracking of vinyl composition tile noted.
Rating	3.0
Recommendations	Maintain existing floor finishes.

INTERIOR FINISHES: DOORS AND DOOR HARDWARE

Description	Interior doors include wood and hollow metal doors in hollow metal frames, with lever handle, knob handle, pull and push plate hardware.
Condition	Good
Rating	2.5
Recommendations	Maintain existing interior doors and hardware.

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Montgomery Hall

INTERIOR FINISHES: TOILET ROOMS

Description	Floor finishes: Vinyl composition tile, ceramic mosaic tile Wall finishes: Painted gypsum board, ceramic tile Ceiling finishes: Painted gypsum board and suspended acoustical tile
Condition	Good
Rating	2.5
Recommendations	Maintain existing toilet room finishes

INTERIOR FINISHES: BUILT-IN FURNITURE

Description	Simulation lab casework
Condition	Good
Rating	3.0
Recommendations	Maintain existing built-in furniture

ACCESSIBILITY (2010 ADA Standards for Accessible Design) :

Unless triggered by alterations, buildings are generally not required to meet accessibility standards enacted after their construction. The purpose of this section is to provide an indication of the building's accessibility, as measured by current standards.

Entrance:	Accessible	Elevator:	Accessible
Signage:	Accessible	Hardware:	Accessible
Toilet Rooms:	Accessible	Stairs and Circulation:	Not Accessible
Overall Rating	2.5		

HEATING, COOLING AND VENTILATION SYSTEMS:

Description	The building heating source is two gas fired hot water boilers located on the lower floor. A split chiller provides cooling for a large portion of the building. Two new split condensing units provide cooling for a portion of the lower floor that was recently renovated. Through the wall cooling units provide cooling for some areas of the building. New air handlers were added recently to provide conditioning and ventilation air for a portion of the lower floor. A combination of ceiling exhaust fans and roof top exhaust fans provide general exhaust for toilet rooms and similar spaces. The building hot and chilled water pumps appear to be in good condition. Terminal units consist of a combination of hot water unit heaters, unit ventilators, hot water convectors, hot water finned tube, and PTAC units. The terminal units appear to be in a variety of conditions. Controls are a mixture of pneumatic and DDC.

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Montgomery Hall

Condition	2
Rating:	Fair
Recommendations	Due to age of most of the building HVAC systems, upgrades should be planned within the next 10 years. Upgrades should include replacing aged terminal units.

PLUMBING SYSTEMS:

Description	The restroom fixtures are in excellent condition and have recently been updated with wrist blade handles and new lavatories/bowls. The urinals and water closets are new as well and utilize sensor flush valves. The distribution piping is copper and utilizes a mixture of cast iron and PVC drain, waste and vent piping. The water service to the building is a 2" line with backflow prevention and maintenance bypass and meter installed. The domestic hot water is provided by an 86 gallon A.O. Smith natural gas unit that serves the needs of the building. There is hot water recirculation provided via a Grundfos inline pump. There are newer Oasis bi-level water coolers installed. The building is served with a 2 1/2" natural gas line.
Condition	Good
Rating:	3
Recommendations	The plumbing equipment that has not already been updated should be replaced when the building is renovated.

ELECTRICAL SYSTEM: POWER

Description	The building is served from the utility via an exterior, power company owned, pad-mounted transformer. The main distribution panel (MDP) is rated at 1200A-3phase-4W-208/120V manufactured by GE and is in fair condition. The branch panels on all floors except for the 2nd have been replaced and are in good condition. The wiring is installed in conduit. The computer panels have transient voltage surge suppression installed. A Kohler manufactured, natural gas fueled, generator is installed in the electrical room. The automatic transfer switch serves the emergency-only and normal-emergency loads of the building. The generator is rated at 14KW-3 phase-3W-208/120V.
Condition	Fair
Rating:	2

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Montgomery Hall

Recommendations	The system components that are building original should be replaced shortly.

ELECTRICAL SYSTEM: LIGHTING

Description	The system consists of mostly T-8 fluorescent lamped fixtures installed in recessed mounted fixtures. The mechanical room still utilizes T-12 lamps. The classrooms are equipped with multi-zone lighting. There are occupancy controls for the renovated portions of the building. Exterior lighting is older style HID wallpacks.
Condition	Good
Rating:	3
Recommendations	System has many years of useful life remaining but the exterior lighting should be change within 5 years

TELECOMMUNICATIONS AND SECURITY

Description	The building is served by fiber optic cabling and copper phone lines. The distribution is mostly Category 5E cabling but there is some Category 6 cabling installed. There is limited space available in the racks for expansion. Wi-Fi is installed in the corridors. There are security cameras installed in the corridors and at the entrances of the building.
Condition	Good
Rating:	3
Recommendations	System has many years of useful life remaining

FIRE PROTECTION SYSTEM:

Description	There is no fire protection system provided
Condition	N/A
Rating:	N/A
Recommendations	N/A

FIRE ALARM SYSTEM:

Description	There is a Simplex manufactured, audio/visual system installed in the building. There is a remote annunciator installed at the rear entrance.
Condition	Fair
Rating:	2
Recommendations	System should be replaced when building is renovated

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Montgomery Hall

PHOTOGRAPHS:

Figure 1: Montgomery Hall east elevation

Figure 2: South and west facades of building

Figure 3: Classroom

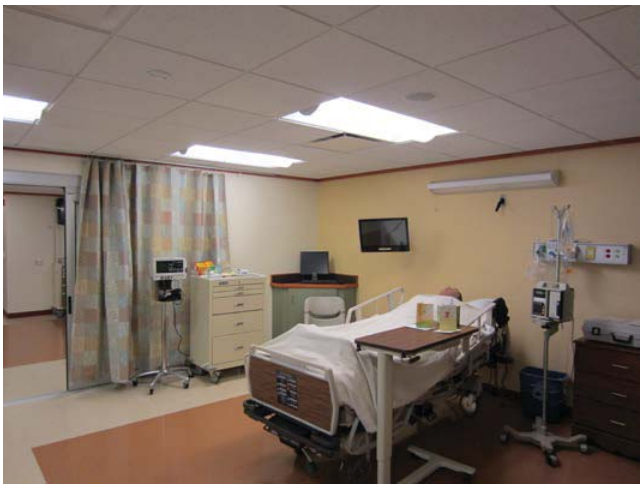


Figure 4: Simulation lab

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Montgomery Hall

Figure 5: Cracks in vinyl composition floor tile

Figure 6: Water ponding on membrane roofing

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Montgomery Hall

OVERALL RECOMMENDATIONS:

Building Component / Attribute	Recommendations	Replacement Period		
		1 yr	5 yrs	10 yrs
Site:				
Skin:				
Roof:				
Windows:				
Exterior doors:				
Interiors:				
Accessibility				
HVAC	Due to age of most of the building HVAC systems, upgrades should be planned within the next 10 years. Upgrades should include replacing aged terminal units.			X
Plumbing	System components that have not already been updated should be replaced when building is renovated		X	
Power:	System components that have not been replaced should be replaced shortly		X	
Lighting:	System has many years of useful life remaining			X
Telecom and Security	System has many years of useful life remaining			X
Fire Protection:	N/A			
Fire Alarm:	System should be replaced when building is renovated		X	

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Venango Pole Barn

BUILDING INFORMATION

Date Built:	2004	Construction type:	
Additions:		Use Group:	
Height:	1 Story	Principal Uses:	Storage Building
Size:	2,400 GSF 2,400 ASF		

BUILDING CONDITION DESCRIPTION AND ASSESSMENT:

BUILDING SITE

Description	Level Site: No site drainage issues observed. Lawn landscape on south and west sides of building. Gravel surface on north and east sides of building. Vehicular access from north side of building site.
Condition	Fair
Rating:	2.0
Recommendations	Given the utilitarian building functions, maintain existing site conditions.

BUILDING STRUCTURE

Description	The building structure consists of a reinforced concrete slab on grade, with steel truss and girt framing system.
Condition	good
Rating:	3.0
Recommendations	Maintain existing structural conditions.

BUILDING EXTERIOR: ENCLOSURE

Description	The building is clad in corrugated insulated steel panels.
Condition	Good. .
Rating:	2.5
Recommendations	Maintain existing enclosure condition.

BUILDING EXTERIOR: ROOF

Description	Roofing consists of corrugated insulated panels.
Condition	Good.
Rating:	2.5
Recommendations	Maintain existing roof condition.

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Venango Pole Barn

BUILDING EXTERIOR: WINDOWS

Description	There are no window units.
Condition	
Rating:	
Recommendations	

EXTERIOR ENCLOSURE: DOORS/DOOR HARDWARE

Description	Building entry doors consist of one overhead roll-down door and two hollow metal doors. Doors are framed in hollow metal and brake metal trim. Lever handle locksets are installed.
Condition	Good
Rating:	2.5
Recommendations	Maintain existing door conditions.

INTERIOR FINISHES: PARTITIONS

Description	Painted gypsum board at office and toilet
Condition	Fair
Rating	2.0
Recommendations	Maintain existing partition construction

INTERIOR FINISHES: CEILINGS

Description	Suspended acoustical tile at office and toilet room
Condition	Fair
Rating	2.0
Recommendations	Maintain existing ceiling condition

INTERIOR FINISHES: FLOORS

Description	Vinyl composition tile at office and toilet room
Condition	Fair
Rating	2.0
Recommendations	Maintain existing condition of floor finishes.

INTERIOR FINISHES: DOORS AND DOOR HARDWARE

Description	Wood doors and frames are installed in the office and toilet room. Knob handle hardware is used.
Condition	Fair
Rating	2.0
Recommendations	Maintain the existing interior doors and hardware.

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Venango Pole Barn

INTERIOR FINISHES: TOILET ROOMS

Description	Floor: Vinyl composition tile Partitions: Painted gypsum board Ceiling: Suspended acoustical tile
Condition	Fair
Rating	2.0
Recommendations	Maintain existing toilet room finishes

INTERIOR FINISHES: BUILT-IN FURNITURE

Description	Not applicable
Condition	
Rating	
Recommendations	

ACCESSIBILITY (2010 ADA Standards for Accessible Design) :

Unless triggered by alterations, buildings are generally not required to meet accessibility standards enacted after their construction. The purpose of this section is to provide an indication of the building's accessibility, as measured by current standards.

Entrance:	Not applicable	Elevator:	Not applicable
Signage:	Not applicable	Hardware:	Not applicable
Toilet Rooms:	Not applicable	Stairs and Circulation:	Not applicable
Overall Rating	Not applicable		

HEATING, COOLING AND VENTILATION SYSTEMS:

Description	The building heating source is gas fired unit heaters in the main garage and a gas fired furnace serving office areas. The furnace also has split DX cooling to provide cooling for the office areas. The building has no mechanical ventilation. The air distribution appears to be in fair condition. Controls are stand-alone.
Condition	2.5
Rating:	Fair / Good
Recommendations	Maintain equipment and replace on an as needed basis.

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Venango Pole Barn

PLUMBING SYSTEMS:

Description	The restroom fixtures are manually operated but in good condition. The water closet is a tank type fixture and the lavatory is vitreous china with manual faucet. The building is served by a 1 1/4" domestic water line that enters the building in the mechanical room. It does not have any backflow prevention or meter installed. Domestic hot water is supplied by a 30 gallon natural gas water heater. The water distribution piping is copper and is not insulated. There is a residential shower and kitchen sink installed in the building as well. The building is served by a separate 1" natural gas service that is supplied to the building via a separate meter.
Condition	Fair-Good
Rating:	2.5
Recommendations	The system should adequately meet the needs of the building use for the next few years.

ELECTRICAL SYSTEM: POWER

Description	The building is served with 200A-1 phase – 3W-240/120V electric service. There are approximately 10 spare spaces available in the panel for future use. The panel is newer and in good condition. The branch circuit wiring is MC cable and some limited conduit. No emergency generator is installed.
Condition	Fair – Good
Rating:	2.5
Recommendations	The system should adequately meet the needs of the building use for the next few years.

ELECTRICAL SYSTEM: LIGHTING

Description	The majority of the building is served by T-8 fluorescent lamped, surface mounted, fixtures with the lenses removed. There are pendant mounted metal halide fixtures installed in the garage area. The switching is all done manually. Emergency lighting is done via battery packs.
Condition	Poor
Rating:	1

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Venango Pole Barn

Recommendations	Replace the entire lighting system when the building is renovated.

TELECOMMUNICATIONS AND SECURITY

Description	The building has security cameras installed at the exterior of the building. The telecommunications equipment consists of a single patch panel and a copper line for phones.
Condition	Fair
Rating:	2
Recommendations	Replace the telecommunications system when the building is renovated.

FIRE PROTECTION SYSTEM:

Description	There is no fire protection service installed in the building
Condition	N/A
Rating:	N/A
Recommendations	N/A

FIRE ALARM SYSTEM:

Description	There is no fire alarm system installed in the building
Condition	N/A
Rating:	N/A
Recommendations	N/A

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Venango Pole Barn

PHOTOGRAPHS:

Figure 1: Pole barn exterior view from north

Figure 2: Pole barn exterior view from south

Figure 3: Barn interior

Figure 4: Barn interior

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Venango Pole Barn

OVERALL RECOMMENDATIONS:

Building Component / Attribute	Recommendations	Replacement Period		
		1 yr	5 yrs	10 yrs
Site:				
Skin:				
Roof:				
Windows:				
Exterior doors:				
Interiors:				
Accessibility				
HVAC	Maintain equipment and replace on an as needed basis.			
Plumbing	System should adequately meet the needs of the building's use for the next few years		X	
Power:	System should be replaced entirely when renovation occurs		X	
Lighting:	System should be replaced when the building is renovated.		X	
Telecom and Security	System should be replaced when the building is renovated.		X	
Fire Protection:	Building has no sprinklers installed			N/A
Fire Alarm:	Building has no fire alarms system installed			N/A

EXISTING BUILDING ASSESSMENT

Campus:	Clarion University of Pennsylvania: Venango Campus
Building Name:	Rhoades Hall

BUILDING INFORMATION

Date Built:	1976	Construction type:	
Additions:		Use Group:	
Height:	2 Stories	Principal Uses:	Auditorium, Gymnasium,
Size:	18,380 GSF 12,747 ASF		Student Center, Offices

BUILDING CONDITION DESCRIPTION AND ASSESSMENT:

BUILDING SITE

Description	Sloping site, with landscape and walkways on north, east and south sides of the building. Limited parking and vehicular access is located on the west side of the building. No site drainage issues observed.
Condition	Good
Rating:	3
Recommendations	Maintain existing landscape and paved areas.

BUILDING STRUCTURE

Description	The building structure consists of reinforced concrete footings and slab on grade, concrete foundation walls with a superstructure of steel framing and composite metal deck.
Condition	Good
Rating:	3
Recommendations	Maintain existing structural system conditions

BUILDING EXTERIOR: ENCLOSURE

Description	Exterior finishes include ground face and bush hammered concrete masonry units, brick masonry and concrete.
Condition	Generally good. Mortar deterioration and loss has been experienced on the north side of the building. Repointing of these areas has been scheduled.
Rating:	3.0
Recommendations	Maintain existing building enclosure condition.

BUILDING EXTERIOR: ROOF

Description	Two membrane roof systems are present, each installed at a different time and in different areas of the building. An aluminum standing seam roof is installed in a small area.
Condition	Generally good. Ponding was observed at the intersections between the two membrane roofs.
Rating:	2.5

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Rhoades Hall

Recommendations	Periodic roof inspections and maintenance are recommended.

BUILDING EXTERIOR: WINDOWS

Description	The window system consists of fixed double glazed aluminum and glass units
Condition	Good
Rating:	3.0
Recommendations	Periodic inspections and maintenance are recommended to maintain existing window conditions.

EXTERIOR ENCLOSURE: DOORS/DOOR HARDWARE

Description	Building entry doors consist of aluminum / hollow metal and glass units, with pulls and panic bar hardware. Service doors and frames are painted hollow metal, typically with pulls and panic bar hardware. Lever handle hardware is provided at one location.
Condition	Good
Rating:	3.0
Recommendations	Maintain exterior doors and hardware in existing condition

INTERIOR FINISHES: PARTITIONS

Description	Interior partition finishes consist of painted concrete masonry, painted gypsum board and wall covering.
Condition	Good
Rating	3.0
Recommendations	Maintain existing partition finishes.

INTERIOR FINISHES: CEILINGS

Description	Ceiling finishes include painted gypsum board, painted concrete, exposed metal deck and suspended acoustical tile
Condition	Good
Rating	3.0
Recommendations	Maintain existing ceiling conditions.

INTERIOR FINISHES: FLOORS

Description	Floor finishes include vinyl composition tile, carpet, hardwood and synthetic athletic surface.
Condition	Good
Rating	3.0
Recommendations	Maintain existing condition of floor finishes.

INTERIOR FINISHES: DOORS AND DOOR HARDWARE

Description	Interior door frames are hollow metal, with hollow metal and wood doors. Hardware consists of

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Rhoades Hall

	push plates, pulls and lever handles.
Condition	Good
Rating	3.0
Recommendations	Maintain existing interior doors and hardware.

INTERIOR FINISHES: TOILET ROOMS

Description	Floor finishes: Vinyl flooring Wall finishes: Painted concrete masonry and glazed concrete masonry Ceiling finishes: Suspended acoustical tile
Condition	Good
Rating	2.5
Recommendations	Maintain existing toilet room finishes

INTERIOR FINISHES: BUILT-IN FURNITURE

Description	Food court display cases and serving counters
Condition	Good
Rating	3.0
Recommendations	Maintain existing food court built-in furniture

ACCESSIBILITY (2010 ADA Standards for Accessible Design) :

Unless triggered by alterations, buildings are generally not required to meet accessibility standards enacted after their construction. The purpose of this section is to provide an indication of the building's accessibility, as measured by current standards.

Entrance:	Entrances appear to be compliant with respect to door hardware and operation.	Elevator:	Elevator appears to meet accessibility requirements
Signage:	Not accessible	Hardware:	Hardware appears to meet accessibility requirements
Toilet Rooms:	Non-compliant door clearances and accessory mounting heights at toilet rooms. Locker rooms are compliant.	Stairs and Circulation:	Stairs appear to meet accessibility requirements
Overall Rating	2.5		

HEATING, COOLING AND VENTILATION SYSTEMS:

Description	The building heating source is a combination of gas and electric resistance. Cooling is provided through packaged roof top units. Make up air units that are in good condition provide make up air for cooking needs. Five packaged rooftops (some with gas heat and some with electric resistance heat) provide conditioning and ventilation air for the building. A grease hood and exhaust system in

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Rhoades Hall

	good condition provides exhaust for cooking needs. The general exhaust fans on the roof all appear in relatively good condition. Air distribution is via overhead ductwork and diffusers. Electric duct reheats, electrical wall heaters, and electric baseboard provide supplemental heat in various areas. Controls appear to be mostly stand-alone with each roof top unit.
Condition	3
Rating:	Good
Recommendations	Maintain existing systems to extend remaining useful life.

PLUMBING SYSTEMS:

Description	The restroom flush fixtures are in good condition and some have recently been updated with wrist blade handles and new fixtures. The locker rooms fixtures have also been updated and are in good condition. The distribution piping is copper and utilizes a mixture of cast iron and PVC drain, waste and vent piping. The water service to the building is a 2" line with backflow prevention and maintenance bypass and a meter installed. The domestic hot water is provided by an 84 gallon A.O. Smith natural gas unit that serves the needs of the building. There is hot water recirculation provided via a Grundfos inline pump. There are newer Oasis bi-level water coolers installed. The building is served with natural gas.
Condition	Fair-Good
Rating:	2.5
Recommendations	The plumbing system that has not already been updated should be replaced when the building is renovated.

ELECTRICAL SYSTEM: POWER

Description	The building is served from the utility via an exterior, power company owned, pad-mounted transformer. There are two main distribution panels (MDP). One is rated at 600A-3phase-4W-480/277V manufactured by Zinsco, it appears to be building original. The other has recently been replaced and it is also a 600A-3phase-4W-480/277V but it is manufactured by Square D. The branch panels have also been replaced and are in good condition. The wiring is installed in conduit. A new Kohler manufactured, natural gas fueled, generator is installed outside of the electrical room. It has 21 hours of use on it. The automatic transfer switch has also been replaced recently and it serves the normal-emergency loads of the building. The generator is rated at 30KW-3 phase-3W-480/277V.

EXISTING BUILDING ASSESSMENT

Campus:	Clarion University of Pennsylvania: Venango Campus
Building Name:	Rhoades Hall

Condition	Good
Rating:	3
Recommendations	The system components that have not been replaced yet should be replaced as soon as possible.

ELECTRICAL SYSTEM: LIGHTING

Description	The system consists of mostly T-8 fluorescent lamped fixtures installed in recessed mounted fixtures. The gym has been relit using high output fluorescent fixtures. There are occupancy controls for the corridors and other rooms in the building.
Condition	Good
Rating:	3
Recommendations	System has many years of useful life remaining

TELECOMMUNICATIONS AND SECURITY

Description	The building is served by fiber optic cabling and copper phone lines. The building is served from Frame Hall. The distribution is Category 5E cabling. There is limited space available in the racks for expansion. Wi-Fi is installed in the corridors. There are security cameras installed on the exterior of the building.
Condition	Good
Rating:	3
Recommendations	System has many years of useful life remaining

FIRE PROTECTION SYSTEM:

Description	There is no fire protection system provided
Condition	N/A
Rating:	N/A
Recommendations	N/A

FIRE ALARM SYSTEM:

Description	There is a Simplex manufactured, audio/visual system installed in the building that is designed to meet the requirements of the ADA. There is a remote annunciator installed at the entrance.
Condition	Fair
Rating:	2
Recommendations	System should be replaced when building is renovated

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Rhoades Hall

OVERALL RECOMMENDATIONS:

Building Component / Attribute	Recommendations	Replacement Period		
		1 yr	5 yrs	10 yrs
Site:				
Skin:				
Roof:				
Windows:				
Exterior doors:				
Interiors:				
Accessibility				
HVAC	Maintain existing systems to extend remaining useful life.			
Plumbing	System components that have not already been updated should be replaced when building is renovated		X	
Power:	System components that have not been replaced should be replaced shortly		X	
Lighting:	System has many years of useful life remaining			X
Telecom and Security	System has many years of useful life remaining			X
Fire Protection:	N/A			
Fire Alarm:	System should be replaced when building is renovated		X	

EXISTING BUILDING ASSESSMENT

Campus:	Clarion University of Pennsylvania: Venango Campus
Building Name:	Rhoades Hall

PHOTOGRAPHS:

Figure 1: Rhoades Center Entrance

Figure 2: Food court within the Rhoades Center

Figure 3: Mortar deterioration on north facade

Figure 4: Rooftop water ponding

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Suhr Library

BUILDING INFORMATION

Date Built:	1976	Construction type:	
Additions:		Use Group:	
Height:	One story and partial basement	Principal Uses:	Library and offices
Size:	10,140 GSF 7,429 ASF		

BUILDING CONDITION DESCRIPTION AND ASSESSMENT:

BUILDING SITE

Description	Sloping site, descending from south to north. Building is built into hillside. Entrance at north side of building at basement. Main entrance on west side of building, at first floor. Building is surrounded by landscape, with walkways at the north end of the building. Evidence of past site drainage issues at the south end of the building, where the structure is buried deepest into the hillside. Recent corrective work has been performed to remedy building leaks.
Condition	Generally good. Results of corrective drainage work are unknown.
Rating:	2.5
Recommendations	Maintain existing landscape and hardscape.

BUILDING STRUCTURE

Description	The building structure consists of reinforced concrete footings, slab on grade and reinforced concrete foundation walls. The superstructure could not be seen. Given the column free interior, the building structure may consist of a steel frame with steel roof trusses.
Condition	Good. Moisture penetration through concrete foundation wall has occurred at the southeast corner of the building. Damage to finishes is visible. It is unknown if the recent repairs have corrected the moisture infiltration problem.
Rating:	3
Recommendations	Maintain existing structural system condition. Monitor foundation walls for moisture penetration.

BUILDING EXTERIOR: ENCLOSURE

Description	The exterior enclosure consists of brick veneer, with aluminum fascias and soffits at the north and west sides of the building.
Condition	Fair. Local areas of mortar loss and cracked brick masonry were observed. Moisture damage to interiors observed near window openings.
Rating:	2.0
Recommendations	Replace cracked masonry. Re-point areas of mortar loss and mortar cracks. Determine the cause of the moisture infiltration through the wall and make appropriate repairs.

EXISTING BUILDING ASSESSMENT

Campus:	Clarion University of Pennsylvania: Venango Campus
Building Name:	Suhr Library

	Given the damage noted near the windows, the source of the problem may be in the wall or in the joints between the wall and window assemblies.

BUILDING EXTERIOR: ROOF

Description	Roof system consists of a single ply membrane with aluminum flashing and gravel stop..
Condition	Generally good, based on visual observation. Age of roof unknown.
Rating:	2.5
Recommendations	Periodic roof inspections and maintenance are recommended to maintain the integrity of the roofing.

BUILDING EXTERIOR: WINDOWS

Description	The window system consists of single glazed aluminum and glass units, in fixed and operable combinations.
Condition	Good physical condition. Windows obsolete due to poor thermal performance.
Rating:	2.5
Recommendations	Periodic inspections and maintenance are recommended to maintain existing window conditions. Consideration should be given to window replacement to improve thermal performance.

EXTERIOR ENCLOSURE: DOORS/DOOR HARDWARE

Description	Building entry doors consist of aluminum and glass units, with pulls and panic bar hardware. Power assist door operation is installed at the west entrance. Service doors and frames are painted hollow metal, with panic hardware.
Condition	Good.
Rating:	2.5
Recommendations	Maintain existing door and hardware conditions.

INTERIOR FINISHES: PARTITIONS

Description	Interior partition finishes consist of painted concrete masonry, painted gypsum board, wood paneling and brick.
Condition	Good
Rating	3.0
Recommendations	Maintain existing partition finishes.

INTERIOR FINISHES: CEILINGS

Description	Ceiling finishes consist of suspended acoustical tile, painted plaster and painted gypsum board.
Condition	Good
Rating	3.0
Recommendations	Maintain existing ceiling conditions.

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Suhr Library

INTERIOR FINISHES: FLOORS

Description	Floor finishes include concrete, vinyl composition tile and carpet.
Condition	Good
Rating	3.0
Recommendations	Maintain existing condition of floor finishes.

INTERIOR FINISHES: DOORS AND DOOR HARDWARE

Description	Wood and hollow metal doors are installed in hollow metal frames. Knob hardware is installed throughout much of the building; pull and push plate hardware is installed at toilet rooms.
Condition	Good
Rating	2.5
Recommendations	Maintain existing interior doors and hardware.

INTERIOR FINISHES: TOILET ROOMS

Description	Floor finishes: Ceramic mosaic tile Wall finishes: Ceramic tile Ceiling finishes: Painted gypsum board
Condition	Good
Rating	3.0
Recommendations	Maintain existing toilet room finishes

INTERIOR FINISHES: BUILT-IN FURNITURE

Description	Not observed
Condition	
Rating	
Recommendations	

ACCESSIBILITY (2010 ADA Standards for Accessible Design) :

Unless triggered by alterations, buildings are generally not required to meet accessibility standards enacted after their construction. The purpose of this section is to provide an indication of the building's accessibility, as measured by current standards.

Entrance:	Accessible at west entrance	Elevator:	Not applicable
Signage:	Not accessible	Hardware:	Not accessible
Toilet Rooms:	Not accessible	Stairs and Circulation:	Not accessible
Overall Rating	1.5		

EXISTING BUILDING ASSESSMENT

Campus:	Clarion University of Pennsylvania: Venango Campus
Building Name:	Suhr Library

HEATING, COOLING AND VENTILATION SYSTEMS:

Description	The building heating source is electric resistance. A split chiller provides cooling for the facility. The chiller is approximately 10 years old and in relatively good condition. An older suspended air handler with electric resistance heating and chilled water coil provides conditioning and ventilation for most of the building. The building chilled water pump appears to be in fair condition. Conditioning air is ducted overhead. Electric wall heaters and fan coils with electric heat and chilled water coils provide conditioning for offices and other miscellaneous spaces. The terminal units all appear aged and in poor shape. The building control system is an older pneumatic system.
Condition	1.5
Rating:	Poor / Fair
Recommendations	Plan for HVAC upgrades within the next 5 years including replacement of the main air handler, terminal unit heaters, fan coil units, and controls. Some items, like the chiller unit may be useful beyond 5 years.

PLUMBING SYSTEMS:

Description	The restroom flush fixtures are in good condition and have recently been fitted with sensor flush valves. The lavatories still utilize older knob faucets and should be replaced. The distribution piping is copper and utilizes cast iron drain, waste and vent piping. The water service to the building is a 2" line with backflow prevention and maintenance bypass and a meter installed. There is a 110 psi of pressure after the meter. The domestic hot water is provided by a new 50 gallon Rheem natural gas unit that serves the needs of the building. There is hot water recirculation provided via a Grundfos inline pump.
Condition	Fair-Poor
Rating:	1.5
Recommendations	The plumbing system should be replaced when the building is renovated.

ELECTRICAL SYSTEM: POWER

Description	The building is served from the utility via an exterior, power company owned, transformer. The building is has separate building disconnects switches for lighting, power and heating. The main distribution panel (MDP) is rated at 600A-3phase-4W-480/277V. The branch panelboards are original to the building, as well as the MDP, and utilize breakers that are now obsolete. The wiring is installed in conduit. A small, Onan manufactured, natural gas fueled, generator is installed in the mechanical room. The

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Suhr Library

	automatic transfer switch is of the same vinatage and serves the life safety loads of the building. The generator is rated at 5KW-1 phase-3W-208/120V.
Condition	Poor
Rating:	1
Recommendations	The system should be replaced in the next five years

ELECTRICAL SYSTEM: LIGHTING

Description	The system consists of mostly T-8 fluorescent lamped fixtures installed in recessed mounted fixtures. The mechanical room is still utilizing T-12 lamped fixtures. The lighting controls are manually operated. Panelboards from this building supply power to the parking lot pole fixtures.
Condition	Good-Fair
Rating:	2.5
Recommendations	System should be replaced when building is renovated

TELECOMMUNICATIONS AND SECURITY

Description	The building is served by fiber optic cabling and copper phone lines. The building is served from Frame Hall. The distribution is Category 5E cabling. There is limited space available in the racks for expansion. Wi-Fi is installed in the corridors. There are security cameras installed at the entrances..
Condition	Good
Rating:	3
Recommendations	System has many years of useful life remaining

FIRE PROTECTION SYSTEM:

Description	There is no fire protection system provided
Condition	N/A
Rating:	N/A
Recommendations	N/A

FIRE ALARM SYSTEM:

Description	There is a Simplex manufactured, audio/visual system installed in the building that is designed to meet the requirements of the ADA. There are audio/visual devices installed in the classrooms.
Condition	Fair
Rating:	2
Recommendations	System should be replaced when building is renovated

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Suhr Library

PHOTOGRAPHS:

Figure 1: Suhr Library Main Entrance

Figure 2: Southeast corner of building, site of past moisture infiltration into building.

Figure 3: Cracked brick masonry

Figure 4: Moisture damage at south east corner of buildng

D BUILDING LAYOUTS AND ASSESSMENT

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Suhr Library

Figure 5: Water damage at window opening

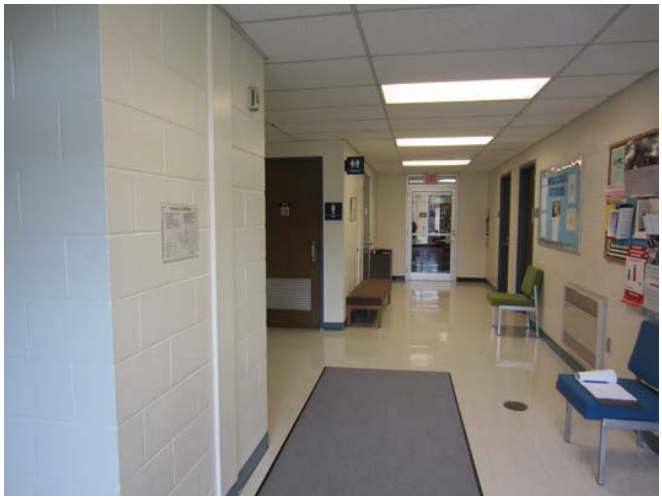


Figure 6: Corridor finishes

Figure 7: Reading room and stacks

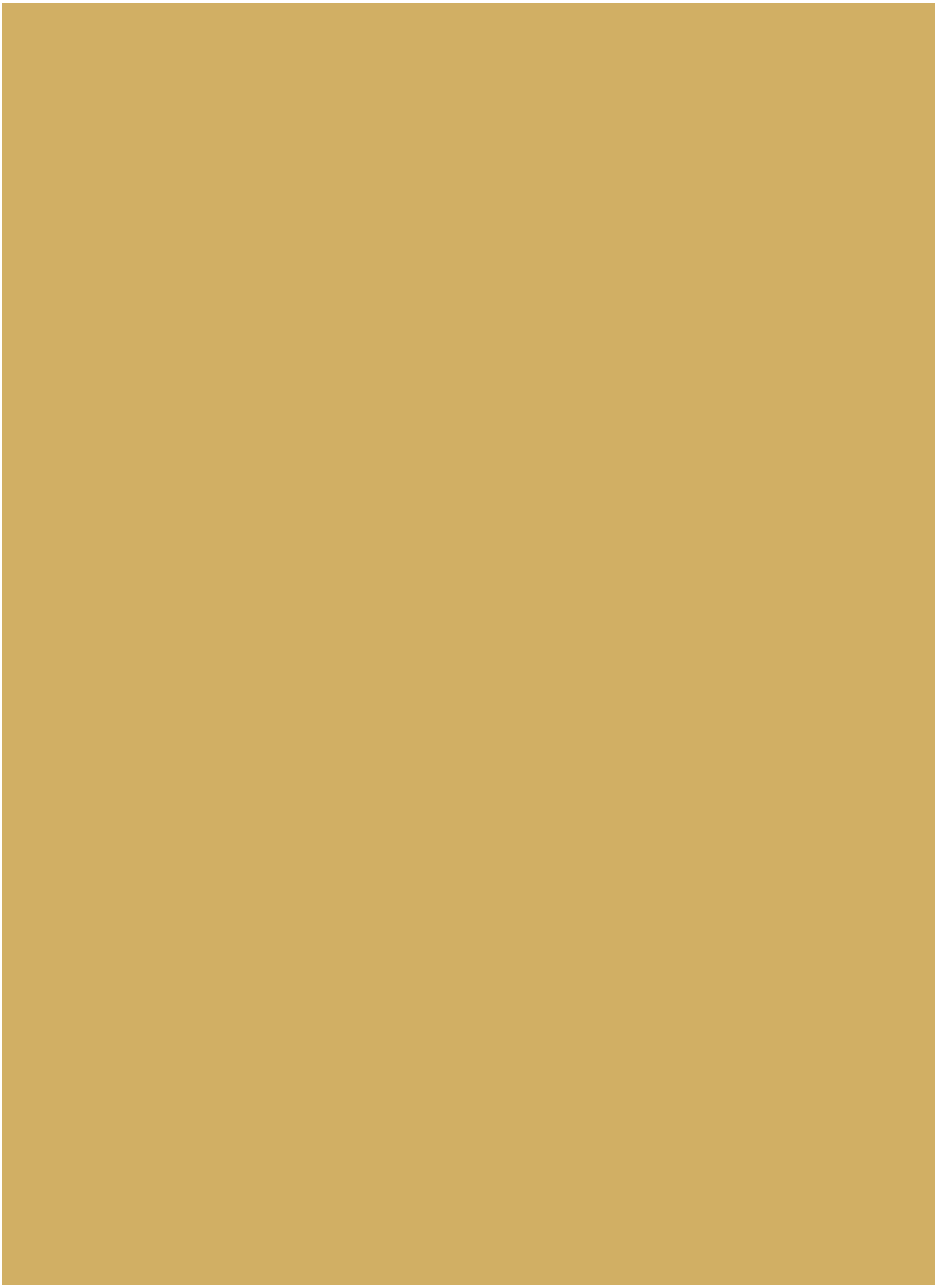
Figure 8: Membrane roofing

EXISTING BUILDING ASSESSMENT

Campus: Clarion University of Pennsylvania: Venango Campus
Building Name: Suhr Library

OVERALL RECOMMENDATIONS:

Building Component / Attribute	Recommendations	Replacement Period		
		1 yr	5 yrs	10 yrs
Site:				
Skin:				
Roof:				
Windows:				
Exterior doors:				
Interiors:				
Accessibility				
HVAC	Plan for HVAC upgrades within the next 5 years including replacement of the main air handler, terminal unit heaters, fan coil units, and controls. Some items, like the chiller unit may be useful beyond 5 years.		X	
Plumbing	System should be replaced when building is renovated		X	
Power:	System should be replaced shortly		X	
Lighting:	System should be replaced when building is renovated			X
Telecom and Security	System has many years of useful life remaining			X
Fire Protection:	N/A			
Fire Alarm:	System should be replaced when building is renovated		X	



FMP APPENDIX | E: DETAILED ASSESSMENT – SPACE NEEDS

E.1 INTRODUCTION TO FACILITY SPACE PLANNING GUIDELINES

Facilities master planning processes use space planning guidelines to evaluate quantitatively institutional space needs. Guidelines are just that—guidelines, not mandates—but the results can help focus attention, for example, on existing needs which may have been overlooked or projected needs that can be anticipated. States have developed different approaches for guidelines, reflecting values and traditions, priorities, and particular nuances related to space in that state or system within a state. No national guidelines exist, although the Council on Education Facilities Planning International [CEFPI] has developed a set of guidelines for higher education that provides a base and reference point for general practice (Space Planning for Higher Education, Scottsdale: Arizona, 2006). As indicated previously, the higher education industry, through the National Center for Educational Statistics, has developed a space use classification structure and has promulgated the Facilities Inventory Classification Manual. FICM provides standards for defining and measuring space in higher education to build toward consistency in reporting space and space use across institutions, sectors, and states. This appendix contains a comparison of the Pennsylvania State System of Higher Education [PASSHE] space planning guidelines and the facility master plan [FMP] guidelines developed for Clarion University.

E.2 PASSHE GUIDELINE ANALYSIS OF SPACE

PASSHE has long had in place a comprehensive set of space planning guidelines which it uses in decision making regarding capital plans for its constituent institutions and allocating finite capital resources. Importantly these guidelines were developed for the PASSHE institutions which primarily began from strong teacher preparation programmatic roots and the traditional baccalaureate liberal arts and sciences. In their more recent history, the PASSHE institutions have added programs in business and related fields and even more recently have branched into the health professions, including nursing and other allied health programs. These changes have been in response to the changes in societal demand for more credentialed employees in business and the expansion and diversification of the health care industry. PASSHE institutions have also added graduate programs, primarily at the masters level. Engineering and first professional programs in law, medicine, and de ntal medicine in public Pennsylvania higher education are the purview of its state-related institutions—Pennsylvania State University, Temple University, and the University of Pittsburgh, and this programmatic distinction is expected to continue. This programmatic context, together with the traditional face-to-face delivery of instruction, provides the foundation for the PASSHE space planning guidelines.

While the PASSHE space planning guidelines were recently reviewed and updated, the impact of web-based programs and online delivery of instruction was not directly addressed. Given Clarion University's vision for its future, both in terms of web-based programs and online delivery, any guidelines used should address these major changes in pedagogy. Other major issues with the PASSHE guidelines include:

- Small classroom station size
- Lack of separate guidelines for class and open labs
- Classroom and class lab room and station utilization rates that do not address differentiated types of space
- Lack of office guideline for technical/paraprofessional staff
- Lack of a guideline for student organization space
- Outdated guidelines for collection, study, processing, and service study space
- Unclear determination of space planning factor for food facilities
- Lack of separate guidelines for lounge and merchandizing space
- Undistinguished guidelines for support space, including computer space, shop, storage, and central services
- Inclusion of utility production as an assignable space category
- Lack of planning (not programming) guidelines for residential space

E.3 FMP GUIDELINE ANALYSIS OF SPACE

Like the PASSHE guidelines, the FMP guidelines are based primarily on student enrollment. The FMP guidelines, however, selectively use FTE, FTE F2F, and FTE OL as the planning factors, instead of uniformly using FTE enrollment as the PASSHE guidelines do. For many space guidelines it incorporates an allowed percentage of FTE OL enrollments, conservatively estimating 30% of the FTE OL enrollments can be expected to come to campus and use particular targeted facilities such as the library or lounges or food facilities, for example. This FMP differentiation affords the institution more realistic assessments of the true impact of enrollment on demand for particular facilities, where the PASSHE guidelines can be expected to exaggerate space needs.

The FMP guidelines also developed standards for room utilization, station utilization, and station size that should position Clarion University for instruction and service in the 21st century. In addition, separate FMP guidelines were provided for class and open labs, lounge, merchandising, computer, central services, and residential spaces, where the PASSHE guidelines have no such distinctions.

In summary, the FMP space planning guidelines were developed to be conceptually consistent with the overall approach of the PASSHE guidelines. Also they introduced only new data—FTE F2F and FTE OL- that could be readily obtained from current institutional data analysis practices. In addition, they attempted to reflect historic PASSHE values for specific types of space, while addressing emerging trends in higher education and looking forward to Clarion University's future in the 21st century.

E.4 QUANTITATIVE FACILITY NEEDS ASSESSMENT

Applying the PASSHE and FMP guidelines to Venango's planning data and space inventory provides useful perspectives on its current (Graphic E.01) and projected (Graphic E.02) quantitative space needs. This analysis does not include residence halls.

Graphic E.01
Current Space Surpluses and (Deficits) per PASSHE and FMP Guidelines (Excluding Residential Space)

	PASSHE	% Guideline	FMP	% Guideline
Classroom	4,096	64%	4,897	88%
Laboratory	(2,549)	-27%	(1,421)	-17%
Office	6,118	93%	6,258	97%
Study	150	2%	1,063	19%
Special Use	254	3%	737	11%
General Use	(6,122)	-44%	(7,142)	-48%
Support	(394)	-10%	(2,670)	-43%
Health Care	0	0%	(143)	-100%
Unclassified	0	--	0	--
TOTAL	1,394	3%	1,579	3%

Both guideline approaches indicate the same general overall findings for the Venango campus—currently the campus would appear to have enough space, but in the future, it will be deficient, even with the acquisition of the Verizon Building. Without this acquisition, Venango will have even greater space deficiencies. They differ in the relative amounts of space excesses and deficiencies; the impact of online delivery is apparent. The PASSHE guidelines indicate a slightly smaller excess amount of space currently (Graphic E.01), while the FMP guideline analysis indicates a substantially smaller, future deficiency (Graphic E.02).

Of critical importance is that for instructional space, the results of the two guideline approaches would lead to substantially different facility solutions. Under PASSHE, the campus would be looking to strategies that would provide over 13,500 NASF of classroom and laboratory space, while the FMP guidelines would look to repurposing the excess classroom space and adding only laboratory space. The impact of the guideline approaches shows also in the assessment of study space; PASSHE indicates a deficiency (-2,707 NASF, -29% of the guideline), while the FMP guidelines indicate that no real additional study space is needed (-446 NASF, -6% of the guideline). The PASSHE and FMP guidelines both indicate deficiencies in special use, general use, and health facilities, with online enrollment reducing the needs assessment under the recommended guidelines. Finally, the FMP guidelines suggest that more support space will be needed, although the PASSHE guidelines also indicate deficiencies.

E DETAILED ASSESSMENT - SPACE NEEDS

Graphic E.02
Projected 2023 Space Surpluses and (Deficits) Per PassHE and FMP Guidelines (excluding Residential Space)

	PASSHE	% Guideline	FMP	% Guideline
Classroom	(1,698)	-14%	3,845	58%
Laboratory	(11,835)	-41%	(4,625)	-29%
Office	(4,732)	-27%	(4,452)	-26%
Study	(2.707)	-29%	(446)	-6%
Special Use	(6,557)	-46%	(9,121)	-54%
General Use	(19,156)	-62%	(13,779)	-54%
Support	(3,126)	-71%	(6,419)	-64%
Health Care	(305)	-100%	(204)	-100%
Unclassified	16,500	--	16,500	--
TOTAL	(33,323)	-31%	(18,701)	-20%

E.5 FACILITY STRENGTHS AND ISSUES

With instruction and other factors in the 21st century changing, as indicated in Section 4 of the FMP, and Venango's mission and vision as the "community college" in this part of Pennsylvania, the question to be addressed by this needs assessment is Venango's current and future ability to serve students in this region with the facilities it has and plans to add.

Of critical importance is the learning environment. The Venango campus has too much classroom space, and the program and instructional delivery changes planned for this campus will reduce, not increase, demand for such space in the future. In addition, classrooms are not appropriately sized to promote active, collaborative learning, although right sizing them will result in a classroom curve more compatible with current section demand. On the positive side, most Venango classrooms have appropriate instructional technology. In contrast the labs at Venango do not appear to have appropriate levels of instructional technology. More critically, the discipline–based labs are limited in scope and are undersized, which will have a potential impact on Venango's program development. More lab space addressing a broader array of disciplines will be required in the future. The campus has sufficient space for study and the collections, although it is not configured correctly to meet needs for collaborative learning and has too much space allocated for processing and study service.

The workplace, while reasonably aligned functionally, is oversized. Individual offices for faculty and administrators tend to be large, and service and reception areas have been designed for handling larger face-to-face pools of students. As described in Section 4 of the FMP, the higher education workplace is smaller, more efficient, and more flexible. Campus life would be enhanced with additional facilities supporting athletics and recreation, assembly and meeting, dining, and merchandising. Finally, more institutional support spaces for technology support, physical plant, and central services, such as security, are needed.

E.6 INSTRUCTIONAL ENVIRONMENTS

The core of the learning environment is comprised of classrooms and teaching laboratories, both scheduled and open. The Venango campus in fall 2012 had 13 classrooms and a very limited teaching laboratory inventory of four class labs (Graphic E.05), including:

- Biology lab
- Chemistry lab
- Nursing simulation lab
- Computer lab

The campus also has four open labs:

- Computer lab
- Writing lab for Allied Health
- Two Academic Enrichment labs (one computer based)

It does not have any dedicated research labs.

Classrooms had a total of 529 stations in 10,068 NASF, with an average station size of 19 NASF, while class labs provided 124 stations in 3,488 NASF, with an average station size of 28 NASF per station. On an average day in the semester, demand for scheduled instruction (Graphic E.03), whether in the classroom or class lab, began at 7am and continued through 9pm. Greatest demand, however, was between 10am and 3pm, with a modest dip around lunch time. Greatest demand in the evening was around the 7pm timeframe.

Graphic E.03
Demand for Scheduled Instruction by Hour (averaged over the week)

Time	Enrollment
7:00 AM	51
8:00 AM	165
9:00 AM	361
10:00 AM	570
11:00 AM	512
12:00 PM	425
1:00 PM	375
2:00 PM	505
3:00 PM	493
4:00 PM	306
5:00 PM	325
6:00 PM	288
7:00 PM	435
8:00 PM	277
9:00 PM	206

Demand for instruction was fairly consistent Monday through Thursday (Graphic E.04), with demand for scheduled instruction waning significantly on Friday, not unlike many other institutions of higher education. The Venango campus does not schedule instruction for Saturday or Sunday.

E DETAILED ASSESSMENT - SPACE NEEDS

Graphic E.04
Demand for Scheduled Instruction by Weekday

Day of Week	Enrollment
Sunday	0
Monday	801
Tuesday	768
Wednesday	802
Thursday	794
Friday	134
Saturday	0
Five Day Average	**660**

Importantly, Venango designates one of its classrooms for continuing education (Montgomery 111), and it has been included among Venango's general classrooms. Since continuing education instructional delivery does not follow the traditional academic calendar for higher education, Venango should be sensitive to its use for these purposes. Daily and weekly usage should be captured and appropriately converted to compatible contact hour data, adjusting for academic hours and for semester scheduling. Such conversions were not undertaken as part of this analysis. Should the amount of continuing education instruction increase, however, justification for additional space should be based on specially developed data and standards not reflected in current PASSHE or FMP guidelines.

E.7 CLASSROOM GUIDELINES

The guideline analyses for Venango classrooms (Graphics E.01 and E.02) indicate that currently the campus has excess capacity, and FMP projections to 2023 suggest an even greater surplus of 3,845 NASF. Further assessment of Venango's classrooms is needed to clarify issues regarding Venango's classrooms and consider technology, room and station utilization, station size, and service support as critical elements in determining the campus ability to be a productive hybrid campus for the 21st century.

Clarion University has developed a framework for technology in its learning environments, comprised of five levels. Such a framework provides the community with easy understanding as to the types of technology that can be expected to support instruction. All but three of Venango's classrooms were reported on its web site as having technology at the highest levels- four or five, and those three classrooms were indicated as having no technology. The Venango campus. In general, the University have done well in providing technology to the classrooms.

Utilization of classroom space, including the number of hours a room is scheduled (room utilization) and the number of stations filled (station utilization) provide significant insight into the classroom inventory. Graphic E.06 presents relevant PASSHE and FMP classroom utilization and other standards and compares these standards with the overall findings for fall 2012 at the Venango campus.

Graphic E.05
Instructional Inventory (Fall 2012) by Type

	No. Rooms	No. Stations	NASF	Station Size (avg)	No. RS* Stations	Diff from Current	No. Demand Stations	Diff from Current
Frame	4	144	2,853	19.8	94	-50	92	-52
Montgomery	5	205	4,494	21.9	160	-45	140	-65
Scheduled Classrooms	**9**	**349**	**7,347**	**21.1**	**254**	**-95**	**232**	**-117**
Scheduled DL Classrooms	**1**	**28**	**859**	**30.7**	**29**	**1**	**20**	**-8**
Scheduled Lecture Halls	**1**	**120**	**1,087**	**9.1**	**72**	**-48**	**52**	**-68**
Unscheduled Classrooms	**2**	**32**	**775**	**24.2**	**25**	**-7**	**19**	**-13**
Total Classrooms	**13**	**529**		**19.0**	**380**	**-149**	**323**	**-206**

*RS: Right Sized

	No. Rooms	No. Stations	NASF	Station Size (avg)
Scheduled Class Labs	3	108	2,520	23.3
Unscheduled Class Labs	1	16	968	60.5
Total Class Labs	**4**	**124**	**3,488**	**28.1**

Graphic E.06
Comparisons with Targeted Guideline Standards

Space Type	PASSHE Standard	Venango	FMP Standard
Classrooms	13.7 WSCH per FTES	12.4 WSCH	12.5 WSCH per FTE F2F
	37.5 CH per room	16.0 CH	37.5 CH per room
	67% SUR	58% SUR	80% SUR
	20 NASF per station	19 NASF	27.5 NASF per station
	10% service	4%	10% service
Class Labs	4.2 WSCH per FTES	2.6 WSCH	5.4 WSCH per FTE F2F
	23 CH per room	18.0 CH	30 CH per room
	70% SUR	60% SUR	80% SUR
	50 NASF per station	23.3 NASF	50 NASF per station
	25% service	46%	18.25% service
Office	150 NASF to 190 NASF per allowed employee	247 NASF	140 NASF to 170 NASF per allowed employee

FTES Full Time Equivalent Student
FTE F2FH Full Time Equivalent Face to Face Student
WSCH Weekly Scheduled Contact Hours
CH Contact Hour
SUR Station Utilization Rate

Both of the guideline approaches assumes that an FTES or an FTF F2F will spend an average of 17.9 contact hours scheduled in either classrooms or class labs each week (13.7 WSCH + 4.2 WSCH or 12.5 WSCH + 5.4 WSCH). In fall 2012, the average for Venango was 15.0 WSCH (12.4 WSCH + 2.6 WSCH). This lower level of scheduled contact time would indicate that Venango underutilizes its classrooms and class labs.

Both sets of guidelines expect each classroom to be scheduled 37.5 contact hours a week. At Venango classrooms are scheduled an average of 16 contact hours per week (Graphic E.06), only 43% of the PASSHE and FMP standard. Classrooms with Level 4 technology are scheduled more often than those with no technology, but even those with Level 4 technology are scheduled at 56% of the standard.

E DETAILED ASSESSMENT - SPACE NEEDS

Even when classrooms are scheduled, on average only 58% of the available stations are used (Graphic E.06). As with room utilization, classrooms with Level 4 technology have more seats filled—69% on average which is consistent with the PASSHE standard of 67% but less than the FMP standard of 80%.

Further, the average station size—19 NASF—is below the PASSHE standard of 20 NASF and well below the FMP standard of 27.5 NASF, although the average is reduced by the smaller station size in the lecture hall. General classrooms, excluding the lecture hall and regardless of technology level, have station sizes of 22 NASF, greater than the PASSHE standard, but still less than the FMP standard.

Station size will be critical in meeting the needs for flexible classroom instruction in the 21st century, and the impact of right-sizing Venango's classrooms was examined based on guidelines for various room sizes. As indicated by these station sizing guidelines, smaller rooms generally require larger station sizes to accommodate the demands of flexible seating arrangements. Applying these right-sizing guidelines to Venango's existing classroom inventory (Graphic E.05) indicates that Venango classrooms, if they were right-sized, would lose a total of 149 stations- 102 from the general classrooms and 48 from Rhoades lecture hall. One seat would be gained in the distance learning classroom.

Utilization analysis of Venango's classrooms also considered existing demand for stations based on the actual section sizes, not what was available in a particular classroom (Graphic E.05). If classrooms were developed based on current demand, Venango would need 206 fewer stations than it currently has: 130 fewer general classroom seats, 8 fewer distance learning seats, and 68 fewer lecture hall seats.

The impact of current demand on the classroom curve—the distribution of classrooms by room size (Graphic E.07)—indicates that currently Venango has too few rooms in room sizes of up to 35 stations and too many in the 36 to 85 station range. If, however, Venango's classrooms were right-sized, a better match with current demand would result. Such a strategy would be expected to improve Venango's station utilization rate.

Graphic E.07
Classroom Curve

Room Size	Existing # Rooms	Right-sized # Rooms	Demand # Rooms
≤ 25	4	7	7
26 - 35	1	4	4
36 - 45	5	0	0
46 - 55	1	1	2
56 - 85	1	1	0
86 - 155	1	0	0
> 156	0	0	0
Total	13	13	13

The question remains, however, as to how many classrooms Venango will need in the future. The recommended guidelines, which rely on FTE F2F rather than total FTE enrollments, suggest that fewer classrooms will be needed, despite an increase in overall headcount enrollment. Such an analysis was not conducted since changes in course delivery were not projected by the campus. Regardless, the campus should consider alternative uses for targeted classroom space should be considered, including conversion to class lab or open lab spaces and distributed study space.

Finally, the issue of service space for Venango classrooms must be raised. Currently only 4% of classroom space is associated with classroom service, while the guidelines suggest that up to 10% would be more reasonable. Security and technology may have an impact, as will the potential need for such items as instructional cart storage and the like. The campus should carefully evaluate classroom service needs as Venango's classrooms are reconfigured for the 21st century.

E.8 TEACHING AND RESEARCH LABORATORY GUIDELINES

The guideline analyses for Venango instructional and research laboratories (Graphics E.01 and E.02) indicated that currently the campus had deficiencies— -2,549 NASF under PASSHE guidelines and -1,421 NASF under the FMP guidelines. Projections to 2023 suggest even greater deficiencies. The PASSHE guidelines indicate a laboratory deficiency of -11,835 NASF, while the FMP guidelines suggest a smaller deficiency of -4,452 NASF. Further assessment of Venango's laboratories is needed to clarify issues and considers room and station utilization, station size, and service support. Graphic E.06 presents detailed PASSHE and FMP class lab standards and compares the standards with the overall findings for fall 2012 at the Venango campus.

The first major issue with laboratories at Venango is the sheer lack of lab resources. As indicated previously, Venango has four class laboratories (Biology, Chemistry, Nursing Simulation, and Computer), four open labs, and no research labs. While the Venango campus does not have a sponsored research mission, current best practices in the STEM disciplines of science, technology, engineering, and mathematics advocate for supporting the research experience for all students enrolled in these disciplines from kindergarten through undergraduate higher education. For a campus like Venango, research labs would often take the form of unscheduled project and support space where students and faculty can conduct individual or group research projects in the given discipline without intruding on either regular scheduled class labs or open labs. Work can easily proceed in controlled conditions, and access can be limited to those who are engaged in the research activity.

Access to a diversity of open labs in a broad array of disciplines is also a pedagogical trend of which Venango should be mindful. As it increases its offerings in allied health and industry technologies, the need for specialized learning environments—laboratories—can be expected to grow.

In addition, the existing class labs are not equipped with the technology one would expect for 21st century labs. None of the labs are reported to have any technology consistent with the defined University levels (Appendix E.8), potentially restricting the pedagogy that can be brought to bear in the learning environment. Further, the two campus science labs are original and, never having been upgraded, they are not consistent with current best practices for higher education science instruction in the 21st century.

Focusing on the class labs at Venango and their scheduled utilization, on average these class labs were scheduled 18 contact hours per week, or 78% of the PASSHE standard of 23 hours and well below the recommended standard of 30 hours per week. The recommended standard, however, assumes two basic types of class labs—scaled up labs, computer based supporting collaborative learning with a standard of 37.5 contact hours scheduled per week and discipline, experiential labs scheduled the traditional 23 hours per week. The recommended standard projects a future composition of class labs currently not present at Venango.

Only one of the class labs, the computer lab in Montgomery 311, has station utilization that exceeds station utilization standard at 89% (Appendix E.7). This lab is also used for testing purposes, typically an open lab function. On average, station utilization for scheduled class labs averaged 60%, well below the standards of 60% and 80%.

Station sizes for Venango's class labs are also well below expectations. The average station size is 23 NASF, where both the PASSHE and recommended standards set 50 NASF as the target average. Importantly, this standard is the average across the University's program offerings. Should the program offerings differ significantly from the University average—more health professions or industry technology programs, for example—the standard should be re-evaluated. For comparison purposes average station sizes for teaching and research labs are provided in Appendix E.9. The biology lab with station size 23.5 NASF is woefully undersized, while the chemistry lab with 60.5 NASF station size is at least of the range for physical science labs. The nursing simulation lab with 16.9 NASF per station is far too small for current best practices. Frequently labs associated with the STEM disciplines and/or those experientially based integrate recitation areas within the lab to make seamless transitions between the more traditional lecture and lab experiences, thereby increasing the lab station sizes even more.

E.9 NON-INSTRUCTIONAL LEARNING SPACE GUIDELINES

While classrooms and laboratories provide the core of the learning environment for faculty and students, study facilities and special use facilities—athletic and spectator space, media production, non-health clinics, animal facilities, and greenhouses—all work to complete the learning resources at a campus.

All of Venango's non-lab study space is currently located in Suhr Library, including patron seating, collection stack, processing, and service space. Guideline analysis suggests that currently, the Venango campus has sufficient, if not too much, study space (Graphic E.01). With its projected enrollment growth, Venango is projected to be deficient overall in study space (Graphic E.02). These overall amounts, however, hide the real needs (Appendices E.2, E.3, and E.4). Excesses in processing and service space, especially in the FMP analysis, mask the need for study space. Focusing on study space indicates a projected FMP deficiency of -874 NASF, almost twice the overall deficiency. Such a deficiency does not imply more space is needed in Suhr Library. Consistent with higher education study trends, such a deficiency could, and should, be met through study spaces distributed in other campus buildings.

Both the PASSHE and recommended guideline analyses point to the need for indoor athletic space on the Venango campus, both currently and projected (Appendices E.2, E.3, and E.4). The PASSHE analysis suggests a projected deficiency of -6,357 NASF, while the recommended analysis indicates a deficiency of -7,363 NASF. Venango also has no spectator seating for its 7,604 NASF of athletic space which does not support the campus in building campus spirit and does not provide opportunities for community engagement. Further, the campus has no outdoor athletic facilities, again diminishing opportunities for campus and community engagement.

Other special use facilities, such as media production, animal facilities, or greenhouse, are either not needed on the Venango campus or accessed through the Clarion campus, although the guidelines provide some support and therefore show deficiencies. Clinic space is also identified by the guidelines as a deficiency, but currently the campus has limited need for such space. Should programs, such as allied health, criminal justice, or industry technology, expand their community outreach missions, clinic space for the delivery of services and assistance may be required.

E.10 WORKPLACE GUIDELINES

Office space, and its alignment with instructional and service delivery and functional management, is critical to institutional productivity. The PASSHE guidelines for office space provide separate guidelines per employee designated by employee class. For faculty and administrative offices, 190 NASF per employee is allowed, and for secretarial staff, 150 NASF, with lesser amounts for various student classes. While these standards include support space as well as conference room space, they are quite generous. The FMP guidelines provide for lower amounts and generally range from 150 NASF to 170 NASF. The actual total amount of office space per employee at the Venango campus significantly exceeds either of these standards, with on average 247 NASF per allowed employee (Graphic E.06).

E DETAILED ASSESSMENT - SPACE NEEDS

Analysis of both office space guidelines, not surprisingly, suggests that the Venango currently has a substantial excess office space of 6,118 NASF, or 93% of guideline, for PASSHE guidelines and 6,258 NASF, or 97% of guideline, for the FMP guidelines (Graphic E.01). Projections of office space need (Graphic E.02), however, indicate with projected enrollment growth the Venango campus will become deficient in office space of 4,732 NASF, or 29% of PASSHE guideline and 4,452 NASF, or 26% of the FMP guideline.

Graphic E.08
Distribution of Office Space

	NASF	# Rooms	Avg Room Size
Faculty Office	4,309	29	149
Administrative Office	4,674	29	161
Secretarial Office	2,410	19	127
Student/Graduate Assistant Office	117	1	117
Conference Room	1,070	3	357
	12,580	**81**	**155**
Student Activity Office	138	1	138
Governance Office	0	0	--
	12,718	**82**	**155**

To understand further office space at the Venango campus, each of the various types of office space was examined (Graphic E.08). Not surprisingly, faculty office space and administrative office space comprised about 70% of the campus office space. The campus has three conference rooms, two in Montgomery and one in Rhoades, each seating around 15 to 18 people. The campus also provides one small office to support student organizations, but no space for governance activities.

The average size of a faculty office is 144 NASF, which is quite generous. Only one faculty office is smaller than 100 NASF, and most of the faculty offices are between 131 and 140 NASF. Only Nursing has a faculty workroom in Montgomery, the only faculty office support space on campus, although other office support is shown with other office types. Montgomery houses most of the faculty offices, with Frame (5 faculty offices) and Suhr (2 faculty offices) also providing space. Rhoades does not house any faculty offices.

Administrative and managerial employees are housed across the campus and appear to be reasonably distributed relative to function:

- Frame houses the campus administration—the Executive Dean and staff, Finance and Administration, Admissions and Marketing, Continuing Education,
- Montgomery Houses, academic support, such as Academic Enrichment, Honors, Career Services, Counseling Services, and the like,
- Rhoades Houses, Student Support Services, including recreation and club sports,
- Suhr Houses, the Library and Maintenance.

Most of the administrative offices are between 131 and 180 NASF, with an overall average of 156 NASF. Only one support office—a staff workroom for Finance and Administration—is present, although other support spaces are assigned as secretarial support.

About 55% of the secretarial space is support space—copier rooms, storage rooms, and file rooms. The non-support secretarial offices provide space not only for administrative assistants but also reception space often with seating for guests. As such, these are typically larger rooms, although at Venango these are sized generously. Interestingly, the Admissions reception office is the smallest (129 NASF). As Venango grows it may well want to have a more pronounced presence for its admissions and enrollment management functions.

E.11 CAMPUS LIFE FACILITIES GUIDELINES

A campus is more than classrooms, labs, libraries, and office space, however. A campus must also bring the community together, both formally and informally, whether through auditoria and exhibitions, with meals or meetings, recreational activities and lounges. It should provide space that caters to the health and wellness of the campus.

As in most small campuses like Venango, lecture halls serve double duty for instruction and assemblies. The stage in the Rhoades lecture hall, together with small men's and women's dressing rooms, constitutes Venango's assembly inventory. As indicated in the instructional needs assessment, the station size in the lecture hall is of concern, and this concern would remain if the Rhoades lecture hall were considered strictly from an assembly space perspective. Both guideline analyses suggest that currently the campus could justify adding at least twice the amount of assembly space that it has; this amount increases to between 3.5 times (FMP) and 5.5 times (PASSHE) by 2023. This assembly space would not necessarily imply a steeped lecture hall; flexible, flat floor assembly space would afford the campus a variety of formats for bringing the campus and even the Oil City community together.

While Venango does not have the more traditional art programs that are associated with exhibit space, a modest, formal exhibit space would enhance college and external community engagement. Faculty and student exhibits on projects undertaken and displays from the Barbara Morgan Harvey collection, for example, all would provide occasions for community celebration. Venango currently has no formal exhibit space.

Both the PASSHE and FMP guidelines suggest that the Venango campus currently has about half of the food facilities it needs to support the campus. By 2023, PASSHE indicates that the Venango campus will be deficient by -7621 NASF (-74% of the guideline), while the FMP guideline which is based on FTE F2F and allowed FTE OL sets the deficiency lower at -4,671 NASF, or -64% of the guideline. All food facilities are located in Rhoades; consideration should be made in providing modest food facilities, such as grab and go counters, in Montgomery or other campus locations. The addition of such facilities, however, should only proceed if financially viable.

A small child care facility is provided in Montgomery. As enrollments grow and change, the size and composition of child care services should be regularly evaluated.

E DETAILED ASSESSMENT - SPACE NEEDS

A large lounge is provided in Montgomery, and three other small lounges are available—one for Nursing in Montgomery, one in Rhoades, and one in Suhr for library staff. While the PASSHE guideline does not distinguish between lounge and merchandising space, the FMP guideline suggests that the campus has sufficient lounge space (Graphics E.01 and E.02).

The Bookstore in Rhodes is modest in size. While the PASSHE guideline does not distinguish between lounge and merchandising space, the FMP guideline suggests that the campus has insufficient merchandising space. Expansion or addition of merchandising space should only proceed if financially viable.

Both the PASSHE and FMP guidelines indicate that the Venango campus has insufficient recreation space- -2,315 NASF growing to -5,092 NASF in 2023 according to PASSHE and -1,989 NASF growing to -3,165 NASF according to the FMP guidelines. When examined in conjunction with the projected deficiencies in athletic space, campus life is restricted by this lack of space.

The campus has no formal meeting space. While both sets of guidelines recognize this deficiency, the relatively small amounts of space- -1,014 NASF in 2023 according to the PASSHE guidelines and -531 NASF according to the FMP guidelines—would afford only one large meeting room for around 50 in auditorium seating and a small storage room. Such space, however, when combined with other deficiencies in assembly and exhibit spaces, could further enhance in building college and community outreach.

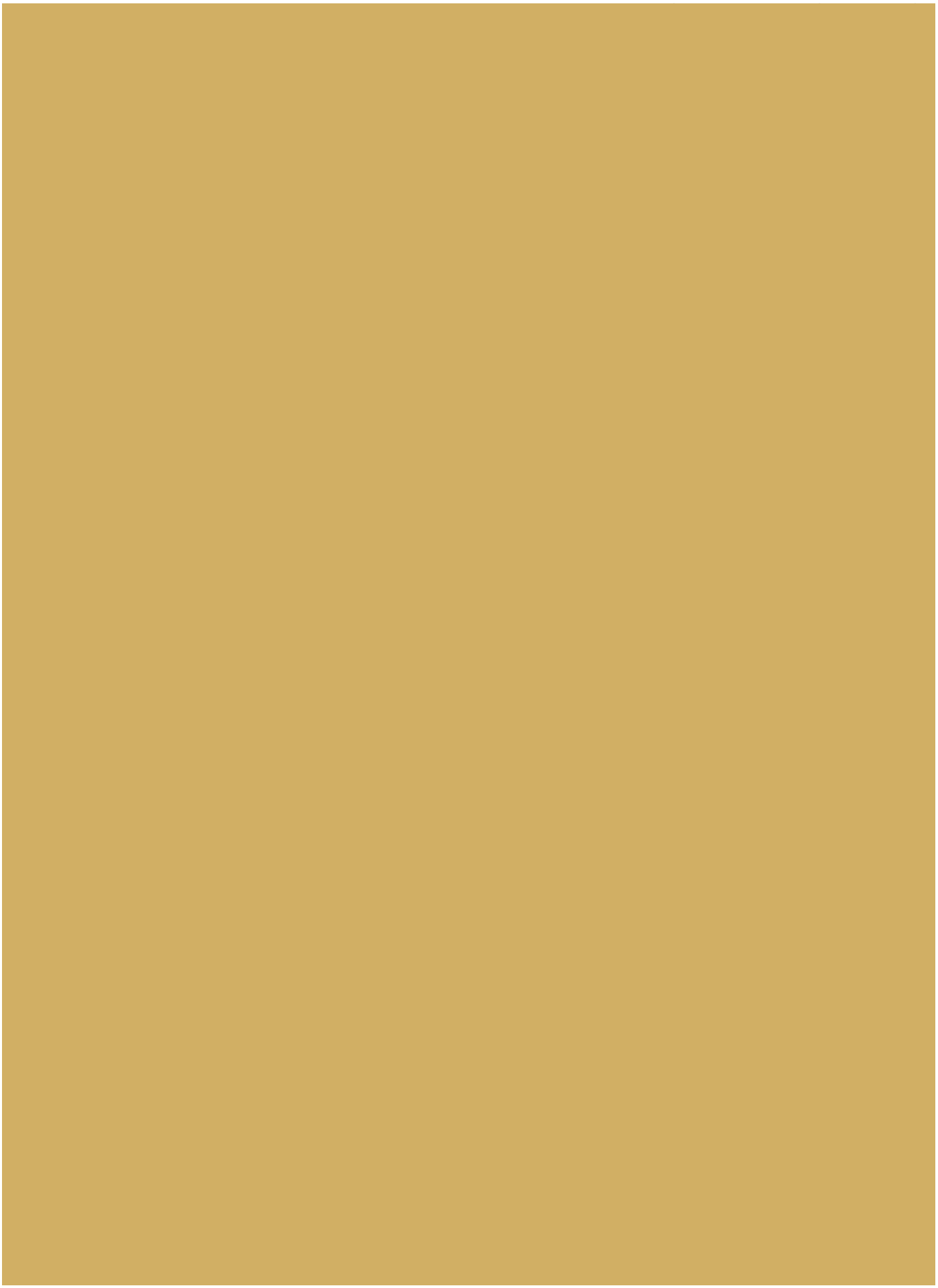
While campuses today have moved away from the college infirmaries of the past, the focus of today's health facilities is on wellness and health education. Venango currently has no health facilities, although it does have a small non-health clinic for counseling services (Montgomery 202 with 137 NASF). The campus should have a facility available supporting overall wellness and health education. Both sets of guidelines suggest 305 NASF (PASSHE) or 204 NASF (FMP).

E.12 INSTITUTIONAL SUPPORT AND UNASSIGNED FACILITIES GUIDELINES

Support facilities focus on the campus' infrastructure and its overall maintenance and on providing campus-wide central services. Currently, Venango has 3,595 NASF in support space, all associated with either shop or central storage; it does not have any computer, central services, or hazardous material storage spaces. Both the PASSHE and FMP guidelines indicate a current deficiency in these spaces- -394 NASF (PASSHE) and -2,670 NASF (FMP). By 2023, the guideline deficiencies increase to -2,833 NASF (PASSHE) and -6,419 NASF (FMP).

While technology is changing rapidly and the Clarion campus provides the hub for computer technology, some space on campus should be dedicated to maintaining and securing the campus' technology infrastructure. Further, some computer shop space should be provided for the maintenance and repair of Instructional computer equipment and workstations at the Venango campus. Further, central services, such as a technology help desk and campus security, should be provided, especially as the campus grows.

Venango plans to acquire the Verizon Building and add to its campus inventory approximately 16,500 NASF. While this amount has not been distinguished into specific uses, it is expected to address some of the space needs indicated, including laboratories, office, and meeting facilities.



Clarion University
Venango Campus Facilities Master Plan
Project Phasing & Budget Funding Plan
Date: 2014-8-23
Projected Budgets & Unit Pricing

		Phase A					
Project Phase							
Project Number		A1		A1		A1	
Project Name - Sub-Project Name		Verizon - Critical Maintenance		Verizon - New Construction		Verizon - Renovations	
Original GSF		24,500		10,283		24,500	
Year of Procurement		2015		2015		2015	
Year of Delivery		2016		2016		2016	
Construction Magnitude		CRITICAL MAINTENANCE		NEW CONSTRUCTION		HIGH INTENSITY RENOVATION	
Divisions		Amount $	Rate $/GSF	Amount $	Rate $/GSF	Amount $	Rate $/GSF
Calculated GSF		24,500		0		24,500	
	Demolition	$ -	$ -	$ -	TBD	$ 83,300	$ 3.40
	Hazmat Abatement	$ -	$ -	$ -	$ -	$ 94,325	$ 3.85
	Sitework - Site Prep & Earthwork	$ -	$ -	$ -	$ -	$ -	$ -
	Sitework - Utilities	$ -	$ -	$ -	$ -	$ -	$ -
	Sitework - Pavements	$ -	$ -	$ -	$ -	$ -	$ -
	Sitework - Landscape & Misc.	$ -	$ -	$ -	$ -	$ -	$ -
	Foundations/Substructure	$ -	$ -	$ -	$ -	$ 147,000	$ 6.00
	Superstructure	$ -	$ -	$ -	$ -	$ 367,500	$ 15.00
	Roofing and Waterproofing	$ -	$ -	$ -	$ -	$ 196,000	$ 8.00
	Exterior Enclosure	$ -	$ -	$ -	TBD	$ 612,500	$ 25.00
	Interior Development - High Intensity	$ -	$ -	$ -	$ -	$ 1,102,500	$ 45.00
	Interior Development - Medium Intensity	$ -	$ -	$ -	$ -	$ -	$ -
	Interior Development - Low Intensity	$ -	$ -	$ -	$ -	$ -	$ -
	Interior Dev - Equip & Fixed Furnishings/Millwork	$ -	$ -	$ -	$ -	$ -	$ -
	Special Construction, Systems, Process, etc. (incl elevator)	$ -	$ -	$ -	$ -	$ -	$ -
	Fire Protection	$ -	$ -	$ -	$ -	$ 85,750	$ 3.50
	Plumbing	$ -	$ -	$ -	$ -	$ 245,000	$ 10.00
	HVAC	$ -	$ -	$ -	$ -	$ 980,000	$ 40.00
	Electrical - Power, Lighting, Systems, Tele/Data/Security	$ -	$ -	$ -	$ -	$ 612,500	$ 25.00
		$ -	$ -	$ -	$ -	$ 4,526,375	$ 184.75
General Conditions (incl Bonds and Insurance)	7.50%	$ -	$ -	$ -	$ -	$ 339,478	$ 13.86
Design & Estimating Contingency	10.00%	$ -	$ -	$ -	$ -	$ 486,585	$ 19.86
Construction Contingency	7.00%	$ -	$ -	$ -	$ -	$ 374,671	$ 15.29
Contractor Overhead and Profit	6.00%	$ -	$ -	$ -	$ -	$ 343,627	$ 14.03
		$ -	$ -	$ -	$ -	$ 6,070,736	$ 247.79
Number of Years for Construction Duration			1.5		1.5		1.5
Number of Years for Escalation			2.25		2.25		2.25
Escalation 3.0% per Annum	3.00%	$ -	$ -	$ -	$ -	$ 417,477	$ 17.04
		$ -	$ 3.75	$ -	$ 3.75	$ 6,488,213	$ 264.83
Allowance (Professional,	30.00%					$ 1,946,464	$ 79.45
Total Project						$ 8,434,677	$ 344.27
Project Description		Total building maintenance and building system needs.		Limited construction of new exterior envelope.		Renovations to bring the existing warehouse and offices up to safe and functional standards for academic instruction.	

F ESTIMATED COSTS

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Project Phase		**Phase A**									
Project Number		**A1**			**A2**			**A2**			
Project Name - Sub-Project Name		**Verizon - New Site Construction**			**Student Housing 6 - New Construction**			**Student Housing 6 - Landscape**			
Original GSF		**110,536**			**5,157**			**5,200**			
Year of Procurement		**2015**			**2015**			**2015**			
Year of Delivery		**2016**			**2017**			**2017**			
Construction Magnitude		**OPEN SPACE**			**NEW CONSTRUCTION**			**OPEN SPACE**			
Divisions		Amount $	Rate $/GSF		Amount $	Rate $/GSF		Amount $	Rate $/GSF		
Calculated GSF		**110,536**			**5,157**			**5,200**			
	Demolition	$ -	$ -		$ -	$ -		$ -	$ -		
	Hazmat Abatement	$ -	$ -		$ -	$ -		$ -	$ -		
	Sitework - Site Prep & Earthwork	$ -	$ -		$ 10,314	$ 2.00		$ -			
	Sitework - Utilities	$ -	$ -		$ -	$ -		$ -	$ -		
	Sitework - Pavements	$ 110,536	$ 1.00		$ -	$ -		$ 5,200	$ 1.00		
	Sitework - Landscape & Misc.	$ 138,170	$ 1.25		$ -	$ -		$ 6,500	$ 1.25		
	Foundations/Substructure	$ -	$ -		$ 63,276	$ 12.27		$ -	$ -		
	Superstructure	$ -	$ -		$ 126,862	$ 24.60		$ -	$ -		
	Roofing and Waterproofing	$ -	$ -		$ 58,016	$ 11.25		$ -	$ -		
	Exterior Enclosure	$ -	$ -		$ 160,383	$ 31.10		$ -	$ -		
	Interior Development - High Intensity	$ -	$ -		$ -	$ -		$ -	$ -		
	Interior Development - Medium Intensity	$ -	$ -		$ 188,231	$ 36.50		$ -	$ -		
	Interior Development - Low Intensity	$ -	$ -		$ -	$ -		$ -	$ -		
	Interior Dev - Equip & Fixed Furnishings/Millwork	$ -	$ -		$ -	$ -		$ -	$ -		
	Special Construction, Systems, Process, etc. (incl elevator)	$ -	$ -		$ -	$ -		$ -	$ -		
	Fire Protection	$ -	$ -		$ 18,050	$ 3.50		$ -	$ -		
	Plumbing	$ -	$ -		$ 51,570	$ 10.00		$ -	$ -		
	HVAC	$ -	$ -		$ 206,280	$ 40.00		$ -	$ -		
	Electrical - Power, Lighting, Systems, Tele/Data/Security	$ -	$ -		$ 128,925	$ 25.00		$ -	$ -		
		$ 248,706	**$ 2.25**		**$ 1,011,907**	**$ 196.22**		**$ 11,700**	**$ 2.25**		
	General Conditions (incl Bonds and Insurance) 7.50%	$ 18,653	$ 0.17		$ 75,893	$ 14.72		$ 878	$ 0.17		
	Design & Estimating Contingency 10.00%	$ 26,736	$ 0.24		$ 108,780	$ 21.09		$ 1,258	$ 0.24		
	Construction Contingency 7.00%	$ 20,587	$ 0.19		$ 83,761	$ 16.24		$ 968	$ 0.19		
	Contractor Overhead and Profit 6.00%	$ 18,881	$ 0.17		$ 76,820	$ 14.90		$ 888	$ 0.17		
		$ 333,562	**$ 3.02**		**$ 1,357,160**	**$ 263.17**		**$ 15,692**	**$ 3.02**		
	Number of Years for Construction Duration		1.5			2			2		
	Number of Years for Escalation		2.25			3.00			3.00		
	Escalation 3.0% per Annum 3.00%	$ 22,939	$ 0.21		$ 125,845	$ 24.40		$ 1,455	$ 0.28		
		$ 356,501	**$ 3.23**		**$ 1,483,006**	**$ 287.57**		**$ 17,147**	**$ 3.30**		
	Allowance (Professional, 30.00%	$ 106,950	$ 0.97		$ 444,902	$ 86.27		$ 5,144	$ 0.99		
	Total Project	**$ 463,451**	**$ 4.19**		**$ 1,927,908**	**$ 373.84**		**$ 22,291**	**$ 4.29**		
Project Description		Parking, landscape and pedestrian circulation improvements. Greater consideration is required to reach a estimated cost.			Construction of a new student housing building. Identical to existing student housing and adjacent parking.			Site work associated with the new building.			

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		Phase A					
Project Phase							
Project Number		A3		A4		A4	
Project Name - Sub-Project Name		Campus Steps and Crossing - Site Improvements		Suhr - Critical Maintenance		Suhr - New Construction	
Original GSF		18,500		10,140		0	
Year of Procurement		2016		2016		2016	
Year of Delivery		2016		2017		2017	
Construction Magnitude		OPEN SPACE		CRITICAL MAINTENANCE		NEW CONSTRUCTION	
Divisions		Amount $	Rate $/GSF	Amount $	Rate $/GSF	Amount $	Rate $/GSF
Calculated GSF		18,500		10,140		0	
Demolition		$ 1,850	$ 0.10	$ -	$ -	$ -	$ 28,770.00
Hazmat Abatement		$ -	$ -	$ -	$ -	$ -	$ -
Sitework - Site Prep & Earthwork		$ 37,000	$ 2.00	$ -	$ -	$ -	$ -
Sitework - Utilities		$ 2,960	$ 0.16	$ -	$ -	$ -	$ -
Sitework - Pavements		$ 231,250	$ 12.50	$ -	$ -	$ -	$ -
Sitework - Landscape & Misc.		$ 138,750	$ 7.50	$ -	$ -	$ -	$ -
Foundations/Substructure		$ -	$ -	$ -	$ -	$ -	$ -
Superstructure		$ -	$ -	$ -	$ -	$ -	$ -
Roofing and Waterproofing		$ -	$ -	$ -	$ -	$ -	$ -
Exterior Enclosure		$ -	$ -	$ -	$ -	$ -	$ 105,490.00
Interior Development - High Intensity		$ -	$ -	$ -	$ -	$ -	$ -
Interior Development - Medium Intensity		$ -	$ -	$ -	$ -	$ -	$ -
Interior Development - Low Intensity		$ -	$ -	$ -	$ -	$ -	$ -
Interior Dev - Equip & Fixed Furnishings/Millwork		$ -	$ -	$ -	$ -	$ -	$ -
Special Construction, Systems, Process, etc. (incl elevator)		$ -	$ -	$ -	$ -	$ -	$ -
Fire Protection		$ -	$ -	$ 30,420	$ 3.00	$ -	$ 3.50
Plumbing		$ -	$ -	$ 70,980	$ 7.00	$ -	$ 10.00
HVAC		$ -	$ -	$ 304,200	$ 30.00	$ -	$ 35.00
Electrical - Power, Lighting, Systems, Tele/Data/Security		$ -	$ -	$ 273,780	$ 27.00	$ -	$ 30.00
		$ 411,810	**$ 22.26**	**$ 679,380**	**$ 67.00**	**$ -**	**#######**
General Conditions (incl Bonds and Insurance)	7.50%	$ 30,886	$ 1.67	$ 50,954	$ 5.03	$ -	$ 10,075.39
Design & Estimating Contingency	10.00%	$ 44,270	$ 2.39	$ 73,033	$ 7.20	$ -	$ 14,441.39
Construction Contingency	7.00%	$ 34,088	$ 1.84	$ 56,236	$ 5.55	$ -	$ 11,119.87
Contractor Overhead and Profit	6.00%	$ 31,263	$ 1.69	$ 51,576	$ 5.09	$ -	$ 10,198.51
		$ 552,316	**$ 29.85**	**$ 911,179**	**$ 89.86**	**$ -**	**$ 180,173.65**
Number of Years for Construction Duration			0.5		1		1
Number of Years for Escalation			2.75		3.50		3.50
Escalation 3.0% per Annum	3.00%	$ 46,771	$ 2.53	$ 99,316	$ 9.79	$ -	$ 19,638.35
		$ 599,087	**$ 32.38**	**$ 1,010,494**	**$ 99.65**	**$ -**	**$ 199,812**
Allowance (Professional,	30.00%	$ 179,726	$ 9.71	$ 303,148	$ 29.90	$ -	$ 59,944
Total Project		**$ 778,813**	**$ 42.10**	**$ 1,313,642**	**$ 129.55**	**$ -**	**$ 259,756**
Project Description		A new pedestrian crossing zone, street bump-outs, a new stair and ramp up the hill and new trees. 50% hardscape.		Total building maintenance and building system needs.		New storefront windows facing the academic quad.	

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Project Phase		**Phase A**						
Project Number		**A4**		**A4**		**A4**		
Project Name - Sub-Project Name		**Suhr - Renovations**		**Suhr - Renovations**		**Suhr - Renovations**		
Original GSF		**7,325**		**275**		**800**		
Year of Procurement		**2016**		**2016**		**2016**		
Year of Delivery		**2017**		**2017**		**2017**		
Construction Magnitude		**HIGH INTENSITY RENOVATION**		**MEDIUM INTENSITY RENOVATION**		**LOW INTENSITY RENOVATION**		
		Amount $	Rate $/GSF	Amount $	Rate $/GSF	Amount $	Rate $/GSF	
Divisions								
Calculated GSF		**7,325**		**275**		**800**		
Demolition		$ 24,905	$ 3.40	$ 866	$ 3.15	$ 2,080	$ 2.60	
Hazmat Abatement		$ 28,201	$ 3.85	$ 976	$ 3.55	$ 1,720	$ 2.15	
Sitework - Site Prep & Earthwork		$ -	$ -	$ -	$ -	$ -	$ -	
Sitework - Utilities		$ -	$ -	$ -	$ -	$ -	$ -	
Sitework - Pavements		$ -	$ -	$ -	$ -	$ -	$ -	
Sitework - Landscape & Misc.		$ -	$ -	$ -	$ -	$ -	$ -	
Foundations/Substructure		$ -	$ -	$ -	$ -	$ -	$ -	
Superstructure		$ -	$ -	$ -	$ -	$ -	$ -	
Roofing and Waterproofing		$ -	$ -	$ -	$ -	$ -	$ -	
Exterior Enclosure		$ -	$ -	$ -	$ -	$ -	$ -	
Interior Development - High Intensity		$ 356,361	$ 48.65	$ -	$ -	$ -	$ -	
Interior Development - Medium Intensity		$ -	$ -	$ 11,206	$ 40.75	$ -	$ -	
Interior Development - Low Intensity		$ -	$ -	$ -	$ -	$ 28,000	$ 35.00	
Interior Dev - Equip & Fixed Furnishings/Millwork		$ -	$ -	$ -	$ -	$ -	$ -	
Special Construction, Systems, Process, etc. (incl elevator)		$ -	$ -	$ -	$ -	$ -	$ -	
Fire Protection		$ 21,975	$ 3.00	$ 825	$ 3.00	$ 2,400	$ 3.00	
Plumbing		$ 51,275	$ 7.00	$ 1,925	$ 7.00	$ 5,600	$ 7.00	
HVAC		$ 219,750	$ 30.00	$ 8,250	$ 30.00	$ 24,000	$ 30.00	
Electrical - Power, Lighting, Systems, Tele/Data/Security		$ 197,775	$ 27.00	$ 7,425	$ 27.00	$ 21,600	$ 27.00	
		$ 900,243	**$ 122.90**	**$ 31,474**	**$ 114.45**	**$ 85,400**	**$ 106.75**	
General Conditions (incl Bonds and Insurance)	7.50%	$ 67,518	$ 9.22	$ 2,361	$ 8.58	$ 6,405	$ 8.01	
Design & Estimating Contingency	10.00%	$ 96,776	$ 13.21	$ 3,383	$ 12.30	$ 9,181	$ 11.48	
Construction Contingency	7.00%	$ 74,518	$ 10.17	$ 2,605	$ 9.47	$ 7,069	$ 8.84	
Contractor Overhead and Profit	6.00%	$ 68,343	$ 9.33	$ 2,389	$ 8.69	$ 6,483	$ 8.10	
		$ 1,207,398	**$ 164.83**	**$ 42,212**	**$ 153.50**	**$ 114,538**	**$ 143.17**	
Number of Years for Construction Duration			1		1		1	
Number of Years for Escalation			3.50		3.50		3.50	
Escalation 3.0% per Annum	3.00%	$ 131,602	$ 17.97	$ 4,601	$ 16.73	$ 12,484	$ 15.61	
		$ 1,339,000	**$ 182.80**	**$ 46,813**	**$ 170.23**	**$ 127,022**	**$ 158.78**	
Allowance (Professional,	30.00%	$ 401,700	$ 54.84	$ 14,044	$ 51.07	$ 38,107	$ 47.63	
Total Project		**$ 1,740,700**	**$ 237.64**	**$ 60,857**	**$ 221.30**	**$ 165,129**	**$ 206.41**	
Project Description		Renovation of the large library room into a contemporary media center, classroom, and student study space.		Medium intensity renovations to convert offices to student study rooms.		Low intensity renovations to convert offices to student study rooms.		

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		Phase A		Phase B			
Project Phase							
Project Number		A5		B1		B1	
Project Name - Sub-Project Name		Critical Maintenance to 2018		Student Housing 7 - New Construction		Student Housing 6 - Landscape	
Original GSF		71,896		5,157		4,800	
Year of Procurement		2018		2019		2019	
Year of Delivery		2018		2021		2021	
Construction Magnitude		CRITICAL MAINTENANCE		NEW CONSTRUCTION		OPEN SPACE	
Divisions		Amount $	Rate $/GSF	Amount $	Rate $/GSF	Amount $	Rate $/GSF
Calculated GSF		71,896		5,157		4,800	
	Demolition	$ -	$ -	$ -	$ -	$ -	$ -
	Hazmat Abatement	$ -	$ -	$ -	$ -	$ -	$ -
	Sitework - Site Prep & Earthwork	$ -	$ -	$ 10,314	$ 2.00	$ -	$ -
	Sitework - Utilities	$ -	$ -	$ -	$ -	$ -	$ -
	Sitework - Pavements	$ -	$ -	$ -	$ -	$ 4,800	$ 1.00
	Sitework - Landscape & Misc.	$ -	$ -	$ -	$ -	$ 6,000	$ 1.25
	Foundations/Substructure	$ -	$ -	$ 63,276	$ 12.27	$ -	$ -
	Superstructure	$ -	$ -	$ 126,862	$ 24.60	$ -	$ -
	Roofing and Waterproofing	$ -	$ -	$ 58,016	$ 11.25	$ -	$ -
	Exterior Enclosure	$ -	$ -	$ 160,383	$ 31.10	$ -	$ -
	Interior Development - High Intensity	$ -	$ -	$ -	$ -	$ -	$ -
	Interior Development - Medium Intensity	$ -	$ -	$ 188,231	$ 36.50	$ -	$ -
	Interior Development - Low Intensity	$ -	$ -	$ -	$ -	$ -	$ -
	Interior Dev - Equip & Fixed Furnishings/Millwork	$ -	$ -	$ -	$ -	$ -	$ -
	Special Construction, Systems, Process, etc. (incl elevator)	$ -	$ -	$ -	$ -	$ -	$ -
	Fire Protection	$ -	$ -	$ 18,050	$ 3.50	$ -	$ -
	Plumbing	$ -	$ -	$ 51,570	$ 10.00	$ -	$ -
	HVAC	$ -	$ -	$ 206,280	$ 40.00	$ -	$ -
	Electrical - Power, Lighting, Systems, Tele/Data/Security	$ -	$ -	$ 128,925	$ 25.00	$ -	$ -
		$ -	**$ -**	**$ 1,011,907**	**$ 196.22**	**$ 10,800**	**$ 2.25**
	General Conditions (incl Bonds and Insurance) 7.50%	$ -	$ -	$ 75,893	$ 14.72	$ 810	$ 0.17
	Design & Estimating Contingency 10.00%	$ -	$ -	$ 108,780	$ 21.09	$ 1,161	$ 0.24
	Construction Contingency 7.00%	$ -	$ -	$ 83,761	$ 16.24	$ 894	$ 0.19
	Contractor Overhead and Profit 6.00%	$ -	$ -	$ 76,820	$ 14.90	$ 820	$ 0.17
		$ -	**$ -**	**$ 1,357,160**	**$ 263.17**	**$ 14,485**	**$ 3.02**
	Number of Years for Construction Duration				2		2
	Number of Years for Escalation		3		7.00		7.00
	Escalation 3.00% per Annum 3.00%			$ 311,976	$ 60.50	$ 3,330	$ 0.69
				$ 1,669,136	**$ 323.66**	**$ 17,815**	**$ 3.71**
	Allowance (Professional, 30.00%			$ 500,741	$ 97.10	$ 5,344	$ 1.11
	Total Project			**$ 2,169,877**	**$ 420.76**	**$ 23,159**	**$ 4.82**
Project Description		See summary page.		Construction of a new student housing building. Identical to existing student housing and adjacent parking.		Site work associated with the new building.	

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Project Phase		**Phase B**								
Project Number		**B2**			**B2**			**B3**		
Project Name - Sub-Project Name		**Campus Commons Quad - Demolition**			**Campus Commons Quad - Site Improvements**			**Frame - Renovations**		
Original GSF		**10,000**			**60,000**			**1,250**		
Year of Procurement		**2019**			**2019**			**2020**		
Year of Delivery		**2019**			**2019**			**2021**		
Construction Magnitude		**DEMOLITION**			**OPEN SPACE**			**MEDIUM INTENSITY RENOVATION**		
Divisions		Amount $	Rate $/GSF		Amount $	Rate $/GSF		Amount $	Rate $/GSF	
Calculated GSF		**10,000**			**60,000**			**1,250**		
Demolition		$ 67,500	$ 6.75		$ -	$ -		$ 3,938	$ 3.15	
Hazmat Abatement		$ -	$ -		$ -	$ -		$ 4,438	$ 3.55	
Sitework - Site Prep & Earthwork		$ 10,000	$ 1.00		$ 60,000	$ 1.00		$ -	$ -	
Sitework - Utilities		$ -	$ -		$ -	$ -		$ -	$ -	
Sitework - Pavements		$ -	$ -		$ 1,125,000	$ 18.75		$ -	$ -	
Sitework - Landscape & Misc.		$ 5,000	$ 0.50		$ 225,000	$ 3.75		$ -	$ -	
Foundations/Substructure		$ -	$ -		$ -	$ -		$ -	$ -	
Superstructure		$ -	$ -		$ -	$ -		$ -	$ -	
Roofing and Waterproofing		$ -	$ -		$ -	$ -		$ -	$ -	
Exterior Enclosure		$ -	$ -		$ -	$ -		$ -	$ -	
Interior Development - High Intensity		$ -	$ -		$ -	$ -		$ -	$ -	
Interior Development - Medium Intensity		$ -	$ -		$ -	$ -		$ 50,625	$ 40.50	
Interior Development - Low Intensity		$ -	$ -		$ -	$ -		$ -	$ -	
Interior Dev - Equip & Fixed Furnishings/Millwork		$ -	$ -		$ -	$ -		$ -	$ -	
Special Construction, Systems, Process, etc. (incl elevator)		$ -	$ -		$ -	$ -		$ -	$ -	
Fire Protection		$ -	$ -		$ -	$ -		$ -	$ -	
Plumbing		$ -	$ -		$ -	$ -		$ 6,250	$ 5.00	
HVAC		$ -	$ -		$ -	$ -		$ 37,500	$ 30.00	
Electrical - Power, Lighting, Systems, Tele/Data/Security		$ -	$ -		$ -	$ -		$ 18,750	$ 15.00	
		$ 82,500	**$ 8.25**		**$ 1,410,000**	**$ 23.50**		**$ 121,500**	**$ 97.20**	
General Conditions (incl Bonds and Insurance)	7.50%	$ 6,188	$ 0.62		$ 105,750	$ 1.76		$ 9,113	$ 7.29	
Design & Estimating Contingency	10.00%	$ 8,869	$ 0.89		$ 151,575	$ 2.53		$ 13,061	$ 10.45	
Construction Contingency	7.00%	$ 6,829	$ 0.68		$ 116,713	$ 1.95		$ 10,057	$ 8.05	
Contractor Overhead and Profit	6.00%	$ 6,263	$ 0.63		$ 107,042	$ 1.78		$ 9,224	$ 7.38	
		$ 110,648	**$ 11.06**		**$ 1,891,080**	**$ 31.52**		**$ 162,955**	**$ 130.36**	
Number of Years for Construction Duration			0.5			0.5			1	
Number of Years for Escalation			5.75			5.75			7.50	
Escalation 3.0% per Annum	3.00%	$ 20,499	$ 2.05		$ 350,344	$ 5.84		$ 40,443	$ 32.35	
		$ 131,147	**$ 13.11**		**$ 2,241,424**	**$ 37.36**		**$ 203,398**	**$ 162.72**	
Allowance (Professional,	30.00%	$ 39,344	$ 3.93		$ 672,427	$ 11.21		$ 61,019	$ 48.82	
Total Project		**$ 170,491**	**$ 17.05**		**$ 2,913,851**	**$ 48.56**		**$ 264,417**	**$ 211.53**	
Project Description		Demolition of the existing service parking lot adjacent to the pedestrian quad.			New terraced landscape steps, site walls, pedestrian plaza and plantings. New vehicular turn-around and drop-off zone. 75% hardscape.			Renovating existing small classrooms into larger active learning classrooms.		

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		Project Phase	Phase B							
		Project Number	B3		B4		B5			
		Project Name - Sub-Project Name	Frame - Renovations		University Walk - New Site Construction		West First Street - Streetscape Improvements			
		Original GSF	4,500		44,000		33,500			
		Year of Procurement	2020		2021		2022			
		Year of Delivery	2021		2021		2022			
		Construction Magnitude	LOW INTENSITY RENOVATION		OPEN SPACE		OPEN SPACE			
		Divisions	Amount $	Rate $/GSF	Amount $	Rate $/GSF	Amount $	Rate $/GSF		
		Calculated GSF	4,500		44,000		33,500			
		Demolition	$ 11,700	$ 2.60	$ 440,000	$ 10.00	$ -	$ -		
		Hazmat Abatement	$ 9,675	$ 2.15	$ -	$ -	$ -	$ -		
		Sitework - Site Prep & Earthwork	$ -	$ -	$ 44,000	$ 1.00	$ -	$ -		
		Sitework - Utilities	$ -	$ -	$ 26,400	$ 0.60	$ -	$ -		
		Sitework - Pavements	$ -	$ -	$ 264,000	$ 6.00	$ 125,625	$ 3.75		
		Sitework - Landscape & Misc.	$ -	$ -	$ -	$ -	$ 427,125	$ 12.75		
		Foundations/Substructure	$ -	$ -	$ -	$ -	$ -	$ -		
		Superstructure	$ -	$ -	$ -	$ -	$ -	$ -		
		Roofing and Waterproofing	$ -	$ -	$ -	$ -	$ -	$ -		
		Exterior Enclosure	$ -	$ -	$ -	$ -	$ -	$ -		
		Interior Development - High Intensity	$ -	$ -	$ -	$ -	$ -	$ -		
		Interior Development - Medium Intensity	$ -	$ -	$ -	$ -	$ -	$ -		
		Interior Development - Low Intensity	$ 157,500	$ 35.00	$ -	$ -	$ -	$ -		
		Interior Dev - Equip & Fixed Furnishings/Millwork	$ -	$ -	$ -	$ -	$ -	$ -		
		Special Construction, Systems, Process, etc. (incl elevator)	$ -	$ -	$ -	$ -	$ -	$ -		
		Fire Protection	$ -	$ -	$ -	$ -	$ -	$ -		
		Plumbing	$ 22,500	$ 5.00	$ -	$ -	$ -	$ -		
		HVAC	$ 135,000	$ 30.00	$ -	$ -	$ -	$ -		
		Electrical - Power, Lighting, Systems, Tele/Data/Security	$ 67,500	$ 15.00	$ -	$ -	$ -	$ -		
			$ 403,875	**$ 89.75**	**$ 774,400**	**$ 17.60**	**$ 552,750**	**$ 16.50**		
		General Conditions (incl Bonds and Insurance)	7.50%	$ 30,291	$ 6.73	$ 58,080	$ 1.32	$ 41,456	$ 1.24	
		Design & Estimating Contingency	10.00%	$ 43,417	$ 9.65	$ 83,248	$ 1.89	$ 59,421	$ 1.77	
		Construction Contingency	7.00%	$ 33,431	$ 7.43	$ 64,101	$ 1.46	$ 45,754	$ 1.37	
		Contractor Overhead and Profit	6.00%	$ 30,661	$ 6.81	$ 58,790	$ 1.34	$ 41,963	$ 1.25	
				$ 541,674	**$ 120.37**	**$ 1,038,619**	**$ 23.60**	**$ 741,344**	**$ 22.13**	
		Number of Years for Construction Duration			1		0.5		0.5	
		Number of Years for Escalation			7.50		7.75		8.75	
		Escalation 3.0% per Annum	3.00%	$ 134,436	$ 29.87	$ 267,386	$ 6.08	$ 218,820	$ 6.53	
				$ 676,109	**$ 150.25**	**$ 1,306,004**	**$ 29.68**	**$ 960,164**	**$ 28.66**	
		Allowance (Professional,	30.00%	$ 202,833	$ 45.07	$ 391,801	$ 8.90	$ 288,049	$ 8.60	
		Total Project		**$ 878,942**	**$ 195.32**	**$ 1,697,806**	**$ 38.59**	**$ 1,248,213**	**$ 37.26**	
		Project Description	Renovating to upgrade the interiors of existing classrooms.		Extension of the pedestrian spine south, past Montgomery Hall, across West First Street. New stair down to West First Street. New pedestrian crossing. Demolition of existing pathways, re-routing of underground infrastructure. 100% hardscape.		Landscape improvement along the length of the street. Landscape entrance improvements to the Verizon Building. 15% hardscape.			

F ESTIMATED COSTS

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		Phase B		Phase C			
Project Phase							
Project Number		B6		C1		C1	
Project Name - Sub-Project Name		Critical Maintenance to 2023		East Quad Building - New Construction		East Quad Building - Landscape	
Original GSF		71,896		17,900		4,900	
Year of Procurement		2023		2024		2024	
Year of Delivery		2023		2026		2026	
Construction Magnitude		CRITICAL MAINTENANCE		NEW CONSTRUCTION		OPEN SPACE	
Divisions		Amount $	Rate $/GSF	Amount $	Rate $/GSF	Amount $	Rate $/GSF
Calculated GSF		71,896		17,900		4,900	
Demolition		$ -	$ -	$ 25,060	$ 1.40	$ -	$ -
Hazmat Abatement		$ -	$ -	$ -	$ -	$ -	$ -
Sitework - Site Prep & Earthwork		$ -	$ -	$ 17,900	$ 1.00	$ -	$ -
Sitework - Utilities		$ -	$ -	$ 29,535	$ 1.65	$ -	$ -
Sitework - Pavements		$ -	$ -	$ -		$ 29,400	$ 6.00
Sitework - Landscape & Misc.		$ -	$ -	$ -		$ 18,375	$ 3.75
Foundations/Substructure		$ -	$ -	$ 202,270	$ 11.30	$ -	$ -
Superstructure		$ -	$ -	$ 440,340	$ 24.60	$ -	$ -
Roofing and Waterproofing		$ -	$ -	$ 161,100	$ 9.00	$ -	$ -
Exterior Enclosure		$ -	$ -	$ 556,690	$ 31.10	$ -	$ -
Interior Development - High Intensity		$ -	$ -	$ -	$ -	$ -	$ -
Interior Development - Medium Intensity		$ -	$ -	$ 787,600	$ 44.00	$ -	$ -
Interior Development - Low Intensity		$ -	$ -	$ -	$ -	$ -	$ -
Interior Dev - Equip & Fixed Furnishings/Millwork		$ -	$ -	$ -	$ -	$ -	$ -
Special Construction, Systems, Process, etc. (incl elevator)		$ -	$ -	$ -	$ -	$ -	$ -
Fire Protection		$ -	$ -	$ -	$ -	$ -	$ -
Plumbing		$ -	$ -	$ -	$ -	$ -	$ -
HVAC		$ -	$ -	$ -	$ -	$ -	$ -
Electrical - Power, Lighting, Systems, Tele/Data/Security		$ -	$ -	$ -	$ -	$ -	$ -
		$ -	**$ -**	**$ 2,220,495**	**$ 124.05**	**$ 47,775**	**$ 9.75**
General Conditions (incl Bonds and Insurance)	7.50%	$ -	$ -	$ 166,537	$ 9.30	$ 3,583	$ 0.73
Design & Estimating Contingency	10.00%	$ -	$ -	$ 238,703	$ 13.34	$ 5,136	$ 1.05
Construction Contingency	7.00%	$ -	$ -	$ 183,801	$ 10.27	$ 3,955	$ 0.81
Contractor Overhead and Profit	6.00%	$ -	$ -	$ 168,572	$ 9.42	$ 3,627	$ 0.74
		$ -	**$ -**	**$ 2,978,109**	**$ 166.37**	**$ 64,075**	**$ 13.08**
Number of Years for Construction Duration					2		2
Number of Years for Escalation			8		12.00		12.00
Escalation 3.0% per Annum	3.00%			$ 1,267,962	$ 70.84	$ 27,281	$ 5.57
				$ 4,246,071	**$ 237.21**	**$ 91,356**	**$ 18.64**
Allowance (Professional,	30.00%			$ 1,273,821	$ 71.16	$ 27,407	$ 5.59
Total Project				**$ 5,519,893**	**$ 308.37**	**$ 118,763**	**$ 24.24**
Project Description		See summary page.		New construction of a small academic and student use building. Internal circulation to neighboring buildings.		Site work associated with the new building.	

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		Project Phase	Phase C							
		Project Number	C2		C2		C3			
		Project Name - Sub-Project Name	Northwest Quad Building - New Construction		Northwest Quad Building - Landscape		Montgomery Hall Extension - New Construction			
		Original GSF	10,400		26,800		20,600			
		Year of Procurement	2024		2024		2024			
		Year of Delivery	2026		2026		2026			
		Construction Magnitude	NEW CONSTRUCTION		OPEN SPACE		NEW CONSTRUCTION			
		Divisions	Amount $	Rate $/GSF	Amount $	Rate $/GSF	Amount $	Rate $/GSF		
		Calculated GSF	10,400		26,800		20,600			
		Demolition	$ 9,048	$ 0.87	$ -	$ -	$ 3,090	$ 0.15		
		Hazmat Abatement	$ -	$ -	$ -	$ -	$ -	$ -		
		Sitework - Site Prep & Earthwork	$ 10,400	$ 1.00	$ -	$ -	$ 41,200	$ 2.00		
		Sitework - Utilities	$ 27,560	$ 2.65	$ -	$ -	$ 1,442	$ 0.07		
		Sitework - Pavements	$ -	$ -	$ 160,800	$ 6.00	$ -	$ -		
		Sitework - Landscape & Misc.	$ -	$ -	$ 100,500	$ 3.75	$ -	$ -		
		Foundations/Substructure	$ 127,608	$ 12.27	$ -	$ -	$ 228,660	$ 11.10		
		Superstructure	$ 255,840	$ 24.60	$ -	$ -	$ 506,760	$ 24.60		
		Roofing and Waterproofing	$ 117,000	$ 11.25	$ -	$ -	$ 181,280	$ 8.80		
		Exterior Enclosure	$ 364,000	$ 35.00	$ -	$ -	$ 721,000	$ 35.00		
		Interior Development - High Intensity	$ -	$ -	$ -	$ -	$ -	$ -		
		Interior Development - Medium Intensity	$ 457,600	$ 44.00	$ -	$ -	$ 988,800	$ 48.00		
		Interior Development - Low Intensity	$ -	$ -	$ -	$ -	$ -	$ -		
		Interior Dev - Equip & Fixed Furnishings/Millwork	$ -	$ -	$ -	$ -	$ -	$ -		
		Special Construction, Systems, Process, etc. (incl elevator)	$ -	$ -	$ -	$ -	$ -	$ -		
		Fire Protection	$ -	$ -	$ -	$ -	$ -	$ -		
		Plumbing	$ -	$ -	$ -	$ -	$ -	$ -		
		HVAC	$ -	$ -	$ -	$ -	$ -	$ -		
		Electrical - Power, Lighting, Systems, Tele/Data/Security	$ -	$ -	$ -	$ -	$ -	$ -		
			$ 1,369,056	**$ 131.64**	**$ 261,300**	**$ 9.75**	**$ 2,672,232**	**$ 129.72**		
		General Conditions (incl Bonds and Insurance)	7.50%	$ 102,679	$ 9.87	$ 19,598	$ 0.73	$ 200,417	$ 9.73	
		Design & Estimating Contingency	10.00%	$ 147,174	$ 14.15	$ 28,090	$ 1.05	$ 287,265	$ 13.94	
		Construction Contingency	7.00%	$ 113,324	$ 10.90	$ 21,629	$ 0.81	$ 221,194	$ 10.74	
		Contractor Overhead and Profit	6.00%	$ 103,934	$ 9.99	$ 19,837	$ 0.74	$ 202,867	$ 9.85	
				$ 1,836,166	**$ 176.55**	**$ 350,453**	**$ 13.08**	**$ 3,583,975**	**$ 173.98**	
		Number of Years for Construction Duration			2		2		2	
		Number of Years for Escalation			12.00		12.00		12.00	
		Escalation 3.0% per Annum	3.00%	$ 781,768	$ 75.17	$ 149,209	$ 5.57	$ 1,525,916	$ 74.07	
				$ 2,617,934	**$ 251.72**	**$ 499,663**	**$ 18.64**	**$ 5,109,891**	**$ 248.05**	
		Allowance (Professional,	30.00%	$ 785,380	$ 75.52	$ 149,899	$ 5.59	$ 1,532,967	$ 74.42	
		Total Project		**$ 3,403,314**	**$ 327.24**	**$ 649,561**	**$ 24.24**	**$ 6,642,858**	**$ 322.47**	
		Project Description		New construction of a small academic and student use building. Internal circulation to neighboring buildings. Two story, double height.		Site work associated with the new building.		New construction of a small academic and student use building. Internal circulation to Montgomery Hall. Vertical circulation from West First Street up to parking levels. 3 levels.		

F ESTIMATED COSTS

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Project Phase		**Phase C**								
Project Number		**C3**			**C4**			**C5**		
Project Name - Sub-Project Name		**Montgomery Hall Extension - Landscape**			**Parking - Renovation**			**Critical Maintenance to 2033**		
Original GSF		**11,400**			**89,000**			**71,896**		
Year of Procurement		**2024**			**2027**			**2033**		
Year of Delivery		**2026**			**2027**			**2033**		
Construction Magnitude		**OPEN SPACE**			**OPEN SPACE**			**CRITICAL MAINTENANCE**		
Divisions		Amount $	Rate $/GSF		Amount $	Rate $/GSF		Amount $	Rate $/GSF	
Calculated GSF		**11,400**			**89,000**			**71,896**		
	Demolition	$ -	$ -		$ 908,690	$ 10.21		$ -	$ -	
	Hazmat Abatement	$ -	$ -		$ -	$ -		$ -	$ -	
	Sitework - Site Prep & Earthwork	$ -	$ -		$ 66,750	$ 0.75		$ -	$ -	
	Sitework - Utilities	$ -	$ -		$ -	$ -		$ -	$ -	
	Sitework - Pavements	$ 68,400	$ 6.00		$ 89,000	$ 1.00		$ -	$ -	
	Sitework - Landscape & Misc.	$ 42,750	$ 3.75		$ 22,250	$ 0.25		$ -	$ -	
	Foundations/Substructure	$ -	$ -		$ -	$ -		$ -	$ -	
	Superstructure	$ -	$ -		$ -	$ -		$ -	$ -	
	Roofing and Waterproofing	$ -	$ -		$ -	$ -		$ -	$ -	
	Exterior Enclosure	$ -	$ -		$ -	$ -		$ -	$ -	
	Interior Development - High Intensity	$ -	$ -		$ -	$ -		$ -	$ -	
	Interior Development - Medium Intensity	$ -	$ -		$ -	$ -		$ -	$ -	
	Interior Development - Low Intensity	$ -	$ -		$ -	$ -		$ -	$ -	
	Interior Dev - Equip & Fixed Furnishings/Millwork	$ -	$ -		$ -	$ -		$ -	$ -	
	Special Construction, Systems, Process, etc. (incl elevator)	$ -	$ -		$ -	$ -		$ -	$ -	
	Fire Protection	$ -	$ -		$ -	$ -		$ -	$ -	
	Plumbing	$ -	$ -		$ -	$ -		$ -	$ -	
	HVAC	$ -	$ -		$ -	$ -		$ -	$ -	
	Electrical - Power, Lighting, Systems, Tele/Data/Security	$ -	$ -		$ -	$ -		$ -	$ -	
		$ 111,150	**$ 9.75**		**$ 1,086,690**	**$ 12.21**		**$ -**	**$ -**	
	General Conditions (incl Bonds and Insurance) 7.50%	$ 8,336	$ 0.73		$ 81,502	$ 0.92		$ -	$ -	
	Design & Estimating Contingency 10.00%	$ 11,949	$ 1.05		$ 116,819	$ 1.31		$ -	$ -	
	Construction Contingency 7.00%	$ 9,200	$ 0.81		$ 89,951	$ 1.01		$ -	$ -	
	Contractor Overhead and Profit 6.00%	$ 8,438	$ 0.74		$ 82,498	$ 0.93		$ -	$ -	
		$ 149,073	**$ 13.08**		**$ 1,457,459**	**$ 16.38**		**$ -**	**$ -**	
	Number of Years for Construction Duration		2			0.5				
	Number of Years for Escalation		12.00			13.75			16	
	Escalation 3.0% per Annum 3.00%	$ 63,470	$ 5.57		$ 730,848	$ 8.21				
		$ 212,543	**$ 18.64**		**$ 2,188,307**	**$ 24.59**				
	Allowance (Professional, 30.00%	$ 63,763	$ 5.59		$ 656,492	$ 7.38				
	Total Project	**$ 276,306**	**$ 24.24**		**$ 2,844,799**	**$ 31.96**				
Project Description		Site work associated with the new building.			Repaving of existing parking lots. New layout to include bioswales/tree islands. 90% hardscape.			See summary page.		

ESTIMATED COSTS F

Perkins Eastman