Bridgewater State College
Sustainability Plan

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PREFACE FROM THE SUSTAINABILITY PLANNING GROUP

This first-ever sustainability plan for Bridgewater State College is in response to a mandate by state government. Massachusetts' Executive Office of Environmental Affairs (EOEA) has asked all state agencies to prepare sustainability plans.

As the plan demonstrates, Bridgewater sees tremendous opportunity in pursuing the steps described below and great value in engaging in this planning process itself. This plan gives focus and coherence to a range of efforts that have been emerging on campus for some time.

We, as the initial Sustainability Planning Group, hasten to add that, although a range of specific measures and suggestions are described below, this plan should be seen as a call for collaboration among a range of stakeholder groups and organizations. Indeed, the only way for the College to be successful in such a broad, long-term effort taking on such substantial challenges is through unprecedented cooperation. Traditionally, Academic Affairs and Student Affairs have been completely separate from Facilities. Traditionally, Residence Life (which is a statutorily separate unit, a subset of Massachusetts Housing Authority) has operated as the largely separate entity that it is.

These traditional relationships and arrangements no longer serve us as well as they may have in the past. The emerging challenge of sustainability provides with opportunities for partnerships that are mutually beneficial, and beneficial for the people of Massachusetts, now and in the future. We do not claim to know precisely how such partnerships will play out in their details, but we see the need for improved communication and coordination across Bridgewater's divisions. But we know that, in a higher education setting that aims to embrace sustainability, there must be communication between faculty and facilities staff, Administration & Finance and Student Affairs, and other groups that traditionally do not work together. In particular, we look forward to broadening the group as the sustainability plan is revised and updated.

We are excited by the progress the institution has made and the opportunities that lie before us – especially the chance to integrate sustainability into the college's mission. We look forward to taking on the challenge of sustainability, and we welcome others who join us in this crucial venture.

2.1 Agency description: the college's mission, and the facilities that support it

Bridgewater State College is one of the largest and most exciting centers for higher education in the Commonwealth of Massachusetts. In the idyllic setting of Southeastern Massachusetts, the institution is steeped in history, ready for the future, and rooted in an unwavering commitment to excellence. Bridgewater's total enrollment is just over 9,600, with 261 faculty and around 500 full-time equivalent (FTE) staff. Bridgewater is one of the nine members of the Massachusetts State College Association that serves 35,000 undergraduate and 9,500 graduate students.

The mission statement of the College:

> As the comprehensive public college of Southeastern Massachusetts, Bridgewater State College has a responsibility to educate the residents of Southeastern Massachusetts and the commonwealth, and to use its intellectual, scientific and technological resources to support and advance the economic and cultural life of the region and the state.

The College's faculty and staff enjoy the best of both worlds. While they have access to an array of resources typically found only in larger colleges and universities, they also enjoy the opportunity to be an integral part of a close-knit community. Quality teaching and learning continue to be the cornerstones of the Bridgewater experience. Considerable time, energy and resources have been invested to ensure that Bridgewater students are well prepared to be active participants and leaders in the world of the twenty-first century. At the graduate and professional level, Bridgewater's array of dynamic programs meets the ever-changing needs of the region and state. The College takes its role in Southeastern Massachusetts very seriously, and is always on the lookout for new ways to improve the economic, social, cultural and intellectual condition of the Commonwealth.

Supporting this mission of teaching and learning is the physical campus itself: located on approximately 240 acres, Bridgewater has thirty-two buildings comprising over 1.5 million gross square feet, about 15% of which is newly built in the past two years. The College houses over 2,000 students in a half million square feet of residence halls. Since most students and virtually all faculty and staff live off campus, Bridgewater also maintains a transportation infrastructure, including mainly parking lots and structures but also bicycle- and pedestrian-friendly amenities.

Operating, maintaining, and occasionally renovating and building facilities for teaching and learning inevitably carry impacts that relate to the campus' long-run sustainability, as a separate entity and as part of our broader society's impacts. The next section addresses these impacts that stem from the way we currently pursue our mission.

Bridgewater has included the following statement of priorities with its mission:

> Just as Southeastern Massachusetts is one of the fastest growing regions in the state, Bridgewater State College is among the commonwealth's most progressive institutions of higher learning. Given this environment, the college community has embraced the following set of priorities to ensure that its missions will continue to be fulfilled:

1. Create an intellectual environment and campus culture that challenges all students to achieve academic excellence;
2. Improve the recruitment, retention and development of highly qualified faculty;
3. Be the provider of choice for high-quality professional and graduate programs that meet the employment needs of Southeastern Massachusetts and the commonwealth;
4. Become the premier institution in Massachusetts for the preparation and support of teachers and educators;
5. Develop and maintain the technological environment needed to enhance teaching, learning, administration and campus services;
6. Incorporate the ideals and practices of cultural diversity, global citizenship and civic responsibility into the curriculum and campus life;
7. Develop and maintain strong links with communities and institutions in the region;
8. Develop and nurture all institutional resources (financial, human, and physical) through excellent stewardship to allow the institution to grow.

1.2 Agency impacts on the environment and human health

As part of writing this plan, Bridgewater attempted to identify the range of environmental and health impacts that result from its pursuit of its core missions and the operation of its facilities. The team writing this report followed the Massachusetts State Sustainability Program's planning guide's distinction between "operations", "activities" and "impacts" as a way of making sense of the campus' vast and complex business and undertakings.

For the table below, we use the following taxonomy to sort through the detail at hand:

- **Operations** are the main groups of functions pursued by campus staff.
- **Activities** are the individual tasks and responsibility of which the operations consist
- **Impacts** are the negative consequences (for humans and the rest of natural world) that result from the individual activities

Operation	*Activities*
Building operations and maintenance	HVAC management (heating, cooling, ventilation), plumbing maintenance, carpentry, electrical systems, lighting, painting, custodial cleaning/service, pest control
Grounds maintenance	Planting, mowing, trimming, mulching, landscaping, irrigation, pest control (IPM, pesticide use), monitoring
Roads, walkways, parking lots	Striping, repairing, cleaning, salting, paving of new, renovation of old, signage, drainage, catch basins, stormwater infrastructure
Campus transportation (bus service)	Bus maintenance, fuel use, roads and parking lots (as above)
Student housing	Building maintenance (above), move-in/move-out/end-of-year, orientation, security, counseling
Food service	Preparation, cleaning, purchasing/supplying, catering, transport/delivery, contracting, maintenance of equipment, nutrition/menu planning
Central power plant	Distribution of hot water/cold water, fuel storage, water treatment, electric distribution, compliance tasks, general maintenance,

	emissions controls and other engineering
Construction and planning	Design, contract management, construction, monitoring, disposal/recycling of C&D waste, transportation planning
Purchasing	Contract and vendor management, procurement of general supplies and equipment
Technology/IT and communication	Wiring, other electrical maintenance, equipment purchasing, equipment disposal and/or storage, wireless network, support services, printing (printers, paper)
Waste and recycling	Garbage and recycling collection, landfill disposal, sale/distribution of recyclables, maintenance of bins/dumpsters/infrastructure, education of campus users
Administrative support	Use of office space and IT/communications, as well as transportation (as above)
Athletics	Maintenance of fields (irrigation, pest control, mowing) and building operations (as above, plus showers)
Education (Academics and Classes)	Use of facilities, use of transportation and related infrastructure, reliance on campus systems generally (as above)
Additional support operations with overlapping activities	Child care, policing

For each and every activity, there are impacts on health and the environment. Looking across all of these activities, the following impacts surfaced, some of them repeatedly across many activities:

Impacts:

- Emissions that cause climate change (greenhouse gases, or GHGs)
- Air pollution emissions (NOx, SOx, PM (particulate matter) of various sizes, mercury)
- Use and emissions/effluent of chemicals that are toxic and persistent
- Solid, liquid and hazardous wastes of various kinds
- Impacts on habitat, ecosystems and species
- Depletion of non-renewable natural resources (fossil fuels, minerals)
- Unsustainable use of renewable resources (e.g., wood products from unsustainable forest management, agricultural products from unsustainably managed soil and water resources, seafood items from unsustainably managed fisheries, etc.).
- Health impacts on people – on campus, in the community, beyond the community

The inventory of these impacts led to the next step of this planning process: setting long-term goals for a sustainable Bridgewater State College.

2. LONG-TERM GOALS/VISION

Like many state government agencies and other higher education institutions, Bridgewater has daily operations and maintenance duties and on-going mission-related tasks that together demand the constant attention and effort of the campus' faculty, students and staff. The challenge of pursuing sustainability, therefore, demands that we carve out time and energy to assemble a long-term vision of a sustainable campus. With this vision of the future, we can then subsequently discuss, plan and prioritize next steps in the short term to move in the appropriate direction.

For the purpose of this plan, Bridgewater has targeted a timeframe of *twenty to forty years* as the "long term" of its planning horizon. Any "long term" can seem arbitrary to some degree, but in fact, this period closely matches the timeframe of renovation and new construction on campus – the period of renewal of many aspects of the physical campus. This interval also allows time for substantial change in currently entrenched systems that cannot be replaced or significantly modified quickly and at low cost, such as our reliance on fossil fuels or the integration with existing systems of purchasing, transportation and agriculture.

After surveying the various impacts of the campus' many operations and activities, it was possible to identify key directions in which to move over the long term:

- Renewable, zero-emissions energy, used efficiently on campus
- Zero use and emission of toxic and persistent substances
- All buildings are high-performance, efficient in their use of resources, and healthy and comfortable for occupants and users (all LEED certified)
- Zero net generation of waste, either solid waste, sewage waste or other emissions
- Purchasing of exclusively "sustainable" products in all buying by all campus units
- Water use that is in balance with the ecological constraints of the sources of the water
- Responsible use of natural resources and stewardship of ecosystems
- A physical campus that supports and advances the core teaching and learning mission of the institution, through direct collaboration with students and faculty

Although we expect that much of the specific content of these goals will be relevant for a long time into the future, Bridgewater will also undoubtedly have to revisit these goals in order to refine them. However, they provide enough of a starting point to identify a few short-term actions, which we explore in the next section.

3. SHORT-TERM ACTIONS AND PRIORITIES

The long-term vision provides a sense of direction. The subsequent challenge is to keep that vision in mind in the near-term decision context. This section attempts to strike that balance.

Before setting priorities, it is important to have a clear sense of what is already happening on campus. Here is a synopsis of major relevant actions:

- Energy:
  - Bridgewater is currently in the midst of a major performance contract, with an outside vendor assessing energy use and implementing a wide range of energy efficiency measures.
  - The College is gradually implementing basic energy-saving devices (occupancy sensors) and habits (shut-down periods) throughout campus.
- Waste
  - The College's recycling program has achieved a recycling rate of 15%, despite having virtually no funding or staff time.
  - The College has built the new East Campus Recycling Center (see below).
- Building maintenance and cleaning
  - Recent chemical-culling efforts have significantly reduced inventories of hazardous cleaning chemicals, as well as the number of cleaning chemicals on campus.
  - Major construction and development
- Landscape & Grounds
  - Improvements in underground infrastructure and campus layout over the past decade
  - IPM for landscape management (including reduced chemical and fertilizer use)
  - Major construction and development
- Additional academic and governance efforts
  - The creation of this plan (by facilities staff)
  - The creation of a new committee on sustainability (faculty and students)

3.1 Priority areas and goals

This section provides concrete, short-term goals for each of *nine major areas* that are priorities for the campus' sustainability effort. The areas and general goals, which inform the action items below, are:

Priority Area	*Short-term Goal(s)*
Energy	❑ Improve monitoring to cover entire campus ❑ Replace/eliminate most inefficient equipment ❑ (see campus user education)
Water	❑ Improve monitoring ❑ (see campus user education)
Waste	❑ Boost recycling rate to 25% ❑ [goal for other waste streams? Hazmat? CRTs?] ❑ (see campus user education)
Landscape & Grounds	❑ Assess current practices in detail
Purchasing (Food & Supplies)	❑ Begin to incorporate sustainability criteria into decision making processes for on-going purchases and long-term contracts ❑ Work with vendors and outsourcing entities to explore options and implement feasible best practices emerging elsewhere
Building maintenance and cleaning	❑ Minimize use of toxic and persistent chemicals, and institutionalize these practices
Campus user education	❑ Raise awareness among students, faculty and staff on energy, water and waste issues sufficiently to reinforce/meet target improvements (see other goals)
Planning & development	❑ Begin to incorporate sustainability criteria into decision making processes governing additional campus development
A physical campus that supports teaching/learning on sustainability	❑ Use of the grounds, business practices, buildings and physical campus generally as places that teach.

3.2 Agency action steps

Each of the Priority Areas has several action steps which Bridgewater will seek to undertake in the next year or two, in particular to move toward and achieve the goals listed above.

Each of the Priority Areas lists action steps in two categories: *High Priority Actions* (which include *clear next steps* with a *clear goal timeframe* with *clear measures of success*) and *Other Actions* (which Bridgewater may get to in the coming year, depending on time and resources).

Energy

Raising energy efficiency is an on-going challenge involving the purchasing of better equipment, the elimination of old or misplaced equipment, and education of campus users. Energy also offers some of the best opportunities for combining cost-savings and resource efficiency. The importance of pursuing both of these goals is reflected in the goals in this priority area. There is also a building consensus that, as a society, we need to reconsider both our use and our sources of energy, and institutional purchases are increasingly seen as an important leverage point in demand-driven change in this area.

High Priority Actions:

- Phase out most inefficient equipment, especially individual air conditioners.
  - Conduct inventory of air conditioners (timeframe: end of summer 2005)
  - Develop and implement plan to remove 50% of individual air conditioners (timeframe: end of summer 2005)
- Continue to implement/install occupancy sensors, timers and shut-downs during low-occupancy periods.
  - Document areas where occupancy sensors and timers are financially viable (end of fall term 2004)
  - Achieve 90% coverage of these areas with occupancy sensors and timers (timeframe: end of summer 2005)
  - Create full shutdown schedule for all holidays (timeframe: end of summer 2005)
- Create a complete inventory/audit of energy use/demand at the building level. (If this labor-intensive proposal is not feasible in the short run, then at least create the structure and format for such an inventory/audit that staff and academic projects can flesh out over time.) Examine scenarios for class projects and independent student projects to provide learning opportunities and to carry out some of the labor-intensive audit and inventory tasks that can support better decision making
  - Inventory of energy- and water-using fixtures in 4-6 old buildings (timeframe: end of 2004-2005 academic year)
  - Building-level energy audits for 4-6 major buildings (timeframe: end of 2004-2005 academic year)
- Provide input for IT purchasing and student orientation to reduce computer and peripheral plugloads (in computer labs and in housing).
  - Separate handout or 2-3 paragraphs of copy for student orientation materials (timeframe: by deadline for 2005-2006 academic year)
  - Clear IT purchasing specifications for energy efficiency (timeframe: by deadline for purchasing in 2005-2006 academic year)
  - Outreach to faculty (as necessary) to explain coming restrictions/guidelines for IT purchasing for energy efficiency (by summer 2005)

Other Actions:

- Continue to implement the existing performance contract.
- Improve energy monitoring, especially by refining the reporting of information to uncover usage anomalies and potential billing errors.
- With inventory/audit information and additional monitoring, explore opportunities for building-specific strategies and building-by-building prioritization of efficiency improvements and renovations.
- Examine impacts and feasibility of purchasing renewable energy.

Water

We rely on water for all aspects of life, but as a society, we are still struggling to find a balance among our longstanding habits of water use, our true needs for water-dependent activities, and the constraints and needs of local and regional water sources. There are no easy answers to how much water use is "sustainable" in southeastern Massachusetts, but we know we need to ask better questions about the impacts of our water use, just as we increase efficiency in our daily operations.

High Priority Actions:

- Regular reporting of water use to the campus community in order to raise awareness.
    - Regular posting of reports in 2-3 high-traffic campus locations (timeframe: by middle of spring term 2005)
- Documentation of water use by building or by building type and of water use and practices in irrigation. (timeframe: by end of 2004-2005 academic year)

Other Actions:

- Some assessment (possibly in conjunction with academic partners) of the sustainability of local and regional water resources on which Bridgewater depends for its regular water supply, including the relationship between campus wells and the local watershed.

Waste

Bridgewater currently has a recycling program that, despite no official funding and a near-complete reliance on student labor, has achieved success in recycling certain waste streams. This program is clearly the foundation for improving recycling on campus in the future.

However, the main obstacle to better waste and recycling performance is clear: a lack of staff and budget commitment by the institution. Compared to institutions with a modest but steady funding commitment to collecting basic recyclables, the current recycling rate is low: the College's diversion rate is just 15%, compared to 35-40% at many institutions and over 50% among the best performers.

Other factors could be addressed as well: the structure of the waste hauler contract; the type, distribution and frequency of recycling bins throughout campus; outreach and education efforts; and the habits of campus users, both those they have developed before arriving at Bridgewater and those they develop while at Bridgewater.

In short, Bridgewater has managed to establish a modest recycling infrastructure and system on a shoestring, despite many obstacles. With a commitment of resources, there is enormous opportunity for progress, and the short-term target in this area (a recycling rate of 25%) is clearly within reach.

High Priority Actions:

- Public announcement of current performance and the stated short-term goal. (timeframe: during fall term 2004)
- Near-total recycling of key recyclables that represent "low-hanging fruit" (corrugated, office paper, beverage containers). (timeframe: by end of 2004-2005 academic year)

- Create an inventory of computer and electronics hardware, with estimates of stocks and flows over the past 2-3 years and for the next 2-3 years. (timeframe: by end of 2004-2005 academic year)
- Develop specifications/contract language for construction and demolition waste on major capital projects. (timeframe: by end fall term 2004)

Other Actions:

- Give special attention to new East Campus recycling center.
- Better recycling education and outreach to campus users, including faculty, staff and students (resident and non-resident).
- An audit/study of recycling bins to optimize placement.
- Improved contact with waste hauler (see Purchasing below).

Landscape & Grounds

Beyond buildings, the physical campus consists of outdoor spaces that must meet human needs without compromising natural processes. These spaces serve functional and aesthetic needs, but they also provide habitat, affect air and water quality, and require energy, water and other resources to produce and maintain.

In the past decade, Bridgewater has significantly elevated the state of its physical structures and landscape in order to support the pursuit of the institutional mission. Some of these changes are not obvious to most campus users, especially students and recent arrivals: improvements in underground infrastructure, changes in campus layout, improved plant management and selection, reduced chemical use in pesticides and fertilizers through the implementation of Integrated Pest Management (IPM) techniques, etc. Bridgewater has also embarked on major construction and development, and this has resulted in additional changes in grounds layout and structure to ensure long-run compatibility.

This process has been gradual and deliberate, both to ensure appropriate planning along the way and to control expenses for construction, maintenance and staff time. This has also minimized overall disruption to the campus during a period of enormous change.

Still, Bridgewater has not yet rigorously assessed these outdoor spaces from a sustainability perspective to document its current practices and recent progress, so the short-term actions reflect some need to initiate an effort in this area:

High Priority Actions:

- Create inventory/survey of all chemicals used by grounds crews for pest control and plant maintenance.
    - Create separate inventory for indoor cleaning chemicals, with all MSDSs. (timeframe: by end of fall term 2004)
    - Create separate inventory for outdoor pesticides, noting chemical names, trade names, concentrations/dilutions, quantities in Bridgewater's inventory, and whether the chemical was applied by Bridgewater employees or outside contractors (timeframe: by end of 2004-2005 academic year)

Other Actions:

- Conduct survey of green space, impervious surface, categories of plantings, etc., to establish a baseline for understanding future campus development.

- Create inventory of plants, trees, shrubs and turf types currently in use in order to identify areas that can be transitioned to lower-impacts alternatives (i.e., less water and lower fertilizer and/or pesticide needs)

Purchasing (Supplies and Outsourced Services)

In acknowledging that the institution's impacts extend beyond campus-based operations and maintenance, there is room for instituting new purchasing processes, screens and criteria. These tools can ensure that the campus' "upstream" impacts take aim at the same sustainability goals as the rest of the initiatives described here. In the short run, these include:

High Priority Actions:

- Outsourced Services – Food: Engagement with dining services contractor Sodexho and food service contractor Dunkin' Donuts to explore possibilities for organic fruits, vegetables and grains; antibiotic- and hormone-free meat, eggs and dairy; seafood from sustainably managed fisheries; certified fair-trade coffees and teas; and local/regional purchasing.
    - Organize meeting with outside contractors to request information on the possibility of improving food procurement in these areas (timeframe: by end of fall term 2004)

Other Actions:

- Supplies – Purchasing Screens/Criteria: Examination of purchasing patterns to identify more sustainable alternatives to major items. Develop trainings or information tools to influence decentralized purchasing by purchasers campus-wide.
- Supplies – Purchasing Training: Education of campus purchasers to raise awareness around key sustainability issues (given the patterns of campus purchasing).
- Outsourced Services – Food: Outreach with students to educate about sustainable agriculture issues, and research to determine areas of strongest interest/commitment and preferences among "sustainable" options.
- Outsourced Services – Waste Hauling: Assess opportunities for collaborating with the waste hauler and restructuring incentives/specifications in the waste hauler contract in order to support recycling efforts. (Follow templates of existing successful efforts at other institutions.)
- Outsourced Services – Bookstore: Work with bookstore contractor Follette to explore options for recycled paper products and other environmentally preferred options, and to educate students about the impacts of their regular consumption choices.
- Outsourced Services – Vending Machines: Ensure that the 75 vending machines Work as necessary between Facilities and Administrative Services.
- Outsourced Services – Architecture/Engineering/Construction: See Planning below.

Building maintenance and cleaning

The on-going maintenance and cleaning of the campus' buildings involves a wide range of impacts involving diverse campus staff. The recent reduction of the number of cleaning chemicals (in inventory and in regular use) constitutes a major step forward. The following short-term opportunities exist:

High Priority Actions:

- Develop formal and institutionalized processes to ensure the longevity of recent chemical-culling efforts relating to custodial chemicals, including possibly (a) a list and inventory of current chemical products, (b) a formal screening mechanism for evaluating new chemicals and (c) a list of "banned" substances, based on existing lists already used in various places in the United States and around the world. Also see actions above under Landscape & Grounds. (timeframe: by end of 2004-2005 academic year)

Other Actions:

- Further assess the dangers of current practices and low- and no-cost opportunities among the trades and maintenance shops.
- Build relationships with vendors based on the institution's commitment to staying alert about and experimenting with new and improved technologies. When feasible and effective, foster vendor education on sustainability issues.
- Set up staff training on a sufficient scale to support these activities by building buy-in and knowledge with all employees involved.

Campus user education

The backbone of campus sustainability efforts will always be the enthusiasm, buy-in and action of the regular users of the campus. All of the other efforts will be strengthened by the following awareness-raising and educational initiatives:

High Priority Actions:

- Resident Students: Work with Residence Life to develop a sustainability strategy that meets everyone's goals by boosting participation in resource efficiency actions (recycling, energy and water use, etc.) and by reaching out with a coherent message that links various efforts across the campus.
    - Set up appropriately inclusive meeting with clear goals (timeframe: by end of fall term 2004)
- Faculty: Begin conversations to understand how faculty, through teaching and guidance of student projects, can (a) reinforce and advance the sustainability efforts of facilities and operations and (b) use existing and emerging facilities efforts as part of their teaching (i.e., using the physical campus to teach about sustainability.
    - Set up appropriately inclusive meeting with clear goals (timeframe: by end of fall term 2004)

Other Actions:

- All Students: Improved signage and outreach (e.g., during orientation) on core recycling issues, including statement of current comparative performance and short-term goals.

Planning & development

The development of the physical campus requires careful long-term planning, and this planning consists of a variety of processes that balance the many needs of campus users, the long-term trajectory of the institution and the resources at the institution's disposal, now and in the future.

High Priority Actions:

- Seek to integrate the US Green Building Council's LEED framework into both new construction and renovation (see soon-to-be-released LEED-EB framework for existing buildings). (timeframe: by end of fall term 2004)
- Develop clear and easy-to-use tools for life cycle costing to support construction and renovation decisions. (timeframe: first draft by end of fall term 2004, more complete version by iteration by summer of 2005)
- Engagement of Architecture/Engineering/Construction Contractors: Work with traditional suppliers of these services to (a) raise the level of awareness and understanding of emerging strategies for creating high-performance buildings that improve occupant effectiveness and lower operating and maintenance costs, with small or no increases in first costs; (b) facilitate, where necessary, the communication among architects, engineers and building contractors who may not traditionally see their work as integrated and related; and (c) pursue emerging best practices in the diversion of construction and demolition (C&D) waste.
    - Identify next steps in each of these areas (timeframe: by end of fall term 2004)

Other Actions:

- Create a small set of indicators (perhaps culled from information currently being gathered) to facilitate setting targets for such performance criteria as impervious surface, green space and multimodal transportation infrastructure (e.g., bicycle parking spaces compared to car parking spaces, campus bus ridership and its impacts, etc.).
- Explore the possibility and costs of conducting a complete sustainability assessment of campus, if possible or necessary involving some combination of academic involvement and/or external consultant guidance or assistance.

A physical campus that supports teaching/learning on sustainability

The physical campus is not currently considered as a front-and-center pedagogical resource. As the campus continues to pursue a sustainability strategy, it will increasingly become an asset as the subject of study, as the demonstration of best practices, or for raising awareness generally. In addition to educating users about their regular choices as consumers and citizens, the campus can be a subject and a teacher in itself. Explicit action in this area is new for Bridgewater, so just two pilot actions are described here:

High Priority Actions:

- Develop relationships with faculty, faculty groups or particular departments to enlist academic resources (specific courses, class projects or thesis projects) to seek out similar opportunities to showcase and teach about aspects of the physical campus. In particular, put emphasis on new and cutting-edge projects in order to reinforce a message of change.
    - Convene meeting (see related actions above)

Other Actions:

- Leverage the characteristics and context of the fitness trail as an ecologically responsible development project in a sensitive wetland area. Explain and publicize its stewardship of its setting in terms of the surrounding wetland, soil and botanical issues with a combination of signage, publicity and/or other awareness raising work.

4.1 Integrating environmental impacts into key decision points

The aforementioned actions involve key campus decision making processes, but it is important to clarify how they are related and linked. There are four key decision making areas that bear listing:

- Purchasing
- Building maintenance and cleaning
- Planning and development
- Education/academics

Each of these represents a group of processes governed by rules, laws, policies, habits and existing knowledge of current and alternative practices and products. Making these processes more "sustainable", however that is defined and whatever criteria are used, requires increased understanding on the part of staff and new systems to manage this change. The next two sections explain these needs further.

4.2 Education and training of campus users

The previous short-term actions identify several areas where faculty, students and staff need to be incorporated explicitly in the training and learning processes on sustainability. This will be a gradual process of building buy-in and awareness, not an overnight transformation of institutional culture. However, the ultimate goal is indeed to create a culture of sustainability: a pervasive awareness of the impacts of everyday activities, and an interest in and knowledge of alternatives.

4.3 Management and information systems

In order to support the education of staff and better decision making, Bridgewater will integrate data on sustainability performance in order to establish channels of information feedback. As sustainability becomes part of regular management processes, its appropriate place in decision making will become clearer for top-level decision makers.

Overarching management themes

In particular, there are three areas where sustainability issues fit well with other tasks, needs and priorities:

- Financial accounting/reporting: Many of the actions above target simple resource efficiency opportunities, and others involve potentially huge cost savings over the long run; both such issues should have a place in the institution's financial reporting framework and habits.
- Sustainability performance for operational efficiency: A clear and simple snapshot – say, a regular assessment of or report on sustainability performance, in a format that repeats over time – of sustainability performance and impacts for their own sake could bring coherence for top-level decision makers who must address a wide range of detail rich concerns every day.

- Separate reporting of student involvement in facilities and operations efforts: Currently, the campus provides a key hands-on learning experience almost accidentally and out of financial need, the student-run recycling program. The facilities department will gradually discover how to integrate students into sustainability initiatives in ways that result in clear win-win situations (academic learning and tangibly improved outcomes) and that do not unnecessarily burden staff.

A new management structure: a sustainability committee

The most important place to start is with a new cross-functional group or committee to address sustainability issues for the campus as a whole. Sustainability committees and coordinators are increasingly common in higher education as institutions realize that current hierarchies and management practices do not necessarily foster appropriate and well-integrated solutions to emerging sustainability challenges.

There is no single form for a sustainability committee. However, Bridgewater recognizes that this committee will be most likely to succeed if it follows this guidance:

- The committee must have a clear mission and responsibilities.
- The committee must build its work around a plan (i.e., this sustainability plan) and adopt clear goals with clear timeframes.
- A variety of campus units must be represented in the committee's deliberations and decision making.
- The committee must move in the short term (starting in its first semester) to (a) document and bring together existing information on campus sustainability performance and (b) carry out assessments or inventories of those aspects of campus sustainability performance which are currently not measured and/or for which there are not good metrics (measures or indicators) or benchmarks (performance standards).

Such committees exist in many different kinds of organizations. An institution of higher learning has special assets and challenges. First, it has a large number of stakeholders (students, and to some extent faculty) who can be deployed, in pursuit of the academic mission, to solve and assess the challenges of the physical campus. However, such institutions' missions of learning and research also make them predisposed to lengthy inquiry and discussion. In order to be effective in generating action and improving sustainability performance, the campus' effort must acknowledge this tension and explicitly strike a balance.

Fortunately, academic involvement in campus sustainability efforts is not a pitfall, but rather a three-fold opportunity: a chance to enhance the academic experience; a clear path for accelerating the pace of improvement in the sustainability of the physical campus; and last, a bridge between academic pursuit and service to the community and society, as students learn how to take on the emerging challenges of our time.

5.1 Agency tracking and reporting form

The agency tracking and reporting form is attached to this report. It provides basic information on core processes for Bridgewater.

However, Bridgewater has identified deeper sustainability assessment as a need. There is not yet a timetable or structure for conducting a detailed assessment, but there is a wide range of precedents in higher education, so it will be possible to encourage and accelerate any campus-based assessment by using existing models of indicators, reports and achievements from across Massachusetts and especially elsewhere around the country.

5.2 Continuous improvement

The process of revisiting these goals will happen in part in subsequent annual sustainability plans that will follow this one. However, there are two other areas where Bridgewater will seek to build a culture of continuous improvement:

- Communication with campus users about performance and vision: By letting students, staff and faculty hear about these institutional goals, they become both a commitment and a group enterprise. Since many stakeholders (especially faculty and students) already share an interest in these areas, there is an opportunity to leverage enthusiasm to support the many target actions laid out in this plan.
- Regular sharing of best practices with comparable institutions: Bridgewater stands to gain by participating in gatherings, conferences and informal communication with other campuses in order to learn about sustainability efforts elsewhere. Several such forums exist, especially listservs, web sites and regular conferences. (This could also involve hosting a gathering or conference at some point.)

These two tasks – communication with campus users and learning from best practices elsewhere – will not simply get done by themselves under current systems. These tasks must be considered part of the mission of a new sustainability committee (see 4.3 above) since they involve non-traditional cooperation among diverse campus decision makers and stakeholders, e.g., between academic and non-academic staff.