

**Land Use and Forest Management:  
A History of Sustainability at Colgate University**

**ENST390: Community-Based Study of Environmental Issues**

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## ***Executive Summary***

Colgate University has taken pride in their recognition of the most beautiful campus in the nation. This recognition took into consideration, among other things, the physical landscape of campus as it fits together with the rest of the Chenango Valley in Central New York. However, historically, Colgate has not fully embraced the sustainability measures that are important to its development currently and moving forward. As a part of the celebration of Colgate University Bicentennial, we measure the sustainability practices that were involved in making decisions that concern the management of forested and open-area lands since the hill was acquired in 1826.

Our research question asks: *how has the Colgate campus changed throughout history in regards to forested areas and open lands?* In order to address our primary research question, we also needed to consider: *how has the Colgate campus changed throughout history in regards to forested areas and open lands? What were the social, economic, and environmental aspects that led to these changes? At what point were sustainability principles implemented in the decisions that led to the changes in forest management and land use practices?* We collected data to answer these questions from primary archival documents, modern secondary sources, and interviews with key Colgate stakeholders.

We analyzed our results based on a two-tiered approach and defined sustainability by using outside literature and the emergent theory. Using this method, we defined criteria for each sustainability pillar; social, economic, and environmental. Our major finding was that the social component seems to outweigh economic and environmental pillars throughout Colgate's history. Though in recent years more balance has been restored among the pillars, there is still a need for the economic and environmental pillars to be supported in order to attain sustainability. Lastly, we provide some examples of recommendations to the school that are informed by our research, like increased reduced-mow areas and native planting.

## ***1. Introduction***

Colgate University has continuously been praised for its beautiful campus in Hamilton, NY. The idealization of the Colgate “Hill” as a historical and memorable asset to every student’s experience in their time at this institution is an important, distinguishing characteristic of the institution over the years. In recent years, with the Forest Management and Stewardship plan of 2007, the implementation of the Sustainability Office in 2008, and the carbon neutrality goal of 2019, the university has strived to reach and mirror the sustainability goals of the country and other peer institutions. However, the decisions that Colgate University has made for the management of their forested and open area lands have not always been sustainable in concept or practice. This report then aims to look at the historical decisions in regards to the social, economic, and environmental aspects of sustainability that have shaped the landmarks that make the Colgate “Hill” and which students interact with the most. Using primarily archival sources and interviews from key informants, we address the following research questions:

How has the Colgate campus changed throughout history in regards to forested areas and open lands? What were the social, economic, and environmental aspects that led to these changes? At what point were sustainability principles implemented in the decisions that led to the changes in forest management and land use practices?

As the university’s 200 years celebration is approaching in 2019, it is important to recognize the achievements and improvements in sustainable development that the institution has been recognized for. Understanding the past decisions involving sustainability or the lack thereof can help us as a university move forward with the master plan that the administration has proposed to achieve in the next few years. This report will first review the existing literature on forest management and land use in a global, national, and local perspective, followed by a thorough explanation of our methods and results and the analysis of the results. The report will conclude with recommendations that the administration can take in moving forward.

## **2. Literature Review**

### ***2.1 Sustainability, Forest management and Land Use: A Global Perspective***

The world’s forests are threatened largely because of deforestation practices, climate change, and the increased pressure to expand agricultural fields for profit. Since the start of the industrial period, the increasing demand to use methods for changing the land that would yield a higher gain has been prevalent. The consequences of industrial farming and grazing, forest fires, industrial pollution, and climate change have led to an unsustainable use of land and deforestation around the world. Forests are not only essential habitats that foster biodiversity but also consist of ecosystem services that benefit human communities such as timber, fuel wood, recreational activities, and oxygen production (Başkent, Keleş, Kadioğulları, & Bingöl, 2010, p. 145). In recent years, conservation practices have become popularly implemented in land usage and forest management. In the last 10 years, there has been a shift to balance the economic and the conservation side of land use by introducing community based conservation strategies that seek for alternative sources of economic profit, while maintaining the land (Dalle, Pulido, & de Blois, 2011, p. 1558). Since the late 1980s, the process of “sustainability” has become a topic of interest for the world due to the consensus that practices before then were not conducive to a lasting environment (Theis & Tomkin, 2012, p. 6). Creating a practice of ‘sustainable’ forest management and land use, in general, is needed to promote development that meets the “needs of

the present without compromising the ability of future generations” (Theis & Tomkin, 2012, p. 6). The rise of sustainable development was then defined into three main considerations-- environmental, social, and economic (Giddings, Hopwood, & O’Brien, 2002, p. 189). The circles of sustainability, divided into 4 subsections (environment, social, political, and economics) provide the criteria and terms needed to measure sustainability as a concept and for implementation (James, 2015, p. 14). The circles of sustainability used by the United Nations envision the four sections as interconnected and should be understood holistically (James, 2014, p. 5). These parameters should be interconnected and are the foundations that should drive decision making for forest management and land use.

Decision-making, however, often falls under one or two pillars that have to do with economic development and social capital. Scholars have focused their recommendations on community-based planning for managing green spaces (Dalle, Pulido, & de Blois, 2011, p. 1558; Kangas 1994, p. 75). This would be beneficial, as there has been a movement in recent years from the view of nature in a utilitarian sense to placing nature as vital in one’s spiritual growth (Vaske, Donnelly, Williams, & Jonker, 2001, p. 762). In addition, more interest in nature as a form of recreational use has encouraged people, especially younger populations to move towards more ecological conscious solutions (Nielsen, Olsen, & Lundhede, 2007, p. 69). At the global scale, many countries such as China and Brazil are still using forests to live off of and boost their economies through the international markets of logging, mining, and agriculture (Yu et al., 2011; Araujo, Bonjean, Combes, Combes Motel, & Reis, 2009, p. 2461). Nonetheless, sustainable practices have yet to be implemented as a result of the poor management of forests. Forested areas have become scarcer--and in the United States, companies have had to look overseas to gain the products of this natural resource. Yet, forests and green spaces are desired in small pockets because of their beauty and the recreational use that they can provide to humans.

## ***2.2 Sustainability and Land Use in Higher Education***

Higher education institutions have continuously tried to work on sustainable policies and campuses because they are viewed as having a possible transformative role on global sustainability (Lang & Kennedy, 2016, p. 463). College campuses around the world have adapted and changed with people’s cultural and social values--more often than not leaning towards being aesthetically pleasing. While there is a small portion of college students that do not support their universities making sustainability a priority in their schools (Emmanuel & Adams, 2011, p.89), the larger student population are aware and becoming the main advocates for sustainable practices in ways that may decrease energy usage, carbon emissions, and water intake. In a university in Canada, for example, growing environmental consciousness and social responsibility has led to a series of changes including building new facilities to the Leadership in Energy and Environmental Design (LEED) standards (Johnson & Castleden, 2011, p. 354). On college campuses, the landscape is continuously changing to retain and attract faculty, staff, and students (Johnson & Castleden, 2011, p. 354). College campuses have been making strides in energy efficiency, water usage, recycling, and reforestation in order to be more sustainable.

However, universities’ administrations and their histories in designing campus layouts have had major consequences in how sustainable the institution can become in the future. The study by Johnson and Castleden (2011), indicated that an urban Canadian campus can be improved by “increasing native plant species, vegetation, adding community gardens and green spaces” (p. 359). In this case, the urban setting combined with the removal of the majority of the green spaces when designing the university has had lasting impacts which have to now been

remediated. Simultaneously with the literature aiming at collective participation in the creation or preservation of green spaces in agricultural fields and forests, many scholars shift their focus on the educational side of this. College students are the younger people who are experiencing this cultural shift of valuing nature for their personal growth and therefore should be involved in the decision-making and planning in their own campuses. Studies have found that planning by students significantly benefits the communities around campus and improve environmental performance (White, 2003, p. 353).

The majority of college campuses are moving towards sustainability goals, including carbon offsetting. Many universities have committed at different levels to the sustainable development goals that are proposed in the 1990 Talloires Declaration, which was the first official statement in the form of a ten-point action plan made by higher education officials to a commitment in incorporating environmental sustainability in their institutions (Finlay & Massey, 2012, p. 153). Since colleges resemble cities, they spend the majority of their planning on physically aesthetic work that includes, “landscaping, including parks, outdoor recreation facilities, garden plots, and tree-lined streets” (Finlay & Massey, 2012, p. 156).

### ***2.3 Land Use and Forest management in Central New York***

Universities in Central New York are located in more rural areas with plenty of green spaces and forested areas. Colleges and universities in this area subscribe to the beauty of nature surrounding it, especially for more rural setting ones. Unfortunately, it is more challenging for universities in urban locations to implement green spaces on campus, as in the case of Syracuse University. In order to promote more green spaces, Syracuse University has started a program where they preserve a part of their campus “forever wild,” meaning a space that is not mowed or touched (“Grounds,” 2017, bullet point 4). Just a short drive away, Hamilton College’s campus is proud of their “landscape preservation commitment” that started in 1850 where they promise to “encourage programs that preserve rare and threatened plants” among others (“Sustainability-Land,” n.d., paragraph 1). They have preserved an arboretum that showcases Central New York’s native trees and promotes a long-term stewardship of the environment.

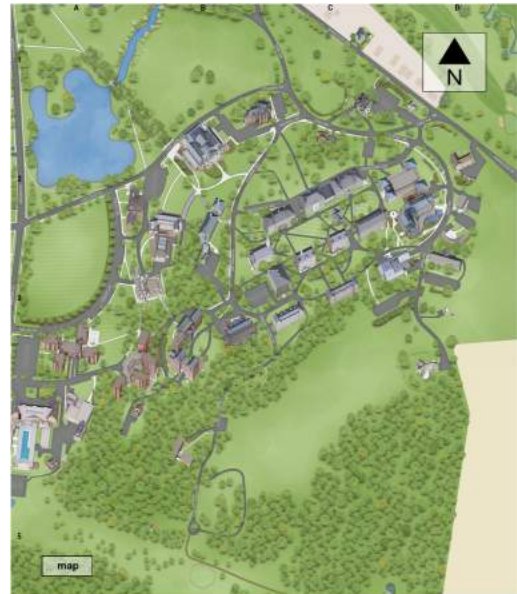
These sustainability principles were established recently in these colleges’ histories. Like Syracuse University and Hamilton College, Colgate University also has a commitment now to preserve and conserve the forested and open areas of campus that provide aesthetic value, revenue through timber and biomass energy production, ecosystem services and protects biodiversity (Forest and Open Lands Stewardship Plan, 2007, p. 2-3) However, the planning of the university was not always as environmentally conscious as it appears to be. In the late 1800s, according to Colgate University’s catalogues, a “developed” campus is described as one where the fields were graded to establish buildings, sidewalks, and sports fields over 200 acres (Colgate University, 1894, p. 66). Since then, the campus has shifted continuously, adding more “landscaping” trees—these did not mean self-sustained native trees, but rather exotic species for their beauty as seen in other New England universities. Today, the campus has grown in size to more than a thousand acres that include housing, academic buildings, sports centers, dining halls, and green spaces that have led the university to claim the title as the most beautiful campus according to the Princeton Review in 2015 (Yeoman, 2015). Changes towards a sustainable future were implemented starting in 2007 with the Forest and Open Lands Stewardship Plan that encouraged preservation and conservation of the forested areas and the implementation of sustainable uses of water and non-mowed areas (Forest and Open Lands Stewardship Plan, 2007,

p. 5). In addition, the Sustainability and Climate Action plan adopted in 2011 commits Colgate to the reduction and offsetting of greenhouse emissions (Colgate University, 2011). By taking steps to quantify Colgate's Forest's carbon sequestration, the institution has better knowledge of the contribution to climate neutrality efforts (Colgate University, 2013, p. 3, p. 22). Understanding the dynamics of land use and forest management in Colgate's history and the current efforts that the university is taking to promote sustainability practices in this sector are important to address the decisions that will shape the university in the future with the Master Plan that will change the physical campus.

### 3. Methods

#### 3.1 Scope of the Project

This paper is examining the questions: How has the Colgate campus changed throughout history in regards to forested areas and open lands? What were the social, economic, and environmental aspects that led to these changes? At what point were sustainability principles implemented in the decisions that led to the changes in forest management and land use practices? At what point were sustainability principles implemented in these decisions? In order to address the research question, methods of research and the synthesis of the data were developed. First we need to establish the scope of our project and define the area that our research question suggests as 'Colgate's campus'. Our scope is restricted to the hill: from Broad Street to the ski hill and cross-country trails. We included mowed areas like the academic and residential quads and the area around Taylor Lake, unmowed areas like the Ski Hill and cross-country trails, and areas that receive some manicuring but are largely left to nature. We chose this area because these are the areas most students interact with throughout their four years. Colgate is often symbolized by our hill and it is a nostalgically significant visual for current students and alums. The notion of the hill is a fairly romanticized tradition that situates Colgate as the nucleus in the center of rolling fields and woods and is something students have identified with since Colgate moved up the hill in the 1820's (Williams, 1969, p. 29). Additionally, these areas are most subject to change given the new Master Plan to be executed in the next couple decades. Temporally, the scope of the period we considered in this research spans Colgate's history from its foundation in 1819 to the present. Though some time periods have more significant events than others, we have considered data from the entirety of Colgate's history.



[Figure 1: Scope of Campus (Colgate University)]

#### 3.2 Sustainability Criteria

Our first task to resituate our project within the contemporary conversation about sustainability in land use and forest management was to define a method with which we would use to synthesize the data that we collected. Our foundation is based on the contemporary definition of the term 'sustainability' by the Brundtland Commission in 1983 which states that

sustainability meets the “needs of the present without compromising the ability of future generations” (Theis & Tomkin, 2012, p.6). Within this definition, we are using a three-pillared approach, which function as categories for our data. The criteria for our pillars—social, economic, and environmental— manifested with two approaches: using literature to identify key terms used to categorize each pillar and using the emergent theory to define some characteristics of the pillars within the data we collected. We consulted the Circles of Sustainability method to help define some initial descriptors of our pillars. Social criteria were defined as cultural or traditional customs, equitable labor, and quality of life; the economic criteria were defined as income and budget; and the environmental criteria were defined as increased biodiversity, water and air quality, and carbon footprint (James, 2014, 160).

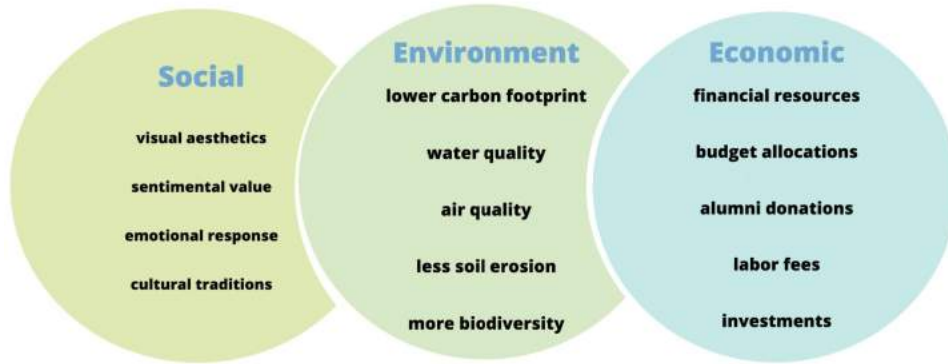
We also decided to supplement this approach with a bottom-up emergent theory method. The emergent theory is a method that is established through the process of research and defines constructs as research is conducted (Eisenhardt, 1989, 536). As a research question is subject to development over time, we felt it was vital to utilize the emergent theory to define new constructs in our sustainability pillars.



**[Figure 2: *The Three Pillars of Sustainability*]**

The criteria that were established by this iterative process includes aesthetics as a sentimental value within social, financial contributions or donations from alumni within economic, and soil erosion within the environmental pillar. Each of these criteria was chosen by the frequency and importance with which they were raised in our research and have been included in their respective pillars. By combining a top-down and bottom-up approach we feel that we are able to more confidently answer our research question and define the story of sustainability at Colgate.





[Figure 3: Sustainability Criteria: Social, Environment, and Economic]

### 3.3 Consulted Resources

Since the research question spans the entirety of Colgate’s existence, there is a need to acquire archival sources as well as contemporary, electronic sources. We initially approached the archival research by looking for sources that refer to keywords like:

Forest	Maintenance	Grading
Land use	Grounds	Replanting

We also looked at sources with key people and places, such as:

Samuel Payne	Willow Path
Taylor Lake	Olin Life Science Building
Seven Oaks Golf Course	Cross Country Trails

The archives we found most useful for visual data are the boxes in Buildings and Grounds (A1000), including images of: Willow Path, Taylor Lake, Olin Life Science Building, Academic Quad, and aerial views of campus. The most useful printed archival information was the Board of Trustees Minutes Collection (A1001). Within the minutes, updates on the campus are given yearly as well as any mention of alumni donations or shift in landscape. As far as archival data, not much was available that explicitly addressed land use and forest management so it was vital to consider lack information available as data as well.

The electronic resources we used provided more contemporary knowledge of Colgate’s land use and forest management. Within the electronic archives, we consulted official documents from the school like the Forest and Open Lands Stewardship Plan, Colgate’s Forest Carbon Inventory and Projections, and Colgate’s Sustainability and Climate Action Plan. Other documents listed in the literature review helped with the analysis of our data. Additionally, an electronic book entitled *A History of Colgate University 1819-1969*, by Howard D. Williams, was consulted as well.

Finally, the third source of information came from interviews conducted with Colgate faculty and staff. The interviews conducted were done so with the consent of the interviewee's information to be included in this report with one of their identities were abstained. The three interviews were conducted separately for a half an hour each. The questions we posed are indicated in the appendix. The interviews of those who consented to their identities being revealed are as follows:

- Bob McVaugh – Mayor of Hamilton
  - Topic: History of Colgate's land and its relationship to Hamilton.
- John Pumilio – Colgate Sustainability Director
  - Topic: Sustainable land use and forest management practices at Colgate.

## 4. Results

### *4.1 Early Land Use and Forest Management*

Our interview with the Mayor of Hamilton and professor of art and art history, Bob McVaugh, provided us with useful historical information to help piece together our timeline. Addressing the question of how Colgate University and the village of Hamilton have historically been connected by land use, McVaugh commented:

“In 1819, the villagers offered the Baptists [The Baptist Education of the State of New York] \$6,000 to locate their Literary and Theological Institution in Hamilton, instead of Skaneateles. The Hamilton Literary and Theological Institution, which was one of the predecessors to Colgate, began at the corner of Pleasant Street and Broad Street. Then it relocated to Hamilton Street, and only came up the hill in 1826, six years after. It literally began in the village and then it moved out of the village” (B. McVaugh, personal communication, April 4, 2017).

In the archives, we found details about the construction of both West Hall and East Hall dormitories in an archived letter written by Howard D. Williams in 1954 (Figure 4), which also mentions the construction dates – West Hall in 1827 and East Hall in 1834 – and notes the purchase of the Payne family farm in 1826, upon which the dormitories were built. This finding solidifies McVaugh's comments about the movement of the campus up the hill and the accompanying dates (Figure 4).

18 July 54

From: H.D.W.  
To: Mr. Littlefield  
Re: West & East Halls

West Hall built 1827 by Daniel Hascall for approx. \$6,500. Hascall, one of the Thirteen Men, & 1st teacher, was man of great energy, versatility, & determination. In addition to teaching, he was pastor of the First Baptist Church, drew plans for the building, supervised the workmen, collected the funds (contributing \$100 himself), boarded the students, & ran the farm which the Baptist Education of the State of New York had acquired from Samuel & Betsey Payne in 1826. Story is told that he would sit in classroom window of West & hear recitations of students while directing workmen outside.

In 1867 building was repaired to the extent that a part of the old chapel was converted into student rooms & the remainder fitted up for instructional purposes & for a student organization.

Plans for renovation approved in 1910. Charles A. Rich, NYC, architect. Edward K. Fenno, Syracuse, contractor. Work done in conjunction with that on East Hall & completed in 1911. Cost \$40,000.

East Hall built 1834 for approx. \$6,000 to provide dormitory & classrooms. Deacon Seneca B. Burchard, Treasurer of the Baptist Education Society of the State of New York, supervised construction, bought the materials, & collected funds. Student contributed considerable labor.

Plans for renovation approved in 1910. Rich the architect & Fenno the contractor. Work done in conjunction with that on West Hall. Work begun in spring of 1911 & building ready in Jan., 1912. Cost was between \$58,000 & \$60,000.

[Figure 4: Williams, H. D. (1954, July 16). West and East Halls [Letter to Littlefield]]

McVaugh also noted that the relocation of campus onto the hill separated the land use of the village and University and that, “Up until the 1880s it was seen as being in the country, the phrase that was usually used was, ‘a half-mile outside the village’ and was not seen as a village institution” (B. McVaugh, personal communication, April 4, 2017).

In the archives, the earliest direct mention of forest management and land use at Colgate University we found came from a Board of Trustees minutes in 1851 (Figure 5). The findings from the document revealed that after the institution was established, student labor was used to cost-effectively manage the University’s grounds for the first twenty years.

*Rem. 2d.* Considerable labor has been expended for a space of twenty years, mostly by students, in grading, planting trees, making side-walks and roads, turfing, &c., which would cost a large sum if the grounds, were to be now selected, and the same done by hired labor.

[Figure 5: “Madison University: Its Property and Prospects.” 1851, Board of Trustees Minutes A1001]

#### 4.2 Frederick Law Olmsted:

Some of the most significant early changes in Colgate’s land use and forest management came from the suggestions of the legendary landscape architect, Frederick Olmsted. During our interview, McVaugh stated:

“[Frederick] Olmsted’s visit in 1883 was crucial, because before 1883 the campus oriented East-West on the hill, with college street as a boundary, and a swamp between the hill and College Street. The Colgate Academy, built in 1872, was located between College Street and the swamp. Olmsted used the Academy to orient the campus South-North, which has been the primary focus for the last 150 years. The Academy was set along the only trail that ran through the swamp and up the hill, which would later become Willow Path.”(B. McVaugh, personal communication, April 4, 2017).

McVaugh credits Olmsted for the distinctive park-like features of Colgate’s grounds:

“I know of no other college, and I’ve been to many, with a similar park-like front yard as the intervening between the academic zone and the community. But this idea that there’s an intervening park is almost unique, I know of nothing comparable, and that is, in many ways, the legacy of Olmsted.”(B. McVaugh, personal communication, April 4, 2017).

In Howard D. Williams’ book, *A History of Colgate University 1819-1969* (1969), we found a passage (below) that further details Frederick Olmsted’s visit to Colgate in 1883. Our findings indicate that Olmsted might not have sketched out a plan for Colgate’s grounds, but rather gave suggestions for layout improvements which were later implemented by Professor Taylor. The passage also solidifies our findings of student labor being utilized for the upkeep of grounds. Furthermore, the excerpt reveals that Irish immigrants were employed as janitors and groundsmen to manage Colgate’s campus, marking the origins of what would later become the buildings and grounds department.

In the fall of 1883 James B. Colgate brought the designer of Central Park in New York and Prospect Park in Brooklyn, the eminent landscape architect, Frederick Law Olmstead, to the campus and they, with President Dodge, and presumably Professor Taylor, spent a day walking over the grounds to locate projected buildings and lay out improvements. The celebrated visitor was reported as “quite enthusiastic” about the picturesque site of the University. No plans drawn up by Olmstead have been found but Taylor acted on some of his recommendations in laying out paths and roads, grading, and planting trees. Students organized by classes contributed a good deal of the labor and for this purpose were given holidays in the spring and fall. Since many had grown up on farms they were not unused to planting or felling trees, digging stumps, or drawing stone. Additional labor came from the Irish immigrants who were being hired as janitors and groundsmen, the best known of whom, Lant Gilmartin, became head janitor in 1888. For many years he was Dr. Taylor’s “right hand man,” a distinc-

[Figure 6: Williams, 1969 (p.179)].

### 4.3 Willow Path and Taylor Lake

The next notable change in land use and forest management came during the last decade of the nineteenth century, with the creation of Willow Path and Taylor Lake. As our previously mentioned findings from McVaugh explained, there was one walking path, which would later become Willow Path, that connected the Academy with the rest of campus. When Colgate University arranged its sewer lines, a sewage pipe was put in place along the path to connect the Academy to the rest of the system. McVaugh added that:

“In 1893, when Colgate set up its sewer system, it connected pipes from buildings up the hill and the Academy at the bottom of the hill, which led to a leach field on Whitnall Field. The pipes were laid out along Willow Path, which was then filled in and graded, in order to run the sewage out to Whitnall Field.”

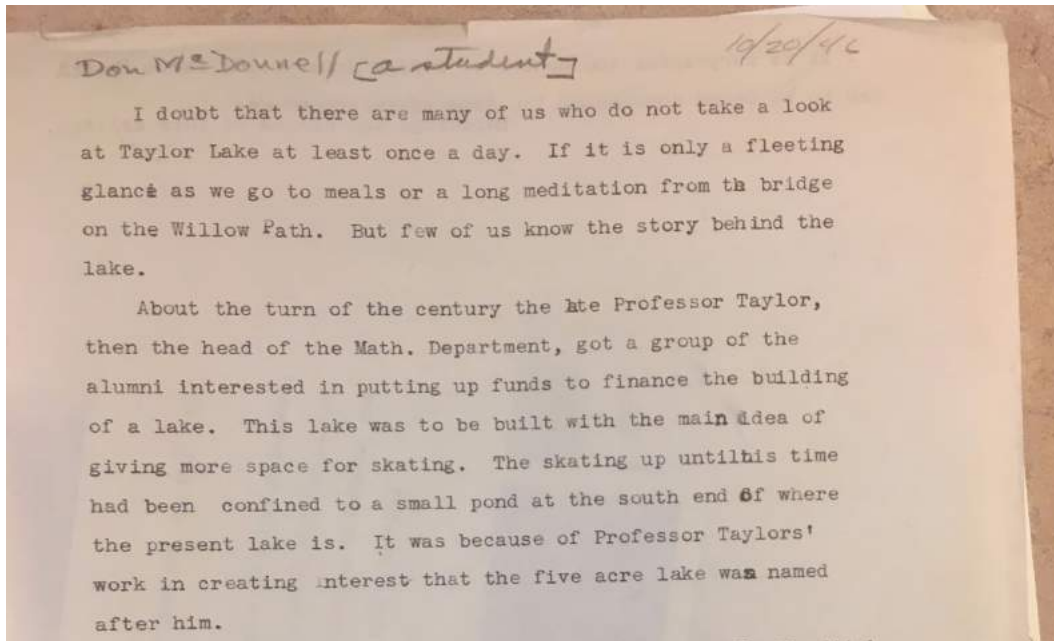
Another finding from Williams’ book, *A History of Colgate University 1819-1969* (1969), shows that Professor Taylor began draining the swamp at the bottom of the hill around the same time as the sewage system was being installed. The mud that was dredged from the swamp was used to cover the sewer pipes and grade the path, which was then bordered with willow trees, hence the name Willow Path.

Taylor Lake and the Willow Path, which are among the most distinctive features of the Colgate landscape, may be said to date from 1905 though early in the '90's Professor Taylor had begun to drain the swamp area between the foot of the Hill and the Academy and convert it into a lake. Gifts from Hendrick S. Holden of Syracuse enabled him to bring his plans to fruition. Under the immediate supervision of the faithful Lant Gilmartin, a crew of Irish workers, armed with shovels and horse-drawn scoops, dug out the wet clay and spread it along a path over a sewer pipe which connected the Academy with the campus sanitation system. To relieve the bareness of the resulting embankment Dr. Taylor planted golden Russian willows, an

inspiration which came to him from seeing Addison's Walk at Oxford, his daughter recalled. In appreciation of his skill and toil, the Trustees named the lake for the builder whose memory it fittingly perpetuates.

[Figure 7: Williams, 1969 (p.247)]

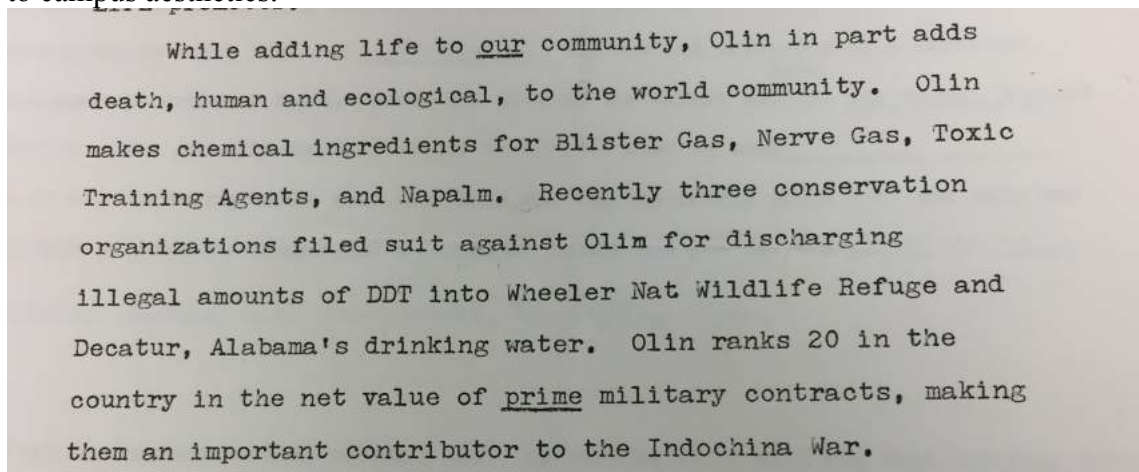
In the Buildings and Grounds (A1000) archives we found a report from 1946 on Taylor Lake (Figure 8) that presents more background information behind Professor Taylor and the lake. We discovered that the lake was constructed with the goal of creating more space for ice skating, and Professor Taylor acquired the funds to build the lake from an interested group of alumni.



[Figure 8: Taylor Lake, 1946. Buildings and Grounds A1000]

#### 4.4 Olin Life Sciences Center

In the 1960s Colgate University received funds from the Olin Foundation to erect a new academic building dedicated to life sciences. In our findings, we discovered that the construction of Olin Hall created controversy on campus due to two issues; the questionable nature of the Olin Foundation, and the slated demolition of the old biology building, Hascall Hall. An archived awareness statement from the Colgate Student Mobilization Committee in 1970 (Figure 9) shows the student's concern with the Olin Foundation's ties to chemical weapons, which "adds death, both human and ecological, to the world community" (Buildings and Grounds A1000). This was the first example we found of the Colgate community advocating for ecological issues not related to campus aesthetics.



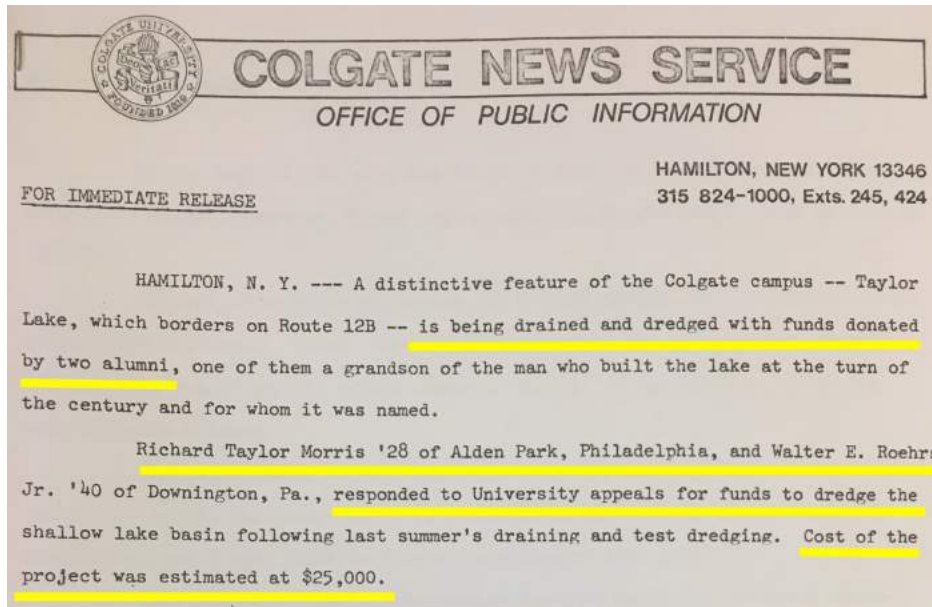
[Figure 9: Student Mobilization Committee on the Olin Dedication, Buildings and Grounds A1000, 1970]



#### 4.5 Preserving the Tradition of Aesthetics

Our research on Taylor Lake and Willow Path suggests that they both seemed to create a new standard for the tradition of beautiful aesthetics at Colgate University. The two additions quickly turned into icons of the Colgate campus and were venerated by the faculty, students, and alumni. The Colgate community had such strong bonds to Taylor Lake and Willow Path that they revolted at the thought of changing the grounds and consistently provided funding if needed. For example, we found a newspaper article from 1971 that told the story of two alumni

responding to Colgate's request for financial aid to dredge Taylor Lake (Figure 10).



[Figure 10: Colgate News Service, 1971 Collection A1000.]

#### Willow Path:

Willow trees have a relatively short lifespan, especially when facing the harsh weather in Hamilton. Over the course of the twentieth century, the willow trees along Willow Path matured but many of the trees were damaged by storms, as shown in Figure 11.



[Figure 11: Willow Path, 1980. Buildings and Grounds A1000]

Another finding from the Buildings and Grounds (A1000) archives was a 1989 Colgate Maroon news article (Figure 12), which depicted the troubles with the willow trees and the Campus Planning of Physical Resources Committee's decision to slowly replant Willow Path with beech trees instead of willow trees.



[Figure 12: Romley, 1989. A1000]

However, the Colgate faculty, specifically Professor of Biology and Botany, William Oostenink, ensured that the removal of willow trees from Willow Path would not come about. We found a letter (Figure 13) written on January 16th, 1989 by Professor Oostenink to President Grabois regarding the decision to plant beech trees in lieu of willow trees. Professor Oostenink acknowledges the strong appreciation of tradition at Colgate, identifying himself and most of the community as those who are "unapologetically traditionalists" and expresses his disapproval of the plan (Oostenink, 1989, Figure 13). Furthermore, Professor Oostenink denounces President Grabois as lacking a sense of tradition, and criticizes the administration for not consulting with any of the four botanical experts in the biology department.

Driven by his strong ties to Colgate traditions, Professor Oostenink led the charge to make certain that Willow Path would remain lined with willow trees, not beech trees. We found an old student news article (Figure 14) from The Open 'Gate that describes Professor Oostenink's success in procuring replacement willow trees and sustaining the tradition of Willow Path. The article was released on April 28th, 1989, which shows that Professor Oostenink was able to resolve the decade-long issue of finding a similar genus of willow trees in less than four months (Figure 13).



Department of Biology  
 (315) 824 1000 ext. 347

TO: President Graboia  
 FROM: W. J. Oostenink  
 DATE: January 16, 1989

Stories continue to circulate that one of the most revered campus landmarks, the willow path, is about to be destroyed. I do not know what action concerning this matter, if any, may have been taken by the trustees at their recent meeting. Rumors, however, abound. The essence of these rumors is that the existing willows are to be replaced by a new planting of beech trees. Various reasons for this move are given. Among the more credible: (1) the existing willows are near the end of their normal life span and are now shedding so much debris as to pose safety and maintenance concerns; (2) supposedly, the species of willow currently lining the path is difficult, if not impossible, to find in nursery stocks, and (3) even if identical species were to be found, willows are inherently messy, requiring constant expensive attention to the leaves and branches they are prone to drop. Now that the existing willows need to be replaced, it would be desirable (so the reasoning goes) to replace them with members of a genus that would be less costly to maintain.

Whatever the truth of any or all of this may be, it seems obvious that something is afoot. I have two concerns about the matter which I would appreciate your addressing. (1) I am mystified by the fact that as the Administration, on the one hand, prepares to spend several millions of dollars to provide renovated and additional facilities for the Department of Biology, it, on the other hand, thinks so little of the professional expertise available within that department that none of the four botanists on our staff have ever been approached for comment or advice on a willow replacement project. (2) You have indicated to me in conversation that you are not especially tied to or moved by tradition. I wish to gently remind you, however, that there are many of us currently on campus, and a great many more among the alumni and friends of the University, who derive deep satisfaction from the traditions and symbols which help us all as individuals to identify with the community the University represents. Certainly one of the more popular of these symbols has been the willow path. Frankly, for those of us who are unapologetically traditionalists, the idea of a "beech path", to use the student vernacular, just doesn't make it.

Recognizing all too well that the only constant in life is change, and that even campus landmarks have finite life spans, may I never the less respectfully urge you to do everything possible to maintain the essential character of a cherished campus feature. KEEP IT WILLOW the bumper stickers should read.

My botanical colleagues and I would welcome involvement in this and any other projects involving the vegetation on campus.

[Figure 13: Oostenink, W. (1989, January 16)]

**WILLOW PATH UPDATE**

The planting of Beech trees was proposed for the Willow Path to provide a longer life and less damage-prone tree to replace the over-mature and decaying Willows. Part of this proposal was based on unsuccessful attempts both to grow identical Willows from cuttings and to locate a similar upright Willow to blend into the Willow Path.

Thanks to the dogged efforts of Bill Oostenink, an upright Willow similar to our existing Willows was located on a tree farm in Maryland. To accommodate the desire of all at Colgate to retain the "Willow" in Willow Path, the decision was quickly made to obtain these Willows.

Twenty-five trees were planted along Willow Path during spring break. Howard Williams, Professor of History Emeritus and University Archivist Emeritus, his wife Elinor, and Bill Oostenink, Professor of Biology, were present for the planting of the first of these new Willows. The Willow Path will remain.

[Figure 14: The Open 'Gate, 1989]

#### 4.7 Contemporary Colgate

In 2007, Colgate initiated the "Forest and Open Lands Stewardship Plan" which detailed the future of Colgate's forested and open areas. The report outlines Colgate's goals to enhance their academic mission, provide aesthetic value and recreational opportunities, provide revenue from timber and biomass energy production, provide ecosystem services that result in clean air and water and healthy soils, and finally protect the diversity and health of plants and animals that inhabit the forested areas of campus ( Colgate University, 2007). In 2008, the Colgate Office of Sustainability was created along with the hiring of John Pumilio as the Director of Sustainability. The office began hiring student interns to promote sustainability initiatives and culture on campus.

In 2011, "Colgate University released their Sustainability and Climate Action Plan" which boldly announced their goal to achieve carbon neutrality by 2019. The report outlines a clear plan as to how the school will lower their footprint via institutional initiatives on campus as well as a carbon offset purchasing plan (Colgate University, 2011).

## 5. Discussion

### 5.1 Social Pillar

In assessing the story of Colgate's campus through a three-pillar lens, we found that the majority of events and data we collected were socially driven. Our social pillar involved the criteria: aesthetics as a sentimental value, cultural or traditional customs, equitable labor, and the quality of life for students. In the written archival data, there were many keywords used to describe the nature of the campus. Words like "beauty", the romanticized notion of "rural", and "lush" were used to speak about the natural spaces like Taylor Lake, the Hill, and Willow Path (Board of Trustees Minutes, 1930). The continual use of these words in many archival documents suggests a strong aesthetic value in these spaces. The vast amount of visual archival data punctuates aesthetics as the main consideration in land use decisions. The visual components of Colgate's campus have been a source of pride long before the Princeton Review named the school as the most beautiful campus in 2015 (Yeoman, 2015). As a result, decisions to preserve the beauty of the campus outcompeted more environmentally or economically friendly decisions. The creation of Willow Path in the early 1900's and the insistence of Professor Taylor that the path be lined in Russian willow trees inspired by Addison's Walk at Oxford indicate a great amount of weight put into this criteria (Williams, 1969, 248). Though the species of tree is not native to the area and requires much attention as a result, the decision to mimic the aesthetic beauty of a walk at Oxford indicates social as the more weighted pillar in the earlier time period. After the 1970s, the necessity for more academic space arose and the construction of Olin raised some concerns from the community. Though some concerned for the flora of that area, most concerns were that the new science building would block the views of a rolling hill north of campus (Student Mobilization Committee on the Olin Dedication, Buildings and Grounds A1000, 1970). Again, in the early 2000's we see the same instance occur with the creation of Persson (McVaugh, personal communication, April 4, 2017). Though there needed to be more space for academic purposes, the creation of Persson Hall was initially protested because it would block the beautiful view of the Hill (McVaugh, personal communication, April 4, 2017). These concepts of 'view' and 'beauty' all point to aesthetic qualities being an influential criterion for the changes in the landscape at Colgate.

Cultural or traditional customs at any place of higher education will naturally develop over the years of its existence. Colgate has cultivated some strong traditions, particularly within its landscape. The mere existences of Willow Path, Oak Drive, Taylor Lake, and the Hill have become cultural icons for Colgate's campus. The cultural significance in these areas as a driving factor in land use and forest management decisions, contributes to the weight of the social sustainability pillar. One early example of this criterion being influential begins with the decision to move up the Hill after Frank Olmstead's visit in 1883 (McVaugh, personal communication, April 4, 2017). Since that moment when the campus began to orient itself North-South rather than East-West, the notion of the Colgate Hill was born. That moment would lead to a variety of land use decisions to preserve the concept of the hill. As previously mentioned, the tradition of the Hill was heavily considered in any new development on campus. The landscaping was also encouraged to help Colgate's campus to 'fit into' its surroundings (Buildings & Grounds, personal communication, March 31, 2017). Another example of tradition lies in the creation and preservation of Taylor Lake. The purposes of Taylor Lake, as previously mentioned, were to be an aesthetically pleasing component to campus and to provide more area for students to ice-skate (Figure 8). Given the creation of the lake ensued, it is fair to argue that ice-skating was a culturally significant reason to invest time and money into the creation of Taylor Lake. From that

point forward, the lake became a tradition for Colgate students and is a permanent fixture on the landscape. In 1971, Taylor Lake needed to be dredged due to improper irrigation and build up from increased soil erosion. Though it required economic resources to fix and took a toll on the health of surrounding flora, Colgate stakeholders decided it was culturally significant enough to insist it be fixed. This decision is a major indicator that the tradition criterion within the social pillar was the driving force for Colgate's land use decisions at the time. A later example of this criterion guiding land use decisions is when the Russian willow trees along Willow Path were dying and the school proposed to replant the path with Beech trees. The species of Beech tree they proposed required less maintenance and are more native to the area. However, this incited an outcry from the community and a different type of willow tree was found to replace the dying Russian willows (Figure 11). This plan was less economically and environmentally driven but preserved the social quality of traditions on Colgate's campus. This criterion's influence persists today as the Willow Path and Oak Drive areas are required to remain the same and contain their respective types of trees (Buildings and Grounds, personal communication, March 31, 2017). These results reflect the value of cultural symbolism and aesthetic for college campuses, where the landscaping of a campus can be used to "attract and retain faculty, staff and students" (Johnson & Castleden, 2011, p. 354). A study on a Canadian university found that students were for sustainable practices, but were not willing to change certain landmarks around their campus (Johnson & Castleden, 2011, p. 359). Colgate's landmarks like Taylor lake, the Hill, and Willow Path are some of the key important sites in the university that are meant to draw people in, without thinking or making any mention of the environmental and economic aspects.

A third criterion of the social pillar refers to equitable labor. Labor on Colgate's campus also has a foot in the tradition criterion as well, as students worked the lands and built some campus buildings for a physical education requirement up until 1876 (Williams, 1969, p. 87). This labor led to the creation of East and West Halls and as a PE credit was seen as an equitable labor source for an adolescent Colgate. As time progressed, groundskeepers and Buildings and Grounds salaries are expressed in the budget allocations since the move from student-laborers to hired workers (figure 5). Though no information is included on the type of workers hired, there is a steady amount of money allocated to these areas. Currently, the members of Buildings and Grounds and their hired workers are mostly from the surrounding area and have education or degrees in landscape maintenance (Buildings and Grounds, personal communication, March 31 2017). A study in a U.S based university showed that students preferred physical activity when their environment was aesthetically pleasing and was accessible at a shorter distance (Peachy & Baller, 2015, p. 339). The results from on-campus residents in Colgate's early years, reflect this finding--students preferred to do physical activity if it was in an aesthetically pleasing space, of which Colgate's campus would later become. This trend of responsible and equitable labor fit into the criteria of the social pillar and show it is a consistent priority with the landscape.

Lastly, our final criterion for the social pillar is quality of life for students. As previously mentioned, the instigation of some features on the landscape like Taylor Lake were solely created for the improvement of student life. Apart from the lake being used for ice-skating, there are other outdoors opportunities on Colgate's campus that have endured from their creation to improve the quality of life for students. The ski hill, once actually used for skiing, and the cross-country trails on upper campus are two examples of landscape features created around the early 1920's to improve student life (Williams, 1969, p. 309). Another example of this criterion pushing the social pillar to the forefront came the decision to remove parking from the top of the hill in 1936. Though related to the aesthetic criterion, the minimization of parking on campus

was also meant to benefit student health and the atmosphere on campus (Parking regulations, 1936; supplementary). As time generally progressed at Colgate, students and alumni became more invested in the landscape. Students and alumni were increasingly important stakeholders in the land use and forest management decisions on Colgate's campus (McVaugh, personal communication, April 4, 2017). With this in mind, students considered their quality of life to be intertwined with the aesthetic quality of campus and the maintenance of traditions. This criterion flows neatly back into the other social criteria and reinforces it as one of the driving pillars in land use decisions at Colgate throughout its history.

## ***5.2 Economic Pillar***

Through our research we discovered that, along with the social pillar, economic factors influenced many of the decisions that spurred change in the land use and forest management at Colgate University. Our economic pillar involved the criteria: budget allocations, socio-economic income from land use and financial donations from alumni. In the early development of Colgate, the University's budget was relatively low and student labor was utilized for the construction of buildings and the maintenance of grounds (Madison University budget, 1851, Figure 5; Williams, 1954, figure 4). This economic decision saved the University a considerable sum of money, as depicted in Figure 5. However, as the student body began to increase, consequently Colgate's income increased, allowing for a greater allocation of funds towards the care of grounds. A budget report from 1928 to 1929 school year shows that Colgate spent \$24,000 on labor and the maintenance of grounds (Budget 1928, supplementary). While \$24,000 pales in comparison to Colgate's contemporary spending on land use, this was a significant sum in the 1920s. According to the 1928 budget report, the department of labor and grounds maintenance received the third largest allocation of funds, right behind spending on energy and faculty salaries (Budget 1928, supplementary). This indicates that throughout its history, Colgate has placed great economic importance on the care of grounds and the aesthetics of campus.

The second criterion for defining the economic pillar is the income gained from Colgate's land use and management of forested areas. Economic profits acquired from the aesthetics of Colgate's grounds provides a model of an overlap between the social pillar and environmental pillar, which is defined as socio-economic development. Although we were unable to find any archival documents containing discussions that specifically stated the reason for Colgate's investments on the care of grounds, by processing this lack of information as data in combination with budget reports and board of trustees minutes, has allowed us to make an educated assumption on the decisions behind the land use funding. Thus, we've theorized that Colgate invests heavily in the maintenance of its grounds with the notion that a beautiful campus will attract prospective students, which will create a return on investment from the tuition of incoming students.

Finally, our third criterion for the environmental pillar is financial donations from alumni. This last measure relies heavily on tradition and the sentimental value generated by the beauty of Colgate's grounds. Having an aesthetically pleasing campus, with iconic visuals such as Taylor Lake and Willow Path, fosters sentimental value to the University's alumni, which entices greater alumni donations towards the management of grounds in order to sustain the beauty of Colgate's campus. During our research, we have discovered that the alumni have strong sentimental ties to the aesthetics of Colgate's campus. As shown by the alumni funded dredging of Taylor Lake in Figure 10, Colgate alumni are deeply concerned with the upkeep of campus grounds and often express their appreciation through generous donations towards land

management. Another example is the alumni tree planting donation in 1975, in which the Colgate alumni funded the replacement of all the dead and unhealthy trees on campus (Ryder, 1975, supplementary). This last criterion, financial donations from alumni, is rooted in the second criterion through sentimental encouragement of an aesthetic campus, while simultaneously contributing to the first criterion by increasing budget allocations towards the maintenance of grounds.

### **5.3 Environmental Pillar**

In the early time periods of the university, Colgate's administration was not focused on environmental ideals in decision-making. The first criterion for environmentally conscious decisions is an interest in increasing biodiversity, which was not a factor in any of the decisions made on land use until recent years. There was an interest in the preservation of the beauty of the species of plant, rather than thinking about the ecological impacts that the species would have in this harsh environment. This is evident in the construction for Willow Path where the initial willows planted were not adequate to survive the arduous conditions of Hamilton's climate. This is congruent with the discussion of college campuses around the United States that, "Despite the prevalence of aesthetic landscape concerns, there is only limited evidence to suggest that environmental objectives are frequently a guiding focus of the campus master planning process" (White, 2003, p. 346). Many colleges prioritize aesthetics and views over the need for biodiversity. In the late 1960s, when the administration sought to fix this problem, there was uproar about preserving "willow path" with willows as opposed to the proposed Beech (Figure 12). The insistence that we use certain species for their name or for their looks can be problematic because the consequences that using, for example, the initial species of willows can lead to a hazardous environment for students constantly walking by if the trees are constantly falling apart as a result of storms, or the proposed beech which can quickly become native, invasive species in Central, NY. It has only been since 2009 that Colgate started prioritizing biodiversity and the need for green spaces. Buildings and Grounds (B&G) mentioned that the department is aware of the diversity of the species of trees and are doing all they can to preserve them whether it be through selective logging or assessing the environment for any specific species that might want to be planted (Buildings & Grounds, personal communication, March 31, 2017). However, they also have to meet the administration's demands when it comes to planting and maintaining the land. The involvement of sustainability and thinking green is beneficial for the work that the department of building and grounds do and to have a minimized impact in the existing ecosystem ecology on this campus.

Having a "Lower Carbon footprint" is a recent idea that has evolved with the discussions of climate change. It is not surprising that movements to lower the carbon footprint at Colgate University were implemented after the Sustainability office was created. There are no mentions in the archives at any of the early to mid years of Colgate history. This finding is congruent with the existing literature on sustainability programs in higher education. The development of the term itself in regards to higher education dates back to the late 1990s, where universities globally started to implement environmental programs for the energy sector (Roy, Potter, & Yarrow, 2008, p. 4). At Colgate, the carbon neutrality agreement adopted in 2011, has held the university accountable for not only reducing carbon emissions, but also offsetting these emissions by planting the equivalent in Patagonia Sur (Colgate University Sustainability and Action Climate plan, 2011). In addition, the creation of the Willow Plot, while not on the traditional "hill," has decreased Campus' yearly carbon emissions because they are used for the

wood-fired boiler that was estimated to “yield about 900 dry tons of biomass” (DeVries, 2013, paragraph 4). Agreements such as these and the efforts of the sustainability office has made Colgate’s administration strive for more environmentally conscious solutions for the future of the university’s forest management and land use.

While the third criteria for environmentally conscious decision making includes bettering the air and water quality, this is not shown in much of the data gathered. The archival data indicated that there was no move on the university’s part to have a better air and water quality, although there were student movements and indirect measures that would lead to a less toxic air and water on campus. The reductions of carbon emissions throughout the years, especially after 2009, indicated that Colgate was invested in creating an overall better space for its students.

A key environmental criteria is having less soil erosion on the landscape and forested area. Essentially, soil erosion occurs when the soil has no nutrients and turns into sand. Soil erosion can occur as a result of deforestation and running water. According to the grand projects made by the administration at Colgate such as Taylor Lake, it seems as this part of the environmental criteria was not reflected in the decisions. After the dredging of Taylor lake in 1910, its banks continue to expand even today, as a result of soil erosion. Multiple flooding throughout the academic year does not help the already weak and nutrient-less soil, which then decreases its biodiversity and richness. While the creation of Taylor Lake was student driven to have more spaces to ice skate in the winter (Student, 1946), the ultimate decision came from the administration resulting in the ecological consequences we see today--i.e. Soil erosion, eutrophication, invasive species, among others (Class discussion, Jan. 26, 2017). This decision further reinforces that the environmental pillar of sustainability was not a factor in the first 100 years of Colgate’s existence. However, there has been a change in the way that Colgate views its property in recent years. Buildings and Grounds mainly envisions the Colgate “hill” as being modeled after the rest of the Madison Valley (Buildings & Grounds, personal communication, March 31, 2017), which means having a lot of green space and being surrounded by forest. One of the ways that the department of B&G helps to conserve soil is through the practice of selective logging, in which they log only old-age trees or unhealthy trees to open the canopy and allow saplings to grow. While their main concern is to minimize their impact in wild areas and having un-mowed areas, B&G works on projects that revitalize the forest as a whole, including the forest and reuse the old wood that they have gained from the logging. Studies and surveys have shown that there is a higher concern for forestry and wildland preservation as younger urban dwellers have shifted their interests from utilitarian beliefs to associating nature with more spiritual and ecological growth (Vaske, Donnelly, Williams, & Jonker, 2001, p. 762). Sites on campus such as the Old golf Course, the cross country trails, and the ski hill has predominantly been left “wild” and B&G have had a minimized ecological impact because they are where students chose to take walks, meditate, and be one with nature.

The establishment of Olin Life Science building was the first time that ecological consciousness was mentioned. In 1970, the Colgate Student Mobilization Committee dedicated the new biology building that was named after the Olin foundation who had donated the money for construction. The student committee was intentional in their words that they say, “Man must decide now to use his technological knowledge to benefit mankind instead of destroying it” (Colgate Student Mobilization Committee, 1970; figure 9). They were reacting to the toxic chemical spill on water systems in Alabama and wanted to enforce the importance of this new building as a life science building. In addition, even though the administration did not have a

clear sense of ecological or sustainable goals in the mid 1970s, there was a report on the planting of a field of trees in between West Hall and Andrews Hall. It was a call to replace some 31 trees that were removed due to old age (Ryder, 1975, Supplementary). While this decision was primarily driven by alumnus donation, it was an initiative to reforest some of the land that had been cleared, which is a representation of the changes of the ideologies regarding the importance of trees and tree planting. Simultaneously, it is no surprise that the roots of the environmentalist movement were taking place all over the nation. The social movement on the environment in the United States was then reflected on public policy that was passed (Agnone, 2007, p. 1594), which reflects students' perceptions on campus at this time. The year of 1970 was essentially the pivotal point that changed Colgate's decision making track to a more ecological friendly one, that then turned into a more sustainable one.

## **6. Recommendations**

### ***6.1 Continue current sustainable practices***

This research comes at a significant point when Colgate is simultaneously celebrating its bicentennial and approaching its carbon neutrality deadline in 2019. Additionally, the creation of a new Master Plan in 2013 outlines the future of Colgate's campus. With the culmination of these points, it is vital to take time reflect on the past land use policies and evaluate successes and pitfalls. Identification of sustainable events in Colgate's past can be stretched with the expansion of the campus up the hill. One example of sustainable practice currently in place are the conscious choices of plant materials such as pesticides, fertilizers, and management of trees based on shading (Buildings & Grounds, personal communication, March 31, 2017). These practices should be easily applied to the expansion of upper campus, as they are already practices in place. Practices in plant materials are economically and environmentally friendly and have little to no social negative impact.

### ***6.2 Encourage native planting***

One recommendation that has emerged in Colgate's recent history and should be implemented further in the landscape Master Plan is the planting of native trees and plants. Instead of introducing non-native plants to the areas as seen in the planting of some Willows and Oaks historically at Colgate, we should continue our recent trend of native planting (John Pumilio, personal communication, April 19, 2017). As the upper campus is developed, it is important to address the issues of runoff control and soil erosion spanning the entire Hill. Working with the landscape and aesthetics can help create more sustainable options that weight each pillar more evenly.

### ***6.3 Increase 'natural' and reduced-mow areas***

Another note on tree planting is the potential for areas of campus that are being removed—like down the hill housing in Newel, Parker, and University Court apartments—to be returned to more forested areas. As the upper campus is developed and some forested or reduced mow areas are removed, these deconstructed areas may replace these low-impact, low-maintenance forested areas. Finding areas to replace the reduced mow acres on the upper campus will be vital to maintaining, and hopefully increasing, sustainable land use at Colgate.

#### ***6.4 Work with social criteria to give attention to other pillars***

Though some of the social criteria seem to drive the land use decisions more than those within environmental or economic, there is potential to use these social aspects in tandem with environmental and economic goals to achieve a more sustainable campus. Most of the environmental criteria that need more attention, like soil erosion and water quality, may be addressed by working with aesthetics rather than against them. Establishing a balance between what the plants and landscape need, while meeting the demands of administration and alumni may create a balance in sustainability pillars on campus (Buildings & Grounds, personal communication, March 31, 2017). For example, considering the social issue of accessibility within the quality of life criterion, as the campus is expanded and landscape restructured it is important to consider access to facilities and also access to the landscape as a priority for the school (Pumilio, personal communication, April 19, 2017). By supporting the social issue of access, aspects of the landscape can be given more attention both with economic and environmental responsibility. Another example of how the synchronicity of the pillars may benefit the campus and increase sustainability is the consideration of runoff control especially at the base of campus. By working with the traditions like Taylor Lake and initiating native planting to frame the lake for natural filtration would preserve the aesthetic and cultural quality of the feature as well as reduce economic resources spent on runoff control and environmental impacts on water quality (Pumilio, personal communication, April 19, 2017). The upcoming change in campus presents an exciting opportunity for Colgate to show their dedication to lasting sustainability. By working with the key pillars and criterion instead of attempting to change them, Colgate will be able to achieve a more domestically sustainable campus.



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**Appendices:**

## Appendix I:

**A. Interview Questions****a. Building & Grounds Informant:**

1. What are the priorities for your division? (what do we mean by priorities, who do we manage?)
2. What type of maintenance is B&G responsible for on the hill in terms of grounds?
  - a. How often do you perform maintenance on grounds?
3. What is B&G's understanding of sustainability?
  - a. Does B&G implement sustainability ideals in their jobs? Can you give us examples?
4. What improvements do you think could be realistically implemented on campus to make it more sustainable?
5. Can you give us a snapshot of worker demographic within the division?
6. What are some challenges you encounter with campus maintenance (maintaining campus grounds)?
7. What kinds, if any, reaction/input/feedback from the community/alums when you change something in the landscape? (Examples?) How involved has community members and alums in campus changes?

**b. Bob McVaugh**

1. What is your knowledge of the history of the land in Hamilton?
  - a. To what extent are you involved in the land management of the town?
2. How would you say Hamilton and Colgate are connected in terms of land use? What are some examples of their relationship?
  - a. Are you involved in any of the decisions that the administration makes on Colgate Property?
3. What is your definition of sustainability? As it relates to land use?
  - a. How sustainable do you think Colgate's land management strategies are, as a faculty and mayor of Hamilton?
4. How have some land use decisions at Colgate affected the town of Hamilton? Are you aware of any more historical examples?
5. As the mayor of Hamilton, are there particular complaints or praises you often hear from permanent residents about Colgate's land use decisions?
6. Has the status of the beauty Colgate's campus played a role in attracting tourist/people who invest in town? I.e. is the campus an asset to this part of the state?

**c. John Pumilio:**

1. What is your definition of sustainability? As it relates to land use?
  - a. Sustainability policy at Colgate
2. How involved are you in the day to day land use/forest management decisions?
3. In your experience, what seem to be some driving factors in the land use decisions made at Colgate? - money, labor
4. What are some barriers you want to overcome to make Colgate's land more sustainable?
  - a. Where are there pitfalls?
  - b. What are the successes?
  - c. Are there any pivotal moments in Colgate's history where you see a conscious implementation of sustainability in land use and forest management?
  - d. Willow plot?
  - e. More sust maintenance?
  - f. West tree planting
5. What are some other important events that indicate a shift in land use at Colgate? With regards to sustainability
6. Are you seeing more economic investments from the school and/or alumni donations that go to maintaining the land? After we claim we are the most beautiful? Are they sust driven?

## B. Appendix II: Certificate of Informed Consent:

**Certificate of Informed Consent - Colgate University**

**Overview and Procedure:** We are a team of researchers from Colgate University, interested in learning more about the history of forest management and land use on campus. We would like to ask you some questions concerning these topics. The interview will take 20-30 minutes of your time.

**Risks and Benefits:** Your participation in this project is low risk.

**Confidentiality:** Your answers to all questions will be confidential and used only for research purposes---your name will not be connected to any of the information that you provide. The principal researchers for this project and their student research assistants will be the only persons with access to the original data. All interview notes and recordings will be kept in a locked cabinet and in password protected digital files. We will use a made-up name for any quotations we use from your interview, so any results that are published will not be connected to your identity. Results from this study will be made available to you should you desire.

**Your Rights:** As your participation is fully voluntary you have the right to withdraw from this study at any point or decline to answer any question without penalty.

**Contact Information:** If you have any questions about this study or your rights please contact any of the principal investigators: Martha Montufar ([mmontufar@colgate.edu](mailto:mmontufar@colgate.edu)), Kimberly Duncan ([kduncan@colgate.edu](mailto:kduncan@colgate.edu)), or PJ Bell ([pbell@colgate.edu](mailto:pbell@colgate.edu)), or you can contact Dr. April Baptiste ([abaptiste@colgate.edu](mailto:abaptiste@colgate.edu); 315-228-6740). You can also contact the Chair of the Institutional Review Board of Colgate University ([IRB\\_Chair@psych.colgate.edu](mailto:IRB_Chair@psych.colgate.edu); 315-228-7354).

Please circle the appropriate choice for each of the following:

Yes or No: I give permission for my voice, image, name etc. to be used for your video component of your class project

Yes or No: I give permission for my quotes to be used in your project

By signing below, you are agreeing 1) to participate in this study, 2) to allow the researcher to use your responses either in full or part for reporting the results of this interview and 3) that you have read and understand all of the information provided on this form.

\_\_\_\_\_  
Participant Name (please print)

\_\_\_\_\_  
Researcher Name (please print)

\_\_\_\_\_  
Participant Signature

\_\_\_\_\_  
Researcher Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date