Charter Participant

Michigan State University
STARS REPORT

Date Submitted: Feb. 28, 2019
Rating: Gold
Score: 70.85
Online Report: Michigan State University
STARS Version: 2.1

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About STARS

The Sustainability Tracking, Assessment & Rating System (STARS[®]) is a transparent, self-reporting framework for colleges and universities to gauge relative progress toward

sustainability. STARS was developed by [AASHE](#) with broad participation from the higher education community.

STARS is designed to:

- Provide a framework for understanding sustainability in all sectors of higher education.
- Enable meaningful comparisons over time and across institutions using a common set of measurements developed with broad participation from the campus sustainability community.
- Create incentives for continual improvement toward sustainability.
- Facilitate information sharing about higher education sustainability practices and performance.
- Build a stronger, more diverse campus sustainability community.

STARS is intended to engage and recognize the full spectrum of colleges and universities—from community colleges to research universities, and from institutions just starting their sustainability programs to long-time campus sustainability leaders. STARS encompasses long-term sustainability goals for already high-achieving institutions as well as entry points of recognition for institutions that are taking first steps toward sustainability.

About AASHE

STARS is a program of AASHE, the [Association for the Advancement of Sustainability in Higher Education](#). AASHE is a [member-driven organization](#) with a mission to empower higher education to lead the sustainability transformation. [Learn more about AASHE](#).

Table of Contents

Summary of Results

Score 70.85
Rating: Gold

[Institutional Characteristics](#)
b [Institutional Characteristics](#) 0.00 / 0.00
[Academics](#)
b [Curriculum](#) 34.02 / 40.00

Sustainability in academics has continued to mature as seen by the increase in courses; learning outcomes; students; and graduates in a broadening set of degree offerings with sustainability focus. MSU has continued to foster relationships between students, faculty, and external stakeholders as a part of the learning experience. The Department of Community Sustainability has instilled sustainability into all of its majors along with a set of core competencies: critical thinking; systems thinking; economic literacy; ecological literacy; boundary-crossing; community; equity; civic engagement; leadership; initiative and practical skills; and ethics. They also serve as a core for coursework supporting majors and minors across the entire university. Schools such as the School of Planning, design, and construction have recently voted to incorporate sustainability into their vision statement;"We collaborate to create sustainable and healthy built, natural, and virtual environments."

b   [Research](#)   15.85 / 18.00

"A particular research program of great interest to sustainability and unique is the collaboration with University of Wisconsin - the Great Lakes Bioenergy Research Center. While launched several years prior, it was launched with the full concept of sustainable agriculture. It involves 35 faculty and received 25 million per year through a DOE grant. Lead: Eric Hegg. At Great Lakes Bioenergy,researchers draw on the expertise of engineers, economists, microbiologists, and ecologists to develop sustainable biofuels and bioproducts. Working together, they engineer bioenergy crops to enhance their environmental and economic value, conduct research to generate multiple products from plant biomass, and optimize the field-to-product pipeline. An initiative aimed at raising environmental awareness and engagement in Monroe, Michigan, born out of a collaboration with Michigan State University's College of Arts and Letters, is now being recognized with the Distinguished Partnership Award for Community-Engaged Service by MSU's Office of University Outreach and Engagement.

Kelly Salchow MacArthur, associate professor of graphic design in the Department of Art, Art History and Design, along with two of her past students, Larissa Moyer and Malarie French, worked with the River Raisin Institute of Monroe on the project, called the Resilient Monroe Green Map Initiative."

[Engagement](#)
b   [Campus Engagement](#)   18.22 / 21.00

MSU has a robust student body, with countless extracurricular opportunities. The university has over 50 Registered Student Organizations that have roots in sustainability or in one or more legs of the triple bottom line. Students have independently led an event called the Big Green Gig, which has celebrated Earth Day in East Lansing and helped to bring the community and students closer together. The Big Green Gig has occurred in 2017 and 2018, and has become an annual event, with hundreds participating in games, up cycling crafts, and interactive educational activities. Students have also been able to shine through RISE; more than 200 students have moved from that program to other areas of campus, teaching their peers sustainable living and growing their education in the sustainability area. The Bailey Greenhouse and Urban Farm, run by RISE students, along the with Student Organic Farm, have been partially-operated by students since their inceptions. Students learn to plant, grow, and harvest crops and become more connected to food systems and sustainability in the field first-hand. Students learn valuable skills in sales, crop production, and marketing as they work to make a profit off their product and sell to fellow students as well as dining halls. Through MSU's RSOs, groups, workshops, gardens, community service projects, and other activities, countless students are exposed to sustainability every year in fun, engaging, and innovative ways. In addition, students now run a university business: Land Grant Goods. It gives students first hand experience in both making sustainable products as well as running a sustainable business operation.

b   Public Engagement   17.19 / 20.00

The world's big problems require innovative thinking, passionate people, and a global network of collaborators who will work toward the common good. With our unique partnership approach and capacity to take on increasingly complex problems, MSU is creating a global network that connects faculty, students, universities, government agencies, non-governmental organizations, foundations, and industry partners across countries, projects, and multi-continent consortium. MSU has sharpened its focus on several critical international themes, including agriculture and food systems, sustainable environment, health and nutrition, and education. Through their International Studies and Programs, MSU researchers work directly with farmers, policy makers, government entities, and researchers in partner institutions to increase agricultural productivity, improve diets, and build greater resilience to challenges like climate change. Backed by more than a quarter-billion dollars in international funding over the past decade, MSU researchers are working with key stakeholders around the globe to improve livelihoods through innovative research and sustainable solutions that address some of the world's most pressing challenges in agriculture and food security. A flagship program is the Partnerships for Sustainable Community Development (PSCD). PSCD is a long-term collaborative alliance of local and international organizations dedicated to improving local livelihoods. The partnership was established at Michigan State University (MSU) in 2007 as a means to find long-term solutions, build capacity, and create collaborations that promote resilient and sustainable communities. https://pscd.isp.msu.edu/about/about/. On a more regional and local basis, community based partnerships are embedded throughout the fabric of the university. University Outreach and Engagement, https://engage.msu.edu/upload/flyers/Outreach-Brochure-2018_acc.pdf fosters MSU's land-grant mission by connecting university knowledge with community knowledge in mutually beneficial ways. UOE also engages in research designed to demonstrate the disciplinary and interdisciplinary impact of engaged scholarship on faculty work and university-community partnerships. In all of its work, UOE emphasizes university community partnerships that are collaborative, participatory, empowering, systemic, transformative, and anchored in scholarship. MSU has also assumed a leadership role with respect to national conversations about the scholarship of engagement—defining, measuring, and evaluating best practices. IN addition there are a number of community-based networks across the state, each with their own structure and governance. Most germane to sustainability are the EDA University Center for Regional Economic Innovation, https://reicenter.org/ and Neighborhoods without Borders (Flint) https://engage.msu.edu/about/projects/community-and-economic-development/neighborh....
MSU is also an endorsing partner in the Grand Rapids Area Community Sustainability Partnership, collaborating with membership to promote sustainability education, awareness, and business strategy. http://grpartners.org/about/.

Operations
b   Air & Climate   4.81 / 11.00

Under the Energy Transition Plan, Infrastructure and Planning Facilities: Transitions from coal to natural gas in 2016; have added solar car ports and tied them into our micro-grid and; made multiple equipment dispate and demand limit decisions in order to reduce costs and improve plant efficiency (balancing natural gas usage against predicted solar power contributions and the cost to purchase power off the utility grid. The Energy Transition Plan five year review (2017) reported that MSU has reduced emissions by 30 % in year 2014-2015 from its baseline year of 2009-10. The switching of fuel sources has drastically reduced particulate matter 2.5 emissions, lowered fuel costs, and decreased costs of converting the input fuel into electricity and heat within the power plant. The fuel conversion is resulting in 250,000 tons of CO_2 emissions reductions - approximately equivalent to planting half a million trees annually, a 43% reduction in overall CO_2 emissions from campus.

b   [Buildings](#)   3.15 / 8.00

In 2009, MSU received its first LEED award (silver certification) for the construction of an addition to the Chemistry Building. The Chemistry addition includes LEED features such as recycled glass in the flooring, low-flow toilets, drip irrigation and motion sensors for classroom lights.

Gold certifications:

Butterfield Hall
MSU Surplus Store and Recycling Center
College of Human Medicine's Secchia Center in Grand Rapids
Shaw Hall
Silver certifications:

Brody Hall (addition three)
Case Hall (addition three)
Chemistry Building (addition two)
Eli and Edythe Broad Art Museum
Life Science (Bott Nursing Education Research)
Kellogg Biological Station's dairy facility
A total of 1,559,273 square feet of MSU-owned space has been LEED registered.

b   [Energy](#)   2.33 / 10.00

A number of major energy projects were implemented in accordance with the Energy Transition Plan. A five year review was conducted in 2017 and progress reported. http://ipf.msu.edu/_files/pdfs/etp-five-year-review-aug-2017.pdf Major energy projects included: . Power Plant efficiency improvements and the elimination of coal, fuel switching to 100 % natural gas and the installation of the largest solar carport array (non-utility) in the United States. In addition, Steam Trap Program instituted; 10 year building re-commissioning program completed in 2018.

b   [Food & Dining](#)   2.12 / 8.00

RHS Purchasing: majority within 600 miles
Clean Plates at State
Student Organic Farm program

b   [Grounds](#)   3.03 / 4.00

1) IPF collaborated with the Civil Engineering Department, which established the National Center for Pavement Preservation, to assess campus pavements and provide data for preservation and maintenance. Potentially saving thousands of dollars with the right plan in place. 2) MSU Developed a Sustainable Stormwater Management Walking Tour highlighting the low impact development practices utilized on campus. 3) Posts were installed in specific locations on campus to provide an alternative way to hang up hammocks that would not damage or impact the campus arboretum.

b   [Purchasing](#)   2.78 / 6.00

A notable accomplishment in this category is the implementation of High-Performance Cleaning; Custodial Services using cutting-edge technology [user and environmentally friendly] to clean spaces while protecting the health of the building occupants and the environment. They have also implemented the use of chemical-free floor cleaner; sealed floors to protect from stains and decrease need for harsh stain-removers; and made increased recycling a priority. They have lowered water consumption and electricity usage and and reduced the amount of chemicals being washed down drains. The floor finish that we recently selected for the finishing of our resilient flooring, Buckeye Clarion 25, has achieved an EPA registered antimicrobial, Microban certification. https://www.buckeyeinternational.com/products/floor-finishes/clarion-25.

b   [Transportation](#)   5.24 / 7.00

MSU developed and published in 2018 the MSU Mobility Plan. Michigan State University's Mobility Plan initiative comprises mobility technology, mobility source management, and infrastructure. The combination of these collective efforts results in the weaving of a mobility tapestry that serves as a comprehensive and adaptable road map to guide and position MSU as a recognized leader in mobility, both nationally and globally.

The MSU Mobility Technology Committee, the MSU Mobility Source Management Committee, and the MSU Infrastructure Committee summarize their work in the MSU Mobility Report which is attached. Several aspects of this plan are in implementation mode and have served to provide data driven decisions as to mobility safety and policy. The university has also engaged in collaborative research in establishing a test bed for advanced mobility in the newly formed Spartan Mobility Village. MSU has also engaged in the multi-partner regional effort to explore a regional bike and scooter sharing program with CATA, Meridian Twp; Lansing, East Lansing, and several other partners. MSU has also contracted with the CATA Transportation System to provide bus ridership for free for students. CATA reprots that bus ridership increased nearly 38 % in the first semester that the free service was offered. In addition to the charging stations installed by MSU, MSU's partnership with the Lansing Board of Water and Light for the Kellogg Center station. MSU Bikes is Michigan State University's resource for all things bike related. Its mission is to encourage bicycling and provide the accessibility, support and education necessary to make biking an option for the MSU community. MSU Bikes has both new and used bikes available to rent or purchase, and the MSU Bikes Service Center, located on the south-side of Bessey Hall, manages all bike-repair needs as well as providing various parts and biking accessories for sale. In addition to plenty of bike racks around campus, two new MSU bike garages offer secure, covered parking for bicycles. The Campus Fleet program continues to emphasize adding electric vehicles to the fleet - promoting and giving customers the opportunity to experience new technology like hybrid and all electric vehicles and utilizing the campus as a living laboratory for understanding how alternative transportation modes integrates with the broader campus mobility strategy. Lastly, the Solar Carports detailed in the Innovation Section provide a multi-modal transport hub for the last vehicle mile traveled. The carports serve as a hub for a combination of walking, biking, scooters, and bus transportation. MSU Bikes' brochure which shows not only all the bike-related facilities on campus but also the EV charging stations, the Multi-Modal Transp. Center and solar car ports:

https://msubikes.files.wordpress.com/2017/11/bikes-brochure-8-10-2017-final_page_2...

b   Waste   4.34 / 10.00

A unique and accomplished unit within MSU is its Surplus Store & Recycling Center (SSRC). The SSRC puts a reuse first focus on both recycling and waste with an emphasis on positively impacting the local community. Construction and demolition waste is routinely sorted for reusable materials that are either sold or given away though the store. The waste stream is routinely evaluated to identify new opportunities for reuse first and recycling where possible. Reusable materials are regularly removed from the recycling stream and are either sold or given away through the store. A sub-store (Spartan Upcycle) was created to inspire and promote creativity, resource conservation and community engagement through art, education and imagination. SSRC actively supports reuse and recycling community collections across 3 counties and maintains a public recycling drop-off center available 24 hours a day, 7 days a week. Additional accomplishments:
• Spartan Sports Sale – generated $140,000 in six hours selling materials when offices moved.
• Sparty's Cabin [Tiny House] construction
• Hosted Patagonia "Worn Wear College Tour"
• Completed Organic Wastes Inventory and Assessment
• Launched premier SPARTAN SHADOWS program – creating furniture and wood products out of reclaimed wood from campus
• Launched SPARTAN UPCYCLE – reduces waste by inspiring creativity, resources conservation, and community engagement through art, education and imagination.
• Ride a Bike to the Movies Night
• Hosted Food@MSU Forums;
• Capstone project with Mechanical Engineering and Electrical and Computer Engineering to design and test sensor technology on waste receptables.
• RecycleMania participation recycled more than 836,000 pounds of materials – 2nd in the Big 10 conference for Gorilla Prize Category.

b   Water   3.83 / 8.00

A key action that has contributed to the reduction of water and significant costs savings was the installation of a reverse osmosis process for the power plant. The change resulted in a payback of just a few weeks, over $350,000 in savings and reduced the correlated water usage for that process by 10 %. IN addition, the university is working to ensure a balanced and sustainable approach to water consumption on the MSU campus. An interdisciplinary water team works together assessing water use; and efforts to improve the efficiency and reduction of use through conservation efforts. Drip irrigation systems target plant's root systems. Replacement of high-water-use fixtures with more lower-use fixtures MSU also has in place a WellHead Protection Program that is updated regularly; it received an exemplary awarded by the Mi Section of the American Water Works Association.

Planning & Administration
b   Coordination & Planning   5.50 / 8.00

MSU has hired a Director of Sustainability and Program Coordinator in the EVP of Administration to provide the overall coordination of sustainability throughout the university and with external partners. This will both expand and heighten the emphasis on Moving Forward with the vision of embedding sustainability into the fabric of the university using the focus of campus, community, curriculum, and culture. MSU also completed their five year review of progress forward on the Energy Transition Plan, producing a corresponding Sustainability Report. It noted many significant accomplishments towards it's sustainable energy goals and identified a forward strategy for advancing sustainability at the university. http://ipf.msu.edu/_files/pdfs/etp-five-year-review-aug-2017.pdf

b   Diversity & Affordability   8.71 / 10.00

Since 2015, MSU has pushed itself past its own limits to accommodate campus diversity, culture, and employee satisfaction. The university has come to terms with its previous shortcomings, and has risen to the occasion to remedy these. In the last three years, MSU has instituted a new Office for Civil Rights and Title IX, increased its number of counselors twofold, implemented an integrated learning lab on campus, conducted four diversity and inclusion surreys and reports, revamped its employee orientation to cover diversity and inclusion policies more effectively, celebrated 50 successful years of its upward bound program, and was was awarded $4.9 million by the National Science Foundation to support low-income students through scholarships to study STEM and Natural Science at MSU.

b   Investment & Finance   0.00 / 7.00

MSU named its first Chief Investment Officer to oversee all of the university's lng-term investments. The CIO has hired 2 investment officers as well. Having a CIO has allowed MSU to grow internal talent and capabilities to identify new investment opportunities There is also an Investment Advisory Subcommittee established by the Board of Trustees.The Board of Trustees added three External members to the Committee.

b   Wellbeing & Work   4.59 / 7.00

Since 2015, MSU has pushed itself past its own limits to accommodate campus diversity, culture, and employee satisfaction. The university has come to terms with its previous shortcomings, and has risen to the occasion to remedy these.Health and employee compensation has not been ignored; in fact, the university's Health4U program is thriving and engaging staff on campus across disciplines every year.

Innovation & Leadership
b   Exemplary Practice   1.50 / 1.50
b   Innovation   3.00 / 3.00

Institutional Characteristics

Institutional Characteristics

Points Claimed 0.00
Points Available 0.00

Institutional characteristics include data related to an institution's boundary (defining the campus for purposes of reporting), its operational characteristics (the context in which it operates) and its demographics and academics (programs, students, staff, and faculty). This information provides valuable context for understanding and interpreting STARS data. Thus, all information documented in the sections below will be displayed in the institution's public STARS report.

Credit	Points
	0.00 /
Institutional Boundary	Total adjusted for non-applicable credits
	Close
	0.00 /
Operational Characteristics	Total adjusted for non-applicable credits
	Close
	0.00 /
Academics and Demographics	Total adjusted for non-applicable credits
	Close

Institutional Boundary

Score	Responsible Party
0.00 /	
	Amy Butler
Total adjusted for non-applicable credits	Campus Sustainability Director
	MSU Sustainability
Close	

Criteria

Each institution is expected to include its entire main campus when collecting data. Institutions may choose to include any other land holdings, facilities, farms, and satellite campuses, as long as the selected boundary is the same for each credit. If an institution finds it necessary to exclude a particular unit from its submission, the reason for excluding it must be provided in the appropriate reporting field, below.

Institution type: Associate (i.e., short-cycle), Baccalaureate, Doctoral/Research, or Master's:
Doctoral/Research

Institutional control (Public, Private for-profit, or Private non-profit):
Public

A brief description of the institution's main campus and other aspects of the institutional boundary used to complete this report:

MSU is an expansive research university with staff in every county of the state and numerous agricultural resource stations and community outreach offices through MSU Extension. For the purpose of the STARS Assessment, the geographic boundaries utilized are those of the main campus, including the north campus, south campus and south farms. The contiguous 5199 acres is located in East Lansing, MI just three miles east of Michigan's capital in Lansing and on the banks of the Red Cedar River. The campus includes 566 buildings,110 with academic or instructional space; 131 for agriculture, 166 for housing and food service and 42 for athletics. Recognized as one of the most beautiful campuses in the nation, the Red Cedar traverses the campus, linking the park areas and the natural, historical feel of north campus with the newer south campus and its more rural, agricultural experimental farms. The campus has a mature collection of trees, shrubs, and woody vines that contribute to the teach, research, and outreach functions. Given the richness of its history and demographics, as well as its proximity to the capitol region, sustainability is tantamount to the preservation of these resources for advancing knowledge and transforming lives.

Which of the following features are present on campus and which are included within the institutional boundary?:

	Present?	Included?
Agricultural school	Yes	Yes
Medical school	Yes	Yes
Other professional school with labs and clinics (e.g. dental, nursing, pharmacy, public health, veterinary)	Yes	Yes
Satellite campus	Yes	No
Farm larger than 5 acres or 2 hectares	Yes	Yes
Agricultural experiment station larger than 5 acres or 2 hectares	Yes	No
Hospital	No	No

The rationale for excluding any features that are present from the institutional boundary:

Satellite campuses and agricultural experimental stations larger than 2 hectares/5 acres are not part of the institutional boundary. MSU defines the boundary as the contiguous 5199 acres of the main campus only.

Additional documentation to support the submission :
IC1-energy-transition-plan.pdf

Data source(s) and notes about the submission:

Michigan State University has been advancing the common good with uncommon will for more than 160 years. One of the top research universities in the world, MSU pushes the boundaries of discovery and forges enduring partnerships to solve the most pressing global challenges while providing life-changing opportunities to a diverse and inclusive academic community. As the prototype for the 69 land grant institutions, sustainability is the root of its mission. Being the first institution of higher learning in the U.S> to teach scientific agriculture, the academic and research focus on sustainable agriculture and products is a major part of its global reach. Recognizing the importance of high-performance and leading by example, MSU prepared an Energy Transition Plan in 2012. Several years later, the university has achieved several major projects towards its sustainable energy goals. The outcomes and impacts of those goals are demonstrated through the data generated for this assessment and performance period. Of particular note: It has reduced greenhouse gas emissions by 30% through the elimination of coal for energy supply, converting power plant to natural gas. Even after considering the increase in building square footage and the demands from higher numbers of students, faculty, and research. Facilities also has completed a 10 year building re-commissioning program, and implemented energy conservation measures amounting to over $10 million in savings from baseline year. The new solar carports are the largest non utility carport array in the United States and contributes 5 % of the total energy demand and 18 % of peak demand. Research in sustainability has grown as well as academic offerings and continuing education through MSU Extension. MSU is accelerating "Moving Forward" with sustainability strategies and has added additional staff and resources.

Operational Characteristics

Score

0.00 /

Total adjusted for non-applicable credits

Close

Responsible Party

Amy Butler
Campus Sustainability Director
MSU Sustainability

Criteria

Operational characteristics are variables that provide information about the context in which the institution operates. Report the most recent data available within the three years prior to the anticipated date of submission.

"---" indicates that no data was submitted for this field

Endowment size:
2900000000 *US/Canadian $*

Total campus area:
5199 *Acres*

Locale:
Urban fringe of mid-size city

IECC climate zone:
6 - Cold

Gross floor area of building space:
24233934 *Gross Square Feet*

Floor area of laboratory space:
1363486.16 *Square Feet*

Floor area of healthcare space:
178587.95 *Square Feet*

Floor area of other energy intensive space:
685133 *Square Feet*

Additional documentation to support the submission :
2017_5 Year Review ETP.pdf

Data source(s) and notes about the submission:

Endowment data is obtained through the Office of Investment report, source: MSU Investment Report, June 2017.
https://givingto.msu.edu/endowments/performance.cfm.
Acreage is obtained through Land Management Report,
https://www.canr.msu.edu/lmo/
2018%20Property%20Holdings%20FINAL%20Compressed.pdf
and Office of Institutional Research. Building square footage is obtained through: FAMIS (facilities Asset Management Information System software. Infrastructure and Planning (IPF) is the division that administers the application.

Academics and Demographics

Score

0.00 /

Total adjusted for non-applicable credits

Responsible Party

Amy Butler
Campus Sustainability Director
MSU Sustainability

Criteria

This section includes variables that provide information about the institution's academic programs, students, faculty and staff. Report the most recent data available within the three years prior to the anticipated date of submission. Some population figures are used to calculate "weighted campus user", a measurement of an institution's population that is adjusted to accommodate how intensively certain community members use the campus.

"---" *indicates that no data was submitted for this field*

Number of academic divisions (e.g. colleges, schools):
20

Number of academic departments (or the equivalent):
115

Number of students enrolled for credit:
50019

Total number of employees (staff + faculty):
12660

Full-time equivalent student enrollment (undergraduate and graduate):
45677

Full-time equivalent of employees (staff + faculty):
12063

Full-time equivalent of students enrolled exclusively in distance education:
900

Number of students resident on-site:
15429

Number of employees resident on-site:
236

Number of other individuals resident on-site, e.g. family members of employees, individuals lodging on-site (by average occupancy rate), and/or staffed hospital beds (if applicable):
447

Weighted campus users, performance year:
46993.25

Additional documentation to support the submission:

Data source(s) and notes about the submission:

Data sources:
1) Compiled inquiries filed with Institutional Research of the Office of Planning and Budget

https://opb.msu.edu/functions/institution/index.html

2) Residential Housing Services
3) website -
https://msu.edu/academics/colleges.php#accordions=

Academics

Curriculum

 Points Claimed 34.02
 Points Available 40.00

This subcategory seeks to recognize institutions that have formal education programs and courses that address sustainability. One of the primary functions of colleges and universities is to educate students. By training and educating future leaders, scholars, workers and professionals, higher education institutions are uniquely positioned to prepare students to understand and address sustainability challenges. Institutions that offer courses covering sustainability issues help equip their students to lead society to a sustainable future.

From the institution:

Sustainability in academics has continued to mature as seen by the increase in courses; learning outcomes; students; and graduates in a broadening set of degree offerings with sustainability focus. MSU has continued to foster relationships between students, faculty, and external stakeholders as a part of the learning experience. The Department of Community Sustainability has instilled sustainability into all of its majors along with a set of core competencies: critical thinking; systems thinking; economic literacy; ecological literacy; boundary-crossing; community; equity; civic engagement; leadership; initiative and practical skills; and ethics. They also serve as a core for coursework supporting majors and minors across the entire university. Schools such as the School of Planning, design, and construction have recently voted to incorporate

sustainability into their vision statement;"We collaborate to create sustainable and healthy built, natural, and virtual environments."

Credit	Points
[Academic Courses](#)	9.72 / 14.00
[Learning Outcomes](#)	6.30 / 8.00
[Undergraduate Program](#)	3.00 / 3.00
[Graduate Program](#)	3.00 / 3.00
[Immersive Experience](#)	2.00 / 2.00
[Sustainability Literacy Assessment](#)	4.00 / 4.00
[Incentives for Developing Courses](#)	2.00 / 2.00
[Campus as a Living Laboratory](#)	4.00 / 4.00

Academic Courses

Score	Responsible Party
	Amy Butler
9.72 / 14.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution has conducted an inventory during the previous three years to identify its sustainability course offerings for current and prospective students. Sustainability course offerings include:

- Courses that have been identified as "sustainability courses" and "courses that include sustainability" using the definitions provided in *G. Standards and Terms*.
- Courses that have been formally designated as sustainability course offerings in the institution's standard course listings or catalog.

For each course, the inventory provides:

- The title, department (or equivalent), and level of the course (e.g., undergraduate or graduate).
- A brief description of the course.
- An indication of whether the course is a "sustainability course" or a "course that includes sustainability" (or equivalent terminology).

A course may be a sustainability course or it may include sustainability; no course should be identified as both. Courses for which partial or incomplete information is provided may not be counted toward earning points for this credit. This credit does not include continuing education and extension courses, which are covered by the *Continuing Education* credit in Public Engagement.

For guidance on conducting a course inventory and distinguishing between sustainability courses and courses that include sustainability, see *F. Measurement, G. Standards and Terms,* andthe Credit Example, below. An institution that has developed a

more refined approach to course classification may use that approach as long as it is consistent with the definitions and guidance provided.

Part 1

Institution offers sustainability course content as measured by the percentage of courses offered that are sustainability course offerings.

The total number of courses offered and the number of sustainability course offerings must be counted in the same manner; see *F. Measurement.*

Part 2

Institution offers sustainability course content as measured by the percentage of academic departments (or the equivalent) with sustainability course offerings.

"---" *indicates that no data was submitted for this field*

Figures required to calculate the percentage of courses offered by the institution that are sustainability course offerings:

	Undergraduate	Graduate
Total number of courses offered by the institution	2996	1976
Number of sustainability courses offered	150	90
Number of courses offered that include sustainability	258	105

Percentage of courses that are sustainability course offerings:
12.13

Total number of academic departments (or the equivalent) that offer courses (at any level):
115

Number of academic departments (or the equivalent) that offer at least one sustainability course and/or course that includes sustainability (at any level):
84

Percentage of academic departments with sustainability course offerings:
73.04

A copy of the institution's inventory of its sustainability course offerings and descriptions:
AC1_Final Course Inventory and Department List_4qwL5sU.xlsx

Do the figures reported above cover one, two, or three academic years?:
Two

A brief description of the methodology used to determine the total number of courses

offered and to identify sustainability course offerings, including the definitions used and the process for reviewing and/or validating the course inventory :

Courses in sustainability and courses with sustainability elements were identified through searches in the university Registrar Course Descriptions Catalog. In addition, Associate Deans from all 17 colleges were involved in gathering information about courses. Several key Directors of Schools and Department Chairs that have significantly embedded sustainability as part of their curriculum were also interviewed.   A complete list of courses for the two academic years was obtained through the Registrars office. Duplicates were removed. This list was then thoroughly examined by sustainability staff. Sustainability courses were identified using the systems recommended in the AASHE STARS technical manual, and therefore courses that included the word ""sustainability"" were chosen, courses that reference the interdependence of ecological and social/economic systems, as well as courses that address major sustainability challenges or wicked problems.
The list of search words used for the registrar catalog are listed below:
Built environment
Climate
Community sustainability
Ecosystem
Environment
Sustain
Sustainability
Sustainable agriculture
Sustainable community
Search words used selectively:
Culture
Anthropocene
Circular Economy
Energy
Intercultural
Global

How were courses with multiple offerings or sections counted for the figures reported above?:
Each course was counted as a single course regardless of the number of offerings or sections

A brief description of how courses with multiple offerings or sections were counted (if different from the options outlined above):

N/A

Are the following course types included in the inventory? :

	Yes (included) or No (not included)
Internships	No

	Yes (included) or No (not included)
Practicums	Yes
Independent study	No
Special topics	Yes
Thesis / dissertation	No
Clinical	No
Physical education	No
Performance arts	Yes

The website URL where information about the programs or initiatives is available:
https://sustainability.msu.edu/

Additional documentation to support the submission:

Learning Outcomes

Score	Responsible Party
6.30 / 8.00	**Amy Butler** Campus Sustainability Director MSU Sustainability

Criteria

Institution's students graduate from degree programs that include sustainability as a learning outcome or include multiple sustainability learning outcomes. Sustainability learning outcomes (or the equivalent) may be specified at:

- Institution level (e.g., covering all students)
- Division level (e.g., covering one or more schools or colleges within the institution)
- Program level (e.g., covering all graduates from a degree program)
- Course level (if successful completion of the course is required to complete a degree program)

This credit includes graduate as well as undergraduate programs. For this credit, "degree programs" include majors, minors, concentrations, certificates, and other academic designations. Extension certificates and other certificates that are not part of academic degree programs do not count for this credit; they are covered in the: *Continuing Education* credit in Public Engagement. Programs that include co-curricular aspects may count as long as there is an academic component of the program.

This credit is inclusive of learning outcomes, institutional learning goals, general education outcomes, and graduate profiles that are consistent with the definition of

"sustainability learning outcomes" included in *G. Standards and Terms*. While they do not necessarily have to use the term "sustainability", learning outcomes must collectively address sustainability as an integrated concept having social, economic, and environmental dimensions for a program's graduates to count. Mission, vision and values statements are not sufficient unless the above criteria are met.

Institutions that do not specify learning outcomes as a matter of policy or standard practice may count graduates from sustainability-focused programs (i.e., majors, minors, concentrations and the equivalent as reported for the *Undergraduate Program* and *Graduate Program* credits) and other degree programs that do not have specified sustainability learning outcomes, but require the successful completion of one or more sustainability courses (i.e., courses in which the primary and explicit focus is on sustainability as reported for the *Academic Courses* credit).

"---" *indicates that no data was submitted for this field*

Total number of graduates from degree programs (i.e. majors, minors, concentrations, certificates, and other academic designations):
16730

Number of students that graduate from programs that have adopted at least one sustainability learning outcome:
13179

Percentage of students who graduate from programs that have adopted at least one sustainability learning outcome:
78.77

Do the figures reported above cover one, two, or three academic years?:
One

Does the institution specify sustainability learning outcomes at the institution level (e.g. covering all students)?:
Yes

Does the institution specify sustainability learning outcomes at the division level (e.g. covering particular schools or colleges within the institution)?:
Yes

A list or brief description of the institution level or division level sustainability learning outcomes:

University Undergraduate Learning Outcomes/Goals (UGAD – Goals/Outcomes)
The University has published learning goals/outcomes ((UGAD-Outcomes) for all undergraduate students, including transfer students (UGAD)

https://undergrad.msu.edu/programs/learninggoals

. The establishment of the UGAD – Outcomes was a priority of the Provost in meeting the Higher Learning Commission accreditation process to encourage

progress around learning outcomes and engage in curriculum reform that changes the nature and shape of the educational experience. The UGAD Goals/Outcomes were created through a collaborative process that included facult, librarians, advisors, residential education staff, and undergraduate and graduate students.

The UGAD Goals/Outcomes were developed from four global themes: 1) Responsible global citizenship - Ethics & governance 2) Sustainability: - Food, - water, -environment; 3)Social justice -Conflict,- peace, -poverty, -health, -inequality; and 4) Technology and Creativity ; -Social networking, -cognitive/brain science, -nanotechnology, -"big data". Thus, sustainability is embedded throughout context of the five undergraduate learning outcomes, as well as within the rubrics and artifacts

http://learninggoals.undergrad.msu.edu/

The five goals/outcomes are: Analytical Thinking; Cultural Understanding; Effective Citizenship; Effective Communication; and Integrated Reasoning.

The MSU Graduate will:
ANALYTICAL THINKING
Use ways of knowing from mathematics, natural sciences, social sciences, humanities, and arts to access information and critically analyze complex material in order to evaluate evidence, construct reasoned arguments, and communicate inferences and conclusions.
DIMENSIONS OF ANALYTICAL THINKING
Acquires, analyzes, and evaluates information from multiple sources
Synthesizes and applies information within and across disciplines
Identifies and applies, as appropriate, quantitative methods for defining and responding to problems
Identifies the credibility, use and misuse of scientific, humanistic and artistic methods
CULTURAL UNDERSTANDING
Comprehend global and cultural diversity within historical, artistic, and societal contexts.
DIMENSIONS OF CULTURAL UNDERSTANDING
Reflects on experiences with diversity to demonstrate knowledge and sensitivity
Demonstrates awareness of how diversity emerges within and across cultures
EFFECTIVE CITIZENSHIP
Participate as a member of local, national, and global communities and has the capacity to lead in an increasingly interdependent world.
DIMENSIONS OF EFFECTIVE CITIZENSHIP
Understand the structures of local, national, and global governance systems and acts effectively within those structures in both individual and collaborative ways.
Applies knowledge and abilities to solve societal problems in ethical ways.
EFFECTIVE COMMUNICATION
Use a variety of media to communicate effectively with diverse audiences.
DIMENSIONS OF EFFECTIVE COMMUNICATION
Identifies how contexts affect communication strategies and practices
Engages in effective communication practices in a variety of situations and with a variety of media.
INTEGRATED REASONING
Integrates discipline-based knowledge to make informed decisions that reflect

humane, social, ethical, and aesthetic values.
DIMENSIONS OF INTEGRATED REASONING
Critically applies liberal arts knowledge in disciplinary contexts and disciplinary knowledge in liberal arts contexts
Uses a variety of inquiry strategies incorporating multiple views to make value judgments, solve problems, answer questions, and generate new understanding.

The learning goals/outcomes are then specifically taught through the Integrated Studies Required Courses. The Integrated Studies requirements are:
▥ Comprised of 24 total credits, broken down as follows:
• 8 credits in Arts and Humanities - 1st and 2nd IAH
• 8 credits in Social, Behavioral, and Economic Sciences - ISS200, ISS300
• 3 credits in Biological Sciences - ISB
• 3 credits in Physical Sciences - ISP
• 2 credits of Lab in either Biological or Physical Sciences - ISB/ISP Lab
• Note: 2 courses must be in either Diversity, National Diversity, or International Diversity.
They are offered through the Center for Integrated Studies in Arts & Humanities; Social Sciences; and General Sciences.
Integrative Studies courses integrate multiple ways of knowing and modes of inquiry and introduce students to important ways of thinking in the three core knowledge areas: the Arts and Humanities, the Biological and Physical Sciences, and the Social, Behavioral, and Economic Sciences. They assist students early during their study to develop as more critical thinkers. They also encourage appreciation of our humanity and creativity, human cultural diversity, the power of knowledge, and our responsibilities for ourselves and for our world.

College Level Learning Outcomes/Goals
College of Engineering: requires that "graduates have the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context. " consistent with requirements of their ABET Accreditation. This learning outcome is integrated into the design of their curriculum at the college level and carried throughout the course designs for each program. The required ABET student learning outcomes includes: [h] the broad education necessary to understand the impact of engineering solutions in a global and societal context, and [j] a knowledge of contemporary issue. These are included in every degree program within the College.
Departments within Engineering Learning Outcomes:
Department of Chemical Engineering learning outcomes include: graduates must have an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors; an ability to recognize ethical and professional responsibilities in engineering situations; an ability to make informed judgments, which consider the impact of engineering solutions in global, economic, environmental, and societal contexts; an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
Department of Biosystems Engineering outcomes include: graduates will have an ability to design a system, component, or process to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability; and the broad education necessary to understand the impact of engineering solutions in a global, economic,

environmental, and societal context.

Department of Civil Engineering: Civil Engineering is ABET Accredited at MSU and incorporates the required learning outcome: students will be able include principles of sustainability in design; explain basic concepts in project management, business, public policy, and leadership.

Department of Environmental Engineering: adds specific learning outcomes at the graduate level: Environmental Engineering is ABET Accredited at MSU and incorporates students will be able to design environmental engineering systems that include considerations of risk, uncertainty, sustainability, life-cycle principles, and environmental impacts; and apply advanced principles and practice relevant to the program objectives .

College of Agriculture, and Natural Resources: Students will learn to manage resources, people, and technology to improve the use, conservation and renewal of natural and created environments; develop sustainable systems; manage green spaces; enhance community and economic development; and advance food safety and nutrition; They will have the tools they need to undertake endeavors that ensure the sustainability of food, prosperity and leisure activities in a world environment that has finite resources.

Department of Horticulture has a Learning Outcomes and Assessment Committee who developed learning outcomes for their Bachelors of Science in Horticulture and IAT Certificate Programs. They are developed based upon American Society for Horticulture Science and evaluated for alignment with MSU's undergraduate learning goals and reflect the Higher Learning Commission priorities. The specific learning outcomes for the HRT, include: Understand how global issues including climate change, energy use, water availability, and/or food safety impact sustainability of horticultural systems locally, nationally, and globally; and Quantify economic importance of plants in managed ecosystems and the impact of horticultural crops in food systems.

Department of Community Sustainability – Graduates will
• Critical Thinking: interpret, analyze and evaluate information generated by observation, experience, reflection, reasoning, and communication as a guide to formulate and defend responses to complex sustainability problems.
• Systems Thinking: demonstrate their knowledge of the interconnectedness of human and natural systems with the ability to anticipate and explain changes in complex systems over time.
• Economic literacy: demonstrate knowledge of and ability to use economic theories and methods to recognize and evaluate tradeoffs inherent in decision-making for sustainability.
• Ecological literacy: demonstrate knowledge, skills and ability to apply the tools and concepts of ecological science to explain the interdependence between humans and ecosystems and the consequences of actions at various spatial and temporal scales. Students will be able to:
• Boundary-crossing: identify their own assumptions and biases, recognize new perspectives, and demonstrate the ability to collaborate with individuals and groups whose norms, assumptions and biases are different from their own.
• Community: demonstrate knowledge of the various interpretations of community as it relates to the study and practice of sustainability
• Equity: demonstrate knowledge of the dynamics of social equality and inequality (equity) and how they affect sustainability.
• Civic engagement: develop the knowledge, skills, values, and motivation to participate in civic life.
• Leadership: develop, demonstrate and evaluate leadership practices that

contribute to sustainability.
• Initiative and practical skills: demonstrate initiative, including the ability to self-direct and solve problems individually and as participants in larger group efforts.
• Ethics: evaluate and analyze diverse ethical positions on practical sustainability challenges.

Does the institution specify sustainability learning outcomes at the program level (i.e. majors, minors, concentrations, degrees, diplomas, certificates, and other academic designations)?:
Yes

A list or brief description of the program level sustainability learning outcomes (or a list of sustainability-focused programs):

Program Level Learning Outcomes/Goals
College of Natural Science- the Residential Initiative on the Study of the Environment (RISE) After participating in the RISE Living-Learning Community, students will be able to:
• Form an Opinion: Articulate multiple perspectives about complex issues and formulate their own positions regarding these issues
• Demonstrate Leadership: Describe and demonstrate leadership practices through communication, group processes, projects, and skill-building activities
• Enact Social Change: Develop the knowledge, skills, and values to effectively participate in community action for social change
• Value Collaboration: Seek and value collaboration with others from diverse backgrounds and academic disciplines
• Describe Strengths: Describe personal strengths, skills, and interests and make meaningful academic, life, and career choices
• Engage in Sustainability Work: Learn about and apply concepts of sustainability to our campus and community by engaging in the discussions about the challenges.

College of Natural Sciences -Environmental Science and Policy Program: includes learning outcomes requiring students to
• Integrate concepts from multiple disciplines to address water-related issues and ideas
• Create appropriate inquiry protocols to investigate water-related issues and ideas
• Employ a systems perspective to understand the scale & scope of water-related issues and ideas
• Generate new insights & recommendations related to water issues and ideas
• Evaluate the disciplinary, cultural, and contextual uses and bias of data, methods, and solutions
• Analyze the purpose, role, & influence across a range of water-related organizations (e.g.,
• governmental, non-profit, profit)
• Approach water-related issues, ideas and decision making, including trade-offs, with an eye for power
• and equity
• Model conflict management and dialogue skills as means of engaging with diverse people &
• perspectives

• Design communications appropriate for academic, professional, lay, and student audiences & contexts
• Interpret common data related to water–related issues and ideas

Eli Broad College of Business graduate specialization in Business Concepts for Environment Sustainability and Conservation includes learning outcomes: graduates will:
• Have an awareness of the challenges of environmental sustainability in today's complex world,
• Have an understanding of the appropriate business management tools needed to address those issues.

College of Agriculture, and Natural Resource – Environmental Studies and Sustainability. Graduates of this program will be prepared to enter the professions of environmental, natural resource, agricultural and community development fields through careers in education, government, private industry, nonprofit organizations, and public relations and communications.

Do course level sustainability learning outcomes contribute to the figure reported above (i.e. in the absence of program, division, or institution level learning outcomes)?:
Yes

A list or brief description of the course level sustainability learning outcomes and the programs for which the courses are required:

Course Level Learning Outcomes/Goals
Note: A subset of courses with specific learning outcomes is provided here. The inventory prepared for AC1 is a comprehensive list of all courses that have been deemed "sustainability courses" [as noted in green] or "courses with elements of sustainability" [as noted in orange] per the technical guidance definition and was the resource utilized to calculate number of courses and number of degrees issued where learning outcomes may not have been as clearly defined.

Course CSUS 200 is required for all majors within the Department of Community Sustainability, Environmental Studies and Sustainability; RISE; Sustainable Parks, Recreation and Tourism; Agriculture Food and Natural Resources Education (undergrad) Community Sustainability and Sustainable Tourism and Protected Areas Management (graduate and phD.
In this course students will be able to: Students will be able to:
1. Identify key themes and principles in sustainability development
2. Apply a variety of critical thinking, analysis and research skills to evaluate the credibility of sustainability policy positions and scientific arguments.
3. Identify the concept of an ecological footprint and recognize their ecological footprint.
4. Improve decision-making capabilities within the context of sustainability.
5. Assess whether a societal issue is a wicked or tame problem.
6. Develop team leadership skills within groups to advance change within communities.
7. Use information technologies in their formal and non-formal learning.
8. Consider the importance of the Commons in developing community sustainability strategies.

9. Identify individual worldviews as they relate to sustainability and their implications for individual actions.
10. Examine the interaction between agriculture, food, natural resources and Michigan communities using a systems approach.
11. Use Life Cycle Analysis to consider the true costs of products and services. Additional course examples that include learning outcomes in sustainability at both the course and lecture level:

EEP405- The learning objective is that the students should be able to identify and analyze how value is being created and captured on the environmental/ sustainability dimension, under various domestic and international business conditions. Students will be able to apply appropriate decision analysis techniques to scrutinize, frame, strategize and evaluate unstructured business situations in various functional areas. Detailed learning outcomes for each class in the course are listed in the course plan.

The website URL where information about the programs or initiatives is available:
https://undergrad.msu.edu/programs/learninggoals

Additional documentation to support the submission:
STARS.AC2 inventory of degrees with learning outcomes or sustainability courses.xlsx

Data source(s) and notes about the submission:

Calculation of Number of Degrees conferred with sustainability the following were used:

Undergraduates – all degrees issued were included as a result of university-wide learning goals/outcomes (UGAD-Goals/Outcomes).
Graduates – All graduates from a division or program that may embedded sustainability into their learning goals; or graduates from programs that require at least one sustainability course as identified through the inventory for AC 1.
All programs where graduates were counted are identified on AC 2 Inventory of Degrees with Learning Outcomes/Courses.

https://sustainability.msu.edu/campus-information/sustainability-academics/index.html

Undergraduate Program

Score	Responsible Party
3.00 / 3.00	**Amy Butler** Campus Sustainability Director MSU Sustainability

Criteria

Institution offers at least one:

- [Sustainability-focused program](#) (major, degree program, or equivalent) for [undergraduate students](#)

  And/or

- Undergraduate-level sustainability-focused minor or concentration (e.g. a concentration on sustainable business within a business major).

To count, programs must concentrate on sustainability as an integrated concept, including its social, economic, and environmental dimensions.

Extension certificates and other certificates that are not part of academic degree programs do not count for this credit; they are covered in the *Continuing Education* credit in Public Engagement.

"---" *indicates that no data was submitted for this field*

Does the institution offer at least one sustainability-focused major, degree program, or the equivalent for undergraduate students (I.e. an interdisciplinary academic program that concentrates on sustainability as an integrated concept)?:
Yes

Name of the sustainability-focused undergraduate degree program:
Sustainable Parks, Recreation and Tourism

A brief description of the undergraduate degree program:

The Department of Community Sustainability offers a Bachelor of Science degree in Sustainable Parks, Recreation and Tourism (SPRT). By combining a body of specialized professional knowledge with the study of natural, social, management and behavioral sciences, the program provides an opportunity for students to obtain a broad, interdisciplinary education that emphasizes a professional area of knowledge integrated with the tenets of sustainability. The SPRT major is designed to prepare students for professional positions related to the management and enjoyment of the outdoors. Such positions include management of public parks, forests and protected areas, non-profit organizational land and facilities such as camps and commercial enterprises that provide goods and services to outdoor enthusiasts. Meeting people's outdoor leisure needs, enhancing the quality of life and providing sustainable economic and social development are hallmarks of the SPRT major.

Students in the SPRT major will acquire an understanding of natural resource recreation and tourism that integrates sustainability and effectively links theory with practice while engaging the community. This includes concepts of leisure, tourism, recreation and sustainability, as well as the operation of recreation delivery systems, policy, administration, management, planning and evaluation.

The website URL for the undergraduate degree program:
https://www.canr.msu.edu/csus/

Name of the sustainability-focused, undergraduate degree program (2nd program):
Environmental Studies and Sustainability (ESS)

A brief description of the undergraduate degree program (2nd program):

The ESS program of study is concerned with who uses natural resources, how they use them, and how positive outcomes of use can be enhanced and negative impacts can be mitigated. It examines resource use and allocation through the lenses of community engagement, sustainability and environmental justice. Students benefit from a broad range of interdisciplinary courses, as well as disciplinary and methods courses carefully selected to enhance students' technical knowledge.

The website URL for the undergraduate degree program (2nd program):
https://www.canr.msu.edu/csus/undergraduate/ess

Name of the sustainability-focused, undergraduate degree program (3rd program):
Agriculture, Food & Natural Resources Education (AFNRE)

A brief description of the undergraduate degree program (3rd program):

Students in the AFNRE program who wish to become secondary school teachers must also apply for the Secondary Education Teacher Preparation Program in the Department of Teacher Education, College of Education. Graduates of the AFNRE program who have also completed the Secondary Education Teacher Preparation program will be prepared to enter a fifth-year professional teaching internship. After completing the internship and additional courses in the Secondary Education Teacher Preparation program they will be eligible to apply for provisional teacher certification. Those majors who are not admitted into the Secondary Education Teacher Preparation program will have a broad technical background grounded with a social science foundation preparing them for a variety of careers within government, private industry, non-profit organizations, public relations and communications, or to enter a professional or graduate school program upon completion of the bachelor's degree.

The website URL for the undergraduate degree program (3rd program):
https://www.canr.msu.edu/csus/undergraduate/afnre

The name and website URLs of all other sustainability-focused, undergraduate degree program(s):

Residential Initiative on the Study of the Environment (RISE) -

http://naturalscience.msu.edu/students/rise/

Knight Center for Environmental Journalism -

http://j-school.jrn.msu.edu/kc/

Biosystems Engineering (BE) -

http://www.egr.msu.edu/bae/

Chemical Engineering and Materials Science-

http://www.chems.msu.edu/

Fisheries and Wildlife -

http://www.fw.msu.edu/

Forestry -

http://www.for.msu.edu/

Environmental Geography -

http://geo.msu.edu/undergraduate-information/undergraduate-degrees-2/

Sustainable and Organic Horticulture -

http://www.hrt.msu.edu/degree-requirements/

Crop and Soil Sciences -

http://www.psm.msu.edu/

Global Studies in the Arts and Humanities -

http://globalstudies.msu.edu/

Packaging -http://www.packaging.msu.edu/

Does the institution offer one or more sustainability-focused minors, concentrations or certificates for undergraduate students?:
Yes

Name of the sustainability-focused undergraduate minor, concentration or certificate:
Science, Technology, Environment and Public Policy (STEPPS)

A brief description of the undergraduate minor, concentration or certificate:

The Minor in Science, Technology, Environment and Public Policy (STEPPS) is available as an elective to students who are enrolled in bachelor's degree programs at Michigan State University. The minor will expose students to policy-making

processes at the local, state ,national and international levels; examine historical trends and analyze social relationships; build a strong understanding of scientific principles used to formulate sound policy initiatives; and facilitate a linkage between policy-making and science, technology and the environment.

The website URL for the undergraduate minor, concentration or certificate:
https://jmc.msu.edu/minor/stepp//

Name of the sustainability-focused undergraduate minor, concentration or certificate (2nd program):
Sustainable Natural Resource Recreation Mangement

A brief description of the undergraduate minor, concentration or certificate (2nd program):

The minor offers students the opportunity to integrate knowledge of social, biological and physical sciences, natural resources and eco systems to sustainably manage for outcomes that include outdoor recreation.

The website URL for the undergraduate minor, concentration or certificate (2nd program):
https://www.canr.msu.edu/csus/

Name of the sustainability-focused undergraduate minor, concentration or certificate (3rd program):
Environmental and Sustainability Studies

A brief description of the undergraduate minor, concentration or certificate (3rd program):

The minor in environmental and sustainability studies is available as an elective to all students who are enrolled in bachelor's degree programs at Michigan State University. Students completing the minor will gain knowledge and skills essential for understanding the biological and physical environment that is inhabited and influenced by humans; managing complex interactions between humans and natural systems; and understanding how policy making impacts and shapes environmental and sustainability outcomes.

The website URL for the undergraduate minor, concentration or certificate (3rd program):
https://uas.broad.msu.edu/academicprograms/minors/environmental-and-sustainability-studies-mino
r/

The name and website URLs of all other sustainability-focused undergraduate minors, concentrations and certificates:

Specialization in Connected Learning: Bailey Scholars Program

https://www.canr.msu.edu/bsp/

; Specialization in Sustainable Agriculture and Food Systems; Specialization in Envrionmental Economics;specialization in agribusiness management

Additional documentation to support the submission:

Data source(s) and notes about the submission:

https://sustainability.msu.edu/campus-information/sustainability-academics/index.html

Graduate Program

Score	Responsible Party
	Amy Butler
3.00 / 3.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution offers at least one:

- Sustainability-focused program (major, degree program, or equivalent) for graduate students

   And/or

- Graduate-level sustainability-focused minor, concentration or certificate (e.g. a concentration on sustainable business within an MBA program).

To count, programs must concentrate on sustainability as an integrated concept, including its social, economic, and environmental dimensions.

Extension certificates and other certificates that are not part of academic degree programs do not count for this credit; they are covered in the *Continuing Education* credit in Public Engagement.

"---" *indicates that no data was submitted for this field*

Does the institution offer at least one sustainability-focused major, degree program, or the equivalent for graduate students (I.e. an interdisciplinary academic program that concentrates on sustainability as an integrated concept)?:
Yes

Name of the sustainability-focused graduate-level degree program:
Sustainable Tourism and Protected Area Management - Master of Science

A brief description of the graduate-level degree program:

The Master of Science degree in Sustainable Tourism and Protected Area
Management provides students with opportunities to engage in integrated and
applied research and to acquire professional skills for the study, management,
administration and planning of tourism and protected areas under the overarching
concept of community sustainability.

The website URL for the graduate-level degree program:
https://www.canr.msu.edu/csus/graduate/

Name of the sustainability-focused, graduate-level degree program (2nd program):
Sustainable Tourism and Protected Area Management - Doctorate of Philosophy

A brief description of the graduate degree program (2nd program):

The Doctor of Philosophy degree in Sustainable Tourism and Protected Area
Management is designed to enable students to generate new knowledge in the
complementary fields of tourism and protected area management under the
overarching concept of community sustainability.

The website URL for the graduate degree program (2nd program):
https://reg.msu.edu/academicprograms/ProgramDetail.aspx?Program=5377

Name of the sustainability-focused, graduate-level degree program (3rd program):
Community Sustainability - Masters & PhD

A brief description of the graduate degree program (3rd program):

The Department of Community Sustainability offers Master of Science and Doctor
of Philosophy degree programs in Community Sustainability. Graduate programs in
the Department of Community Sustainability provide students the opportunity to
create individualized programs that draw from several complementary areas of
scholarship. These areas include: community food and agricultural systems; natural
resources and the environment; tourism and recreation systems; education and
civic engagement; and international development. Today's communities face
complex problems due to ongoing changes to our environmental, social and
agricultural/food systems. To aid in meeting these challenges, students' programs
are designed to provide a thorough grounding in integrative, applied research
based on multiple paradigms, disciplines and methods. Master's and doctoral
students in the department may choose either degree. Masters students in both
degrees select either the Plan A (research-based) or Plan B (project-based) degree.
 A student may not earn a master's degree in both programs.

The website URL for the graduate degree program (3rd program):
https://reg.msu.edu/AcademicPrograms/Text.aspx?Section=114#s1408

The name and website URLs of all other sustainability-focused graduate-level degree programs:

Does the institution offer one or more graduate-level sustainability-focused minors, concentrations or certificates?:
Yes

Name of the graduate-level sustainability-focused minor, concentration or certificate:
Environmental Science & Policy Program (ESPP) Doctoral Specialization

A brief description of the graduate minor, concentration or certificate:

Doctoral students pursue a Ph.D. in one of MSU's many existing doctoral programs that have an environmental focus. In addition, they complete the coursework for the Specialization in Environmental Science and Policy. The Specialization provides students with an understanding of the diverse disciplines brought to bear on contemporary environmental problems. It is designed to provide an understanding of how various disciplines conceptualize environmental issues and how scientific information can be brought to bear on environmental decision-making and environmental policy

The website URL for the graduate minor, concentration or certificate:
http://environment.msu.edu/education/dual_major.php

Name of the graduate-level sustainability-focused minor, concentration or certificate (2nd program):
Ecological Food & Farming Systems Graduate Specialization

A brief description of the graduate minor, concentration or certificate (2nd program):

The Graduate Specialization in Ecological Food and Farming Systems is designed to foster an understanding of biogeochemical,socioeconomic, and policy concepts using experiential learning within the individual's program of study as a venue for multidisciplinary work. For global perspectives, students are encouraged to participate in either a study abroad course with ecological food and farming systems content, or in a course with international focus

The website URL for the graduate minor, concentration or certificate (2nd program):
https://www.canr.msu.edu/ans/students/graduate_program/interdisciplinary_options

Name of the graduate-level sustainability-focused minor, concentration or certificate (3rd program):
Graduate certificate - Forest Carbon Science, Policy, and Management

A brief description of the graduate minor, concentration or certificate (3rd program):

The Graduate Certificate in Forest Carbon Science, Policy and Management provides students with interdisciplinary training necessary to plan, manage, monitor and evaluate climate change mitigation projects that seek to retain or sequester carbon in forest ecosystems. Students will gain specific expertise needed internationally to participate in market-based, climate change mitigation activities such as the United Nations Collaborative Program on Reducing Emissions from Deforestation and Forest Degradation (REDD+).

The website URL for the graduate minor, concentration or certificate (3rd program):
https://reg.msu.edu/AcademicPrograms/ProgramDetail.aspx?Program=5351

The name and website URLs of all other graduate-level, sustainability-focused minors, concentrations and certificates:

Biosystems Engineering (BE) -

http://www.egr.msu.edu/bae/

Chemical Engineering and Materials Science -

http://www.chems.msu.edu/

Fisheries and Wildlife -

http://www.fw.msu.edu/

Forestry -

http://www.for.msu.edu/

Environmental Geography -

http://geo.msu.edu/undergraduate-information/undergraduate-degrees-2/

Crop and Soil Sciences -

http://www.psm.msu.edu/

Packaging -http://www.packaging.msu.edu/

Additional documentation to support the submission:
AC1_Course Inventory FINAL .xlsx

Data source(s) and notes about the submission:

see attached inventory of degrees

Immersive Experience

Score | **Responsible Party**
| **Mara Spears**
2.00 / 2.00 | Sustainability Program Coordinator
| Office of the EVP for Administration

Criteria

Institution offers at least one immersive, sustainability-focused educational study program. The program is one week or more in length and may take place off-campus, overseas, or on-campus.

For this credit, the program must meet one or both of the following criteria:

- It concentrates on sustainability, including its social, economic, and environmental dimensions

   And/or

- It examines an issue or topic using sustainability as a lens.

For-credit programs, non-credit programs and programs offered in partnership with outside entities may count for this credit. Programs offered exclusively by outside entities do not count for this credit.

See the Credit Example in the STARS Technical Manual for further guidance.

"---" *indicates that no data was submitted for this field*

Does the institution offer at least one immersive, sustainability-focused educational study program that is one week or more in length?:
Yes

A brief description of the sustainability-focused immersive program(s) offered by the institution, including how each program addresses the social, economic, and environmental dimensions of sustainability:

MSU's Education Abroad Program is in the top ten best Study Abroad Programs in the nation. MSU has thirty-six different study abroad programs in sustainability, the most well-known being MSU's Residential College of Arts and Humanities Program in Costa Rica (

https://osa.isp.msu.edu/programs/program/index/108664/

). This groundbreaking experience reaches from the cloud forests of Monteverde to the mountains and archipelagos of Costa Rica and Panama's Caribbean coast. In one semester, participants are trained for international leadership in sustainable community and organizational development. The other programs include Business Sustainability and Entrepreneurship in Costa Rica, Sustainable Food, Environment and Social Systems in Australia, International Social Policy & Social Service Delivery in Finland, Community Engagement and Interdisciplinary Study in the Peruvian Andes, and many others. Please see attached.

The Residential Initiative on the Study of the Environment (RISE) is a living learning academic program. The program is interdisciplinary by design and is co-sponsored by the colleges of Natural Science, Agriculture and Natural Resources, Engineering, Communication Arts and Sciences, and Social Science. Students live together in a LEED certified residential hall, earn a minor in environmental and sustainability studies, partner with campus operations to improve sustainability practices and processes, and conduct research with faculty in related disciplines. Over 175 students are in residence in 2013-14 with an additional 100 students engaged in the program but living off campus. Information on RISE can be found on the following webpage: https://rise.natsci.msu.edu/

The website URL where information about the programs or initiatives is available: https://educationabroad.isp.msu.edu/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

"MSU's study abroad programs grow and change regularly. Many programs are offered every other semester. Because they are offered through different colleges and schools, the documentation of programs and trips is recorded by individual schools. For a more comprehensive list of programs, please see the attached document. For more information on our national rankings, please visit the page below.

https://msutoday.msu.edu/news/2018/no-8-in-nation-for-study-abroad-participation/?utm_campaign=standard-promo&utm_source=msufacebook-post&utm_medium=social

For more information on specific courses in the study abroad programs and insights into when certain programs are offered, an internal search sight is offered for MSU staff, faculty, and students. The link can be found below.

https://osa.isp.msu.edu/programsearch/index/narrowMode/0/advanced/1

Further links on students abroad can be found below:

https://www.youtube.com/watch?v=OOjWBCASI3M

https://www.youtube.com/watch?v=PxamAB0WAL8

https://www.youtube.com/watch?v=xDEbi_412eM
"

Sustainability Literacy Assessment

Score   **Responsible Party**
            Amy Butler
4.00 / 4.00 Campus Sustainability Director
            MSU Sustainability

Criteria

Institution conducts an assessment of the sustainability literacy of its students. The sustainability literacy assessment focuses on knowledge of sustainability topics and challenges.

Assessments that primarily address sustainability culture (i.e. values, behaviors, beliefs, and awareness of campus sustainability initiatives) or student engagement in sustainability-related programs and activities are excluded. Cultural assessments are recognized in the *Assessing Sustainability Culture* credit in Campus Engagement.

Participation by U.S. and Canadian institutions in the National Survey of Student Engagement (NSSE) Sustainability Education Consortium does not count for this credit, but may be reported as an Exemplary Practice in Innovation & Leadership.

An institution may use a single instrument that addresses sustainability literacy, culture, and/or engagement to meet the criteria for this credit if at least ten questions or a third of the assessment focuses on student knowledge of sustainability topics and challenges.

"---" *indicates that no data was submitted for this field*

Does the institution conduct an assessment of the sustainability literacy of its students (i.e. an assessment focused on student knowledge of sustainability topics and challenges)?:
Yes

Which of the following best describes the literacy assessment? The assessment is administered to::
The entire (or predominate) student body, directly or by representative sample

Which of the following best describes the structure of the assessment? The assessment is administered as a::
Pre- and post-assessment to the same cohort or to representative samples in both a pre- and post-test

A copy of the questions included in the sustainability literacy assessment(s):
ac_6 inventory combined.pdf

A sample of the questions included in the sustainability literacy assessment or the website URL where the assessment tool may be found:

See attached document

A brief description of how the literacy assessment was developed and/or when it was adopted:

the literacy assessment has been conducted annually for the last five years. A manual that describes the process has been developed. and shared with BIG 10 and Friends in the region. A standardized approach that is consistent with the requirements of the IRB is utilized. Details of the methodology are included in the report and guidance which are uploaded in the online reporting tool.

A brief description of how a representative sample was reached (if applicable) and how the assessment(s) were administered :

The assessments are administered via email utilizing Qualtrics.

A brief summary of results from the literacy assessment(s), including a description of any measurable changes over time:

A population of 20,000 students received the initial survey between October 11 and October 30,. The total responses was 3737 with an overall response rate of 18.6 %. Of the total respondents, 45% live off campus and 53.1 % live on campus, and 1.8 % in Greek houses. Knowledge of social sustainability; economic sustainability, environmental sustainability and distribution of knowledge throughout fourteen different colleges. The lowest knowledge scores were in the School of Nursing and the highest were in the School of Music. Questions were also asked regarding factors impacting choice of living arrangements as well as insight on sustainable elements such as sustainability attitudes; and sustainable actions taken on campus, i.e. alternative transportation; recycling; energy conservation; food waste and plastic use.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:
ac_6 combined files updated_opMNCIR.pdf

Data source(s) and notes about the submission:

survey results; and questions for both 2017 and 2018 are uploaded as attachment

Incentives for Developing Courses

Score	Responsible Party
	James Lucas
2.00 / 2.00	Assistant Dean of Global Education and Curriculum
	Undergraduate Education

Criteria

Institution has an ongoing program or programs that offer incentives for faculty in multiple disciplines or departments to develop new sustainability courses and/or incorporate sustainability into existing courses or departments. The program specifically aims to increase student learning of sustainability.

Incentives may include release time, funding for professional development, and trainings offered by the institution.

Incentives for expanding sustainability offerings in academic, non-credit, and/or continuing education courses count for this credit.

"---" *indicates that no data was submitted for this field*

Does the institution have an ongoing program or programs that offer incentives for faculty in multiple disciplines or departments to develop new sustainability courses and/or incorporate sustainability into existing courses?:
Yes

A brief description of the program(s), including positive outcomes during the previous three years (e.g. descriptions of new courses or course content resulting from the program):

Integrated Studies are the general education requirements for all incoming freshman for the university. Sustainability and solving 'wicked' problems has been an integral part of Integrated Studies [Jim Lucas - Assoc. Dean Global Education & Curriculum]. An incentive program was developed through Dr. Lucas, to incentivize faculty to increase faculty capacity for integrating grand sustainability challenges such as solving wicked problems into more interdisciplinary ways. The initial program had 12 faculty who participated. Building off the success of this program, a second incentive program has been developed and is currently being implemented with a focus on inclusion, diversity, and urban agriculture and access to food. IN this phase of the program, they take 9-10 faculty who volunteer on field experiences to enhance their understanding and integration fo diversity in an applied way.

A brief description of the incentives that faculty members who participate in the program(s) receive:

For the first round of the program, faculty were provided $2,000 for them to attend key workshops and to work on changing their syllabi. For the second round, MSU provides food, field experiences, and small stipends for changing their courses as well.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Campus as a Living Laboratory

Score	**Responsible Party**
	Mara Spears
4.00 / 4.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Institution is utilizing its infrastructure and operations for multidisciplinary student learning and applied research that contributes to understanding campus sustainability challenges or advancing sustainability on campus in at least one of the following areas:

- Air & Climate
- Buildings
- Energy
- Food & Dining
- Grounds
- Purchasing
- Transportation
- Waste
- Water
- Coordination & Planning
- Diversity & Affordability
- Investment & Finance
- Public Engagement
- Wellbeing & Work
- Other (e.g., arts and culture or technology)

This credit includes substantive work by students and/or faculty (e.g. class projects, thesis projects, term papers, published papers) that involves active and experiential learning (see the Credit Example in the *STARS Technical Manual*). On-campus internships and non-credit work that take place under supervision of faculty members, sustainability staff, or sustainability committees may count as long as the work has a

formal learning component (i.e., there are opportunities to document and assess what students are learning).

This credit does not include immersive education programs, co-curricular activities, or community service, which are covered by the *Immersive Experience* credit,credits in Campus Engagement, and the *Community Service* credit in Public Engagement, respectively.

Projects that utilize the local community as a living laboratory to advance sustainability may be included under "Public Engagement". A single, multidisciplinary living lab project may simultaneously address up to three of the areas listed above.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Air & Climate?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Air & Climate:

A team of students in Applied Engineering worked with MSU Infrastructure and Planning Facilities to develop a business case for a campus-wide temperature control guideline. This guideline includes multiple approaches acknowledging the fact that IPF utilizes a variety of technologies, including direct digital control (DDC). Big data analysis techniques were used to pinpoint weak systems and prioritize the order in which they should be updated. Additionally, a statistic-based marketing scheme was developed to encourage behavioral shifts towards sustainability. This project will serve as the foundation for a campus- wide cultural and behavioral shift towards increased HVAC efficiency and sustainability. Perrigo Holland wants to contribute to the corporate goal of reducing energy consumption by 15% by the year 2020. Biosystems students formed a team called the Energy Pharmers, whose goal was to create a manufacturing plant energy audit and optimization measurement system. The students performed an energy audit to evaluate the facility's energy profile and recommended energy conservation measures that are anticipated to offset the impact of the new addition on overall energy consumption.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Buildings?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Buildings:

A team of students in Applied Engineering worked with MSU Infrastructure and Planning Facilities to develop a business case for a campus-wide temperature

control guideline. This guideline includes multiple approaches acknowledging the fact that IPF utilizes a variety of technologies, including direct digital control (DDC). Big data analysis techniques were used to pinpoint weak systems and prioritize the order in which they should be updated. Additionally, a statistic-based marketing scheme was developed to encourage behavioral shifts towards sustainability. This project will serve as the foundation for a campus- wide cultural and behavioral shift towards increased HVAC efficiency and sustainability.

A Registered Student Organization called Sustainable Spartans worked with Infrastructure and Planning Facilities (IPF) to survey the campus Main Library roof to assess feasibility of planting a green roof. The students worked with IPF Sustainability Officer Anne Erhardt to organize facilities personal to conduct the survey, and the students led the planning process. Implementation of the Library Green roof is scheduled for the 2019-2020 academic year.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Energy?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Energy:

When MSU joined the Better Buildings Challenge in 2011, a national program designed to reduce energy use, it planned to meet the national goal of a 20 percent reduction by the year 2020. However, just more than two years into the program in 2014, the university is more than halfway to that 20 percent goal. MSU achieved a 10 percent reduction in energy intensity as of May 2014, which is the amount of energy used per square foot. MSU was one of 30 partners, out of a total of 190, that achieved a 10 percent reduction.

The 2016 Solar Design Competition hosted student project ideas for solar panel implementation on campus. Students from Sustainable Spartans worked with their faculty advisor, the sustainability officer in Infrastructure and Planning Facilities (IPF), other sustainability employees from IPF, and with entrepreneur student managers at Spartan innovations on the design and planning. A solar light was placed on a bus stop post just outside Akers Hall on campus. The light has been installed since Summer 2017 and was funded by the Be Spartan Green fund.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Food & Dining?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Food & Dining:

The Residential Initiative on the Study of the Environment (RISE) program and the Student Organic Farm both grow and sell produce to various campus dining halls. The RISE Bailey Greenhouse sells enough produce to financially break even annually. In

addition, the Bailey Hoop house is an organic and student run green house which produces herbs and greens year round. The students in RISE work with advisors and facilities workers to build the beds when the farm expands, learning collaborative team building skills in the process. Farming the space and selling to dining hall managers an chefs teaches the students about circular economy elements and sustainable economics. The Bailey Greenhouse and Urban Farm are third-party certified organic, and the students learn and apply sustainable farming practices to the cultivation of the crops. The students who grow the food also eat at the dining halls that use that produce in their dishes. RISE students are enrolled in their program for credit, and are required to contribute to the greenhouses as part of that credit.

Residential and Hospitality Services (RHS) hosts an annual fall semester waste diversion event series called Clean Plates at State. This program is made up of three months of food waste weighing at the Brody Dining Hall on campus. The program works in partnership with HNF 440: Community Engaged Learning. Students speak with every patron of the dining call for a three hour period and weigh the waste left on plates at the conclusion of each person's meal to demonstrate the waste accumulation of leftover food. Students are involved in the program through formal agreements with their courses and professors (HNF 440, and others; varies by semester), and the hours they spend at clean plates count towards their curriculum credit. Classes involved include those in nutrition and dietetics, sustainability introductory courses, and several agriculture classes. All collected food is composted.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Grounds?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Grounds:

Students in the Residential Initiative on the Study of the Environment are constantly working on the grounds around their on-campus living spaces in the Bailey Greenhouse and Urban Farm. Students work to grow food crops in the Midwest in winter, and their applied research requires them to figure soil amendments and pests, as well as researching and applying compost practices in weather below 32 degrees Fahrenheit.

Students in MSU's Landscape and Nursery Management, Horticulture, and Construction Management programs all work across MSU's expansive campus in in the greenhouses, hoop houses, and gardens to cultivate the native and perennial plants that grow there. The students learn best practices in landscape management and built environment curriculums, and are able to apply their knowledge to the grounds of MSU.

In coordination with MSU Infrastructure and Planning Facilities (IPF), Residential and Hospitality Services (RHS), and students across campus, a designated area for hammocking was created for students. This area is intended to help students relax and it serves as a restful and social space for students who wish to hammock on campus. The students involved in the project worked with IPF and RHS to map out the locations and number of hammock poles. Students worked with IPF in

purchasing the poles and equipment needed to create the space, which cost $1,200 including a 10% contingency.

MSU Land Management operates an anaerobic digester. Effluent is drained from the digester daily and it is stored in a holding tank. A few times a year the holding tank is drained for application on agricultural lands. However, not all of this effluent can be land applied due to run off potential and odor. Remaining effluent must be exported at a high cost. A faculty team was assembled and has designed a system to separate some of the liquid from the effluent so that it can be better managed. The remaining nutrients can be land applied for plant growth.

Students installed a Pollinator Garden at NW Wells Hall Entrance; the students involved are both RISE students. They received $750 grant from Spartan Innovations toward the project, and donated design and balance of labor and materials.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Purchasing?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Purchasing:

MSU Recycling Center and Surplus Store employs over 80 students, and each student learns about the lifecycle of products and the journey from cradle to grave during their employment there. Surplus store students are instructed in item pricing and purchasing to assess the financial value of products meant for re-sell. Surplus Store student employees also deal with customer purchases, returns, inquiries, and drop-offs of items.

Students who run Land Grant Goods, the first student-run MSU business, learn how to manage a small business, learn and apply sustainable business practices, and learn how to sell to campus stores and buy packaging for their products. Land Grant Goods students are immersed in the entrepreneurial sustainable business practice, and are required to report to an advisory board of faculty annually.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Transportation?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Transportation:

Students in Electrical and Computer Engineering 480 designed a device to combat the danger of silent electric cars on the road, which can threaten a pedestrian, especially in high foot-traffic areas like the MSU campus. General Motors challenged students at MSU to solve this issue, by developing a new kind of sound-emitting device that notifies pedestrians of the approaching car. The team developed a piezoelectric speaker array that emits a frequency modulated ultrasonic tone consisting of an audio signal and a carrier signal. When the sound

waves hit an object, the signals mix and deconstruct into an audio-band signal that can be heard.

Five civil and environmental engineering teams spent a semester on a proposed trail planning project: a five-mile pathway linking the MSU campus to Lake Lansing. Designs were inspired by a project currently under development in Meridian Township, east of campus. The first phase of the project is a river trail extension from the east limit of Michigan State's campus (Shaw Lane at Hagadorn Road) about 1.1 miles along the north side of the Red Cedar River to Park Lake Road. The project will include a new pedestrian bridge crossing the Red Cedar River, as well as two separate boardwalk locations.

Students in Applied Engineering assembled a team to perform market research on the demand for Electric Vehicle charging stations and derive a recommendation for how many new charging stations should be installed as well as where to install them. They should be located in places where it is both convenient for users to access as well as be compatible with the current infrastructure of campus, specifically in terms of electrical power draw capability and potential remote monitoring capabilities. This recommendation will also be dependent on projections of expected use of EV/Plug-In Hybrid vehicles among drivers at MSU.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Waste?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Waste:

Residential and Hospitality Services (RHS) hosts an annual fall semester waste diversion event called Clean Plates at State. This program is made up of three months of food waste weighing at the Brody Dining Hall on campus. Volunteers speak with every patron of the dining call for a three hour period and weigh the waste left on plates at the conclusion of each person's meal to demonstrate the waste accumulation of leftover food. Students are involved in the program through formal agreements with their courses and professors, and the hours they spend at clean plates count towards their curriculum credit. Classes involved include those in nutrition and dietetics, sustainability introductory courses, and several agriculture classes. All collected food is composted.

MSU Land Management operates an anaerobic digester. Effluent is drained from the digester daily and it is stored in a holding tank. A few times a year the holding tank is drained for application on agricultural lands. However, not all of this effluent can be land applied due to run off potential and odor. Remaining effluent must be exported at a high cost. A faculty team was assembled and has designed a system to separate some of the liquid from the effluent so that it can be better managed. The remaining nutrients can be land applied for plant growth.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Water?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Water:

Danny Jacques, a landscape services staff member, prepared a presentation for one of MSU's Institute of Agricultural Technologies (IAT) lab courses. The IAT is a statewide and national highly respected certificate program, where students learn and develop skills through classroom instruction and field laboratories. Every year, IAT 2-year Horticulture Program Coordinator, Marcus Duck, works with Landscape Services to facilitate hands-on informative labs for his students to experience. Danny educated the students at the Molecular Plant Sciences Building about materials and procedures used by Landscape Services to maintain the campus irrigation systems that operates from mid-April to November.
MSU holds a permit for the Phase II Stormwater National Pollutant Discharge Elimination System (NPDES) Permit No. MI0059342. The permit allows for discharges from a municipal separate storm sewer system (MS4). MSU is working to meet its permit requirements by implementing campus-based stormwater management activities and collaborative activities with other communities within the Greater Lansing urbanized area. Best management practices, updated campus stormwater information, and interaction with MSU staff who carry out such practices are all embedded in the curriculum of CSUS 354, Water Resources Management and CSUS 200, Introduction to Sustainability.
WATER MOVES MSU: Water moves was a year long program in the academic year 2016-2017, with diverse activities including art, film, music, performances, lectures, events, and exhibits. By inviting guest speakers on water to the MSU campus – including artists, scholars, authors, musicians, filmmakers, lawmakers and government officials – MSU aimed to educate to empower community action, inspire creativity, and instill a sense of urgency to respect and appreciate the most prevalent and precious resource on our planet. The initiative strengthened the university-wide focus on water and cut across multiple strategic imperatives under Bolder by Design: enriching the student experience, global inclusiveness, and engaging the community.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Coordination & Planning?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Coordination & Planning:

In Food Product Marketing (FIM 220), students conduct community studies and focus groups. These studies gauge interest in sustainability topics and gather ideas to create improvement or implementation plans for sustainability practices in MSU departments. In one class, students from Food Industry Management, Agri-Business Management, and Environmental Economics and Management did a focus group project involving MSU Residence and Hospitality Services (RHS). The group focused on reusable containers for the campus combo exchange program. They met with students, RHS, Culinary Services, and Sparty's to get their thoughts on a

program. Through this research the students learned more about each area's sustainability practices, what can be improved, and formed ideas on what the program could look like. Results from the focus groups are being used at RHS Sustainability.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Diversity & Affordability?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Diversity & Affordability:

Students in Mechanical Engineering 481 worked with MSU's Adaptive Sports & Recreation Club and the MSU Resource Center for Persons with Disabilities to upgrade wheelchairs for student-athletes with disabilities. The mechanical engineering students worked closely with the athletes and created several different wheelchairs. The project was for students with disabilities that impact function in the upper limbs, in order to better accommodate a wider range of students with disabilities.
A graduate student in MSU Kinesiology asked students in Mechanical Engineering 481 to modify a walker for more aggressive training. The graduate student, who has cerebral palsy, worked with the team to create a safe, durable and ergonomic posterior posture walker that easily moves with the user during sports activities. The team designed a walker for use on track, turf, and basketball court surfaces. The device is intended to be used by persons with partial control over their lower limbs. The design incorporated ergonomic handgrips, a foot shield for the back wheels, and a switch to lock/unlock the front wheels. The sponsor of the project is the MSU Adaptive Sports & Recreation Club.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Investment & Finance?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Investment & Finance:

MSU Land Management operates an anaerobic digester. Effluent is drained from the digester daily and it is stored in a holding tank. A few times a year the holding tank is drained for application on agricultural lands. However, not all of this effluent can be land applied due to run off potential and odor. Remaining effluent must be exported at a high cost. A faculty team was assembled and has designed a system to separate some of the liquid from the effluent so that it can be better managed. The remaining nutrients can be land applied for plant growth. This process allows MSU to create a closed-loop system from waste to an application product; because the digester would be running regardless, the nutrient-rich by-product is free and is a great example of a circular economy practice.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Public Engagement?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Public Engagement:

Courses in the Knight Center for Environmental Journalism take students out of the classroom and into neighboring communities, and sometimes abroad. Classes such as JRN 472 take students to nearby cities to learn about climate injustices and water issues. Instructors lead studies in focused studies around concepts related to the environment; the idea is to study and report on environmental issues that transcend international boundaries.

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to Wellbeing & Work?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to Wellbeing & Work:

"In coordination with MSU Infrastructure and Planning Facilities (IPF), Residential and Hospitality Services (RHS), and students across campus, a designated area for hammocking was created for students. This area is intended to help students relax and it serves as a restful and social space for students who wish to hammock on campus. The students involved in the project worked with IPF and RHS to map out the locations and number of hammock poles. Students worked with IPF in purchasing the poles and equipment needed to create the space, which cost $1,200 including a 10% contingency.
RISE has a student team dedication to health and wellness. The team hosts a series of workshops throughout the year to provide their peers with skills such as yoga, mindfulness, time-management, and a variety of therapeutic crafts."

Is the institution utilizing its campus as a living laboratory for multidisciplinary student learning and applied research in relation to other areas (e.g. arts & culture or technology)?:
Yes

A brief description of the student/faculty projects and how they contribute to understanding campus sustainability challenges or advancing sustainability on campus in relation to other areas:

Students enroll in a course called Snares to Wares; an experiential, interdisciplinary, and entrepreneurial problem-based class. The course explores issues concerning the conservation of wildlife and preservation of human well-

being in East Africa. The course ties to the Snares to Wares initiative in East Africa. Robert Montgomery, Assistant Professor in MSU's Department of Fisheries and Wildlife, and Tutilo Mudumba, a doctoral student in the Department of Fisheries and Wildlife, began the program. Snares to Wares removes wire snares set to trap animals in Uganda's Murchison Falls National Park. Wires are confiscated and cleaned, and locals create sculptures from them. Students in the Snares to Wares course work in four teams: content development, digital strategy, sustainability, and value chain. Each team has its own objectives and is made up of students from different disciplines. Students work to brainstorm solutions to trapping wild animals, bettering communities in East Africa, and creating valuable products with a sustainable business model.

MBA students from the Eli Broad College of Business are working in partnership with General motors to build an autonomous vehicle over three years. The competition, called CANVAS, is against seven other universities, with the aim of educating young engineers in creating autonomous vehicles in their future careers. MSU students began the project in 2016, and it's completion is planned for 2019. Students in the Biosystems capstone class designed a wearable phototherapy device for Jaundice treatment.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:
AC8_Operations in Academics FINAL (1).xlsx

Data source(s) and notes about the submission:

sustainability.msu.edu

http://ipf.msu.edu/services/composting-and-digestion.html

https://msusurplusstore.com/about-us/

https://www.landgrantgoods.com/

https://www.canr.msu.edu/iat/landscape_and_nursery_management_1

Research

Points Claimed 15.85
Points Available 18.00

This subcategory seeks to recognize institutions that are conducting research on sustainability topics. Conducting research is a major function of many colleges and universities. By researching sustainability issues and refining theories and concepts,

higher education institutions can continue to help the world understand sustainability challenges and develop new technologies, strategies, and approaches to address those challenges.

From the institution:

"A particular research program of great interest to sustainability and unique is the collaboration with University of Wisconsin - the Great Lakes Bioenergy Research Center. While launched several years prior, it was launched with the full concept of sustainable agriculture. It involves 35 faculty and received 25 million per year through a DOE grant. Lead: Eric Hegg. At Great Lakes Bioenergy,researchers draw on the expertise of engineers, economists, microbiologists, and ecologists to develop sustainable biofuels and bioproducts. Working together, they engineer bioenergy crops to enhance their environmental and economic value, conduct research to generate multiple products from plant biomass, and optimize the field-to-product pipeline. An initiative aimed at raising environmental awareness and engagement in Monroe, Michigan, born out of a collaboration with Michigan State University's College of Arts and Letters, is now being recognized with the Distinguished Partnership Award for Community-Engaged Service by MSU's Office of University Outreach and Engagement.

Kelly Salchow MacArthur, associate professor of graphic design in the Department of Art, Art History and Design, along with two of her past students, Larissa Moyer and Malarie French, worked with the River Raisin Institute of Monroe on the project, called the Resilient Monroe Green Map Initiative."

Credit	Points
Research and Scholarship	11.85 / 12.00
Support for Research	4.00 / 4.00
Open Access to Research	0.00 / 2.00

Research and Scholarship

Score	Responsible Party
	Amy Butler
11.85 / 12.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution has conducted an inventory during the previous three years to identify its sustainability research activities and initiatives and makes the inventory publicly available. The research inventory should be based on the definition of "sustainability research" outlined in *G. Standards and Terms* and include, at minimum, the names and department affiliations of all faculty and staff members engaged in sustainability research. Research for which partial or incomplete information is provided may not be counted toward earning points for this credit.

Part 1

Institution produces sustainability research as measured by the percentage of faculty and staff engaged in research that are engaged in sustainability research.

Part 2

Institution produces sustainability research as measured by the percentage of academic departments that conduct research that include at least one faculty member who conducts sustainability research.

Any level of sustainability research is sufficient to be included for this credit. In other words, a researcher who conducts both sustainability research and other research may be included.

"---" *indicates that no data was submitted for this field*

Total number of the institution's faculty and/or staff that are engaged in research (headcount):
2010

Number of the institution's faculty and/or staff that are engaged in sustainability research (headcount):
371

Percentage of the institution's faculty and staff researchers that are engaged in sustainability research :
18.46

Total number of academic departments (or the equivalent) that include at least one faculty or staff member that conducts research:
93

Number of academic departments (or the equivalent) that include at least one faculty or staff member that conducts sustainability research:
68

Percentage of research-producing departments that are engaged in sustainability research:
73.12

A copy of the institution's inventory of its sustainability research that includes names and department affiliations of faculty and staff engaged in sustainability research:
A_9 Sustainability Scholars_Dept 2018.xlsx

The institution's inventory of its sustainability research that includes names and department affiliations of faculty and staff engaged in sustainability research:

　　See attached.

A brief description of the methodology the institution followed to complete the research inventory (including the types of faculty and staff included as researchers):

MSU Scholars database was searched using key words representing sustainability. This was the same search strategy used for the academic coursework. In addition, the previous report list, climate change faculty list, and key centers that do sustainability research with their affiliate faculty were compiled. This provided a cross check and significant confidence in the data.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Support for Research

Score	Responsible Party
	Amy Butler
4.00 / 4.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution encourages and/or supports sustainability research through one or more of the following:

- An ongoing program to encourage students in multiple disciplines or academic programs to conduct research in sustainability. The program provides students with incentives to research sustainability. Such incentives may include, but are not limited to, fellowships, financial support, and mentorships. The program specifically aims to increase student sustainability research.
- An ongoing program to encourage faculty from multiple disciplines or academic programs to conduct research in sustainability topics. The program provides faculty with incentives to research sustainability. Such incentives may include, but are not limited to, fellowships, financial support, and faculty development workshops. The program specifically aims to increase faculty sustainability research.
- Written policies and procedures that give positive recognition to interdisciplinary, transdisciplinary, and multidisciplinary research during faculty promotion and/or tenure decisions.
- Ongoing library support for sustainability research and learning in the form of research guides, materials selection policies and practices, curriculum development efforts, sustainability literacy promotion, and/or e-learning objects focused on sustainability.

Does the institution have an ongoing program to encourage students in multiple disciplines or academic programs to conduct research in sustainability? :
Yes

A brief description of the student research program, including the incentives provided and any positive outcomes during the previous three years:

At the undergraduate, master's and doctoral levels, there are funding opportunities to support sustainability research and scholarly activity.

https://vprgs.msu.edu/for/students

. The Sustainability Michigan Endowed Project (SMEP) provides funding through its SMEP Scholars Program. This year is the third cohort. Previous awarded projects include: CSUS Climate Change Adaptation; CSUS Natural Resource Management: CSUS - Environmental Justice, Gender & Community Action. A third program supporting student research on sustainability projects is the Be Spartan Green Student Project Fund, which provides financial support for students to explore solutions to challenges in sustainability at MSU. Up to $5000 was available per project.

http://bespartangreen.msu.edu/student-grants.php

. This project is currently archived. The MICHSURE program and the SROP programs fund student research annually where there are consistently a number of sustainability focused research projects included. Faculty serve as mentors. This program is open to students from multiple universities to have the opportunity to work with MSU Researchers. An example is "The effects of using FOGs as feedstock to increase biogas production in municipal waste water anaerobic digesters. For students that may want to try to commercialize their research, MSU partners with MSU Business Connect, Innovation Center and Spartan Innovations to assist. http://businessconnect.msu.edu/

Does the institution have a program to encourage faculty from multiple disciplines or academic programs to conduct research in sustainability topics?:
Yes

A brief description of the faculty research program, including the incentives provided and any positive outcomes during the previous three years:

For faculty that may want to try to commercialize research, there is a partnership and a tech transfer program through MSU also partners with MSU Business Connect, MSU Innovation Center and Spartan Innovations.

http://businessconnect.msu.edu/

. The AgbioInstitute receives separate funding through the state to support agricultural research including sustainable agriculture. They often will provide funding to leverage federal funding to support sustainability focused research. Their programs are not strictly sustainability but provide a strong component. The other place that substantial sustainability research is conducted cross disciplinary is through key centers and institutes, in particular the Environmental Science and Policy program that has over 250 faculty conducting joint research throughout various subjects.

Has the institution published written policies and procedures that give positive recognition to interdisciplinary, transdisciplinary, and multidisciplinary research during faculty promotion and/or tenure decisions?:
Yes

A brief description of the institution's support for interdisciplinary, transdisciplinary, and multidisciplinary research, including any positive outcomes during the previous three years:

Consistent with the University's strategic goals of ""Bolder by Design"", the university is committed to educating tomorrow's leaders and scholars through undergraduate, graduate, graduate-professional education programs. Faculty provide the means to create knowledge and find innovative ways to solve wicked problems for the state, the nation and the globally.   At MSU, faculty are expected to be both active scholars and student-focused educators, demonstrating substantial scholarship and ability to promote learning through our on-campus and off-campus education and research programs. The essence of scholarship is the thoughtful discovery, transmission, and application of knowledge, including creative activities, that is based in the ideas and methods of recognized disciplines, professions, and interdisciplinary fields. The Faculty Guide for Reappointment, Promotion and Tenure review identifies the criteria and standards. Joint appointments are encouraged and common within the university. An example of support for interdisciplinary research in sustainability is evidenced in the Environmental Science and Policy Program. The ESPP program provides a unique opportunity for over 250 faculty from 40 different departments work together on research related to advancing science in the sustainable policies and environment. A hallmark of environmental work at MSU is unprecedented integration across fields - agriculture; natural and social sciences; communications; engineering; human, osteopathic and veterinary medicine; humanities; and law.

The common goal is to advance fundamental science and to solve practical problems.

Centers and Programs
Research Networks
ESPP Research Seminars
Funding - ESPP Opportunities
Funding - External Opportunities
Jobs for Students and Recent Graduates
Research Video SeriesESPP is an umbrella for environmental research and graduate studies at MSU. In addition, ESPP searches out funding opportunities for students, recent graduates and faculty, from sources ranging from MSU to

international organizations. These may be in the form of grants, fellowships, conference funding, sabbatical funding and jobs. Every two weeks, the latest opportunities are distributed to interested students, staff and faculty. http:// environment.msu.edu/research/funding_faculty.php

Does the institution have ongoing library support for sustainability research and learning?:
Yes

A brief description of the institution's library support for sustainability research, including any positive outcomes during the previous three years:

"The Library offers extensive materials on the topic of sustainability, as well as electronic access and inter-library loan services with other library systems throughout the world.

http://magic.lib.msu.edu/search~/X?search=sustainability

, also

https://libguides.lib.msu.edu/c.php?g=417261&p=2843552

"

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Open Access to Research

Score	Responsible Party
	Amy Butler
0.00 / 2.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution has a published open access policy that ensures that versions of future scholarly articles by faculty and staff are deposited in a designated open access repository.

The policy may allow for publisher embargoes and/or provide a waiver option that allows faculty to opt-out of the open access license/program for individual articles. Open

access policies and programs that are strictly voluntary (opt-in) in nature (including open access policies published by external funding agencies) do not earn points unless the institution also provides financial incentives to support faculty members with article processing and other open access publication charges.

Policies and programs adopted by entities of which the institution is part (e.g. government or university system) may count for this credit as long as the policies apply to and are followed by the institution.

The open access repository may be managed by the institution or the institution may participate in a consortium with a consortial and/or outsourced open access repository.

"---" *indicates that no data was submitted for this field*

How many of the institution's research-producing divisions are covered by a published open access policy that ensures that versions of future scholarly articles by faculty and staff are deposited in a designated open access repository? (All, Some or None):
None / Don't Know

Which of the following best describes the open access policy? (Mandatory or Voluntary):

Does the institution provide financial incentives to support faculty members with article processing and other open access publication charges?:
Yes

A brief description of the open access policy, including the date adopted, any incentives or supports provided, and the repository(ies) used:

MSU does not have an open access policy at this time. Federal funders such as the NIH have mandatory policies for the products of research that they fund.

https://lib.msu.edu/about/collections/scholcomm/NIH/

Outside of the federally governing mandated policy, MSU has no specific policy, and MSU faculty and staff may make their own decisions about where to publish and whether to publish open access or more traditionally. Many research divisions at MSU are doing work that is federally funded, however, so many are needing to comply with federal policies.
MSU does not have a designated institutional repository available as yet for MSU researchers to place publications, but one has been proposed and is being worked on by a group that includes the MSU Libraries.
In the meantime, the university does offer some resources:
- The Gerald M Kline Digital and Multimedia Center digitizes and makes accessible special parts of the MSU Libraries collections that are in the public domain.
- Participation in the HathiTrust and GoogleBooks projects to digitize public domain works such as out-of-copyright books and government documents.
- Adding open access materials to our collections.
1. All publications listed in the Directory of Open Access Journals are added to the MSU library catalog.

2. Linking to other original open access materials will be pursued based on subject-specific collection development policies. Talk to your subject librarian about adding your original open access materials to our library catalog or web pages.

A copy of the institution's open access policy:
ac_11 open access policy references.pdf

The institution's open access policy:

N/A

The website URL where the open access repository is available:
https://libguides.lib.msu.edu/c.php?g=95823&p=624738

Estimated percentage of scholarly articles published annually by the institution's faculty and staff that are deposited in a designated open access repository (0-100):
0

A brief description of how the institution's library(ies) support open access to research:

The percentage of articles published annually that are deposited into an open access repository is impossible for MSU to determine at this time.
MSU and the MSU Libraries do provide some support for open access publishing. We are members of various organizations that support open access to research, such as SPARC, Hathi Trust, Directory of Open Access Journals (DOAJ), Digital Public Library of America, and arXiv. We also have various subscriptions that support open access publishing in general such as Knowledge Unlatched and Reveal Digital. Also, we have some subscriptions that support MSU authors publishing open access in certain journals for a discount: BMJ Case Reports, AAAS journals, Annual Reviews, etc. See

https://lib.msu.edu/about/collections/scholcomm/support/

for a list. Finally, MSU is also a member of TOME (Towards an Open Monograph Ecosystem) which supports open access scholarly monograph publishing in the humanities.
Repositories used by MSU authors will depend on their subject area. Biomedical researchers will use the PubMed Central repository that is required by the federal government. There are other repositories in social sciences and other fields. Furthermore, librarians at the MSU Libraries have different subject specialty areas and are always available to talk with MSU researchers about open access, scholarly communication and other issues related to publishing. We can help people know about and think through their options.
In addition, The Open Access Monograph publishing award (OAMPA) celebrates the public impact that humanities and social science research can achieve when it is made openly available. MSU has established a new award for faculty authors in the humanities and social sciences seeking to publish an open -access scholarly monograph with a participating university press.
The MSU Libraries supports open access to research in the various ways already

described above. We are members of organizations like SPARC that are lobbying in Washington for open access to research, and we are members of other organizations and publishers that are working to make research available open access. Librarians are able to provide information to the campus in this area, and we maintain a web site with information as well.

The website URL where information about the programs or initiatives is available: https://lib.msu.edu/about/collections/scholcomm/support/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

https://lib.msu.edu/about/collections/scholcomm/alternative/

Engagement

Campus Engagement

Points Claimed 18.22
Points Available 21.00

This subcategory seeks to recognize institutions that provide their students with sustainability learning experiences outside the formal curriculum. Engaging in sustainability issues through co-curricular activities allows students to deepen and apply their understandings of sustainability principles. Institution-sponsored co-curricular sustainability offerings, often coordinated by student affairs offices, help integrate sustainability into the campus culture and set a positive tone for the institution.

In addition, this subcategory recognizes institutions that support faculty and staff engagement, training, and development programs in sustainability. Faculty and staff members' daily decisions impact an institution's sustainability performance. Equipping faculty and staff with the tools, knowledge, and motivation to adopt behavior changes that promote sustainability is an essential activity of a sustainable campus.

From the institution:

MSU has a robust student body, with countless extracurricular opportunities. The university has over 50 Registered Student Organizations that have roots in sustainability or in one or more legs of the triple bottom line. Students have independently led an event called the Big Green Gig, which has celebrated Earth Day in East Lansing and helped to bring the community and students closer together. The Big Green Gig has occurred in 2017 and 2018, and has become an annual event, with hundreds participating in games, up cycling crafts, and interactive educational activities. Students have also been able to shine through RISE; more than 200 students have moved from that program to other areas of campus, teaching their peers sustainable living and growing their education in the sustainability area. The Bailey Greenhouse and Urban

Farm, run by RISE students, along the with Student Organic Farm, have been partially-operated by students since their inceptions. Students learn to plant, grow, and harvest crops and become more connected to food systems and sustainability in the field first-hand. Students learn valuable skills in sales, crop production, and marketing as they work to make a profit off their product and sell to fellow students as well as dining halls. Through MSU's RSOs, groups, workshops, gardens, community service projects, and other activities, countless students are exposed to sustainability every year in fun, engaging, and innovative ways. In addition, students now run a university business: Land Grant Goods. It gives students first hand experience in both making sustainable products as well as running a sustainable business operation.

Credit	Points
Student Educators Program	2.13 / 4.00
Student Orientation	2.00 / 2.00
Student Life	2.00 / 2.00
Outreach Materials and Publications	2.00 / 2.00
Outreach Campaign	4.00 / 4.00
Assessing Sustainability Culture	0.50 / 1.00
Employee Educators Program	2.84 / 3.00
Employee Orientation	1.00 / 1.00
Staff Professional Development	1.75 / 2.00

Student Educators Program

Score	Responsible Party
	Mara Spears
2.13 / 4.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Institution coordinates an ongoing peer-to-peer sustainability outreach and education program for students enrolled for credit. The institution:

- Selects or appoints students to serve as peer educators and formally designates the students as educators (paid and/or volunteer);
- Provides formal training to the student educators in how to conduct peer outreach; and
- Supports the program with financial resources (e.g. by providing an annual budget) and/or administrative coordination by faculty or staff.

This credit focuses on programs for degree-seeking students enrolled in a for-credit program. Continuing education students, non-credit students, and other students who are not recognized by the institution as seeking a degree, certificate, or other formal award are excluded.

This credit recognizes ongoing student educator programs that engage students as peers on a regular basis. For example, student educators may be responsible for serving

(i.e. directly targeting) a particular subset of students, such as those living in residence halls or enrolled in certain academic subdivisions. Thus, a group of students may be served by a program even if not all of these students actively participate.

Sustainability outreach campaigns, sustainability events, and student clubs or groups are not eligible for this credit unless the criteria outlined above are met. These programs are covered by the *Outreach Campaign* and *Student Life* credits.

"---" *indicates that no data was submitted for this field*

Number of students enrolled for credit (headcount):
50340

Total number of students enrolled for credit that are served (i.e. directly targeted) by a student peer-to-peer sustainability outreach and education program (avoid double-counting to the extent feasible):
26800

Percentage of students served by a peer-to-peer educator program:
53.24

Name of the student educators program:
Residential Initiative on the Study of the Environment (RISE)

Number of students served (i.e. directly targeted) by the program (headcount):
1000

A brief description of the program, including examples of peer-to-peer outreach activities:

"RISE is an interdisciplinary living-learning program focused on sustainability and environmental stewardship. Supported by a consortium of seven colleges, RISE provides first-year students at Michigan State University with the resources to successfully transition from high school to university academic life. Beyond their first year, many RISE participants are engaged in undergraduate research, hands-on projects, and co-curricular initiatives in which they can explore their interests within a supportive community of students, faculty and staff with shared values. RISE was founded in 2013, and graduated participants in the program have swelled from 25 to over 85 since then. Each student makes her or her impact on their peers every day as they work to educate others in their college and make MSU a more sustainable campus. Indirectly, RISE students influence hundreds of their peers through informal discussion and collaboration, but the RISE students also hold community outreach events that allow them to teach their peers about sustainability and sustainability living practices. Several events that the students host and lead are:
Worm bin and composting workshops
Volunteering at the Bailey Greenhouse and Urban Farm
Health and wellness workshop
Sustainable crafternoons
Bee Team volunteering

Several of the topics RISE students teach their peers about include: key issues in environmental science and environmental sustainability, sustainable food systems, pollinator decline, food waste, and composting. RISE is split into many targeted teams, including the Bailey Bee Club, Liberty Hyde Bailey Hydroponics, Sustainable Stories Blog Team, and a Health & Wellness team. Once students choose their teams, they are further educated in sustainability and in their focused areas in order to help them grow their knowledge in those areas. Ongoing activities are hosted by each team, connecting them with their peers as they share their knowledge in their respective sustainability areas. Outreach through the RISE newsletters are very effective, as are free workshops, hosted events, and farm and bee club volunteering.

A brief description of how the student educators are selected:

Students apply for RISE before their freshman year begins through an online application with short essay portions, and a case-by-case interviewing process. Advisors look for fit and able students who can handle farming and outdoor activities, prior experience in leadership and community engagement in sustainability and environmental studies. Other determining factors include ACT and SAT scores.

A brief description of the formal training that the student educators receive to prepare them to conduct peer outreach:

All first year RISE students must fulfill 10 hours of co-curricular engagement, and enroll in Freshman seminar NSC 292 Intro to Environmental Studies. All RISE students must also attend additional Academic Orientation at the start of term.

A brief description of the financial and/or administrative support the institution provides to the program (e.g. annual budget and/or faculty/staff coordination):

RISE receives an operating budget which is sourced from the consortium of seven colleges that host the program. In June of 2016, an endowment was established for the program, and ongoing grant applications are submitted to various colleges within MSU. RISE does not require financial support for its Greenhouse and Urban Farm, as the space is financially self-sustaining.

Name of the student educators program (2nd program):
Student Organic Farm - Student Projects, Interns, Independent Studies

Number of students served (i.e. directly targeted) by the program (2nd program):
4800

A brief description of the program, including examples of peer-to-peer outreach activities (2nd program):

The MSU Student Organic Farm (SOF): The SOF is a space where students can go to learn, work, volunteer, and relax. The SOF hosts paid interns, interns for credit, class participation, class projects, volunteer hours, field trips and tours. The on-campus information and farm stand serves as an education and community hub in the center of campus. The stand is run by students and provides organic, local food to the campus community, runs six months out of the year, and enables students working on the farm to cultivate knowledge in organic and sustainable food production in their peers and in other community members. The SOF trains one intern in community outreach, education, and marketing skills to fun the farm stand, which is located in the very center of campus, with a high level of traffic and reight next to popular bus stops. The student(s) running the stand provide interested students, staff, and faculty with brochures about the farm, sign up people for the farm newsletter, discuss the produce with passerby, and help to educate the campus community about the farm and where our food comes from. The farm stand serves as an opportunity for all passerby to learn about the farm, and the interns who run it are training in peer outreach and always provide community members with lists of ways to get involved in the farm or campus sustainability. These peer-to-peer conversations happen every week during the growing season, which includes the summer months. This is especially important because all tour groups led through MSU and Academic Orientation Program tours pass by the farm stand, so all new and prospective students are greeted by the SOF intern and can learn about campus sustainability efforts on their way. While exact numbers or demographics of interactions are not logged at the farm stand. it runs throughout the spring, summer, and fall during peek periods of class attendance, and therefore is available to all students on campus during that time.

A brief description of how the student educators are selected (2nd program):

Students are selected to intern at the Student Organic Farm through an application and interview process. These students are expected to work outside in all weather, be ready learners, enthusiastic about farming and sustainability, and have good work ethic. Students who carry out for-credit projects on site are selected through partnerships with courses and MSU instructor recommendations. Students volunteering for credit are required to work under crew member supervision.

A brief description of the formal training that the student educators receive to prepare them to conduct peer outreach (2nd program):

Farm interns are required to shadow the farm staff and crewmembers, and must learn how to properly preform each task on the farm. They are also required to log their hours and write reflections. Students working on credit projects are required to spend a certain amount of set-hours on site, and much complete their project and conclusionary essay. Students are chosen for tasks on the farm or at the SOF stand in accordance to their preference and their ability within that area. All interns who work at the farm stand are trained by an SOF leader in marketing and peer outreach strategies.
All farm interns and crew members must learn how to run the farm stand on

campus and must learn farm tasks well enough to teach volunteers and other incoming interns. They are taught these skills through shadowing a crewmember, and are encouraged to pursue as many farm tasks as they can.

A brief description of the financial and/or administrative support the institution provides to the program (e.g. annual budget and/or faculty/staff coordination) (2nd program):

The SOF is self-sustaining based on vegetable sales, but research and student involvement through coursework is funded through grants, tuition, and funds directly provided from the participating Colleges who sponsor the projects.

Name of the student educators program (3rd program):
Clean Plates at State

Number of students served (i.e. directly targeted) by the program (3rd program):
20000

A brief description of the program, including examples of peer-to-peer outreach activities (3rd program):

Clean Plates at State is a fall program that has been going on since 2012, where Residential and Hospitality Services (RHS) partners with students from dietetic and sustainability classes who are required to fulfill a certain amount of hours with the program. The program primarily pulls student volunteers from the Residential Initiative on the Study of the Environment (RISE) program, and from the HNF 440; Food Service Operations course. Any student may volunteer, even if they are not involved in the course or RISE program. The program has a focus on food waste mindfulness and sustainability. The program visually displays how much food is wasted from a lunch or dinner over several hours, and nine dining halls participate. Volunteers, RHS representatives, and students enrolled for credit run the Clean Plates stations in front of the waste disposal areas, and stop every student who wishes to dispose of their food. Every patron has their food waste weighed and cataloged before they leave; the number of estimated students served comes from and average of weigh-ins during clean plates compared to the number of purchased and used meal plans on campus. Clean Plates at State runs every semester, wherein the fall semester program serves as the pre-survey of each dining hall's performance overall. Posters and social media advertising (including reoccurring Facebook events) are promoted before the program beings in the fall. The spring semester program revisits the same halls and conducts weighing as a post-survey program to judge the increase or decrease in food waste at each location. Clean Plates events occur during the lunch or dinner hours every week for three months during each semester, and patrons of the dining halls are required to approach the volunteers and interact with them before exiting the hall. Over the last twelve semesters since the programs inception, food waste per person in dining halls has dropped significantly; at the beginning of the program, the average amount of food a student would waste during a semester was 25.22 pounds. As of 1028, tjat n umber has decreased down to 20.54 pounds per student per semester.

A brief description of how the student educators are selected (3rd program):

Student are selected as program participants if there are enrolled in participating sustainability or dietetics classes during the fall semester, or if they are volunteering independently through RHS. Students must be able-bodied and willing to conduct peer-to-peer outreach.

A brief description of the formal training that the student educators receive to prepare them to conduct peer outreach (3rd program):

Students are educated in proper procedure of LeanPath technology, proper preparation techniques, and use of food waste tracking devices/programs by culinary employees. The program requires students to address the questions of: Why are we doing this? What does this represent? How it will benefit us in the future? Students must first shadow a RHS representative before addressing a student peer themselves. The volunteers who run each station are trained in interaction with peers to help make the experience more enjoyable and to teach their peers about the importance of food waste reduction. This training is ongoing, and the Residential and Hospitality Services Sustainability Officer attends a Clean Plates station every week during the program and helps the student volunteers improve int their educational outreach.

A brief description of the financial and/or administrative support the institution provides to the program (e.g. annual budget and/or faculty/staff coordination) (3rd program):

Clean Plates at State is funded through RHS Sustainability and the Eat at State promotional program. MSU's RHS Sustainability Officer personally coordinates with dining hall and building management as well as class instructors to recruit students for credit.

A brief description of all other student peer-to-peer sustainability outreach and education programs, including the number of students served and how student educators are selected, trained, and supported by the institution:

Students have formal partnerships with RHS through written agreements for classes. This includes projects for waste reduction, composting, recycling awareness, dorm energy use reduction, and more. Please see attached form for a complete list.

Total number of hours student educators are engaged in peer-to-peer sustainability outreach and education activities annually (all programs):
5000

The website URL where information about the programs or initiatives is available:

https://rise.natsci.msu.edu/

Additional documentation to support the submission:
EN1_FINAL.pdf

Data source(s) and notes about the submission:

http://www.msuorganicfarm.org/

https://rhs.msu.edu/news/clean-plates-state-continues-battle-food-waste-msu

https://eatatstate.msu.edu/node/225264

https://rhs.msu.edu/news/clean-plates-state-continues-battle-food-waste-msu

Student Orientation

Score	Responsible Party
2.00 / 2.00	**Mara Spears** Sustainability Program Coordinator Office of the EVP for Administration

Criteria

Institution includes sustainability prominently in its student orientation activities and programming. Sustainability activities and programming are intended to educate about the principles and practices of sustainability. The topics covered include multiple dimensions of sustainability (i.e. social, environmental and economic).

As this credit is intended to recognize programming and student learning about sustainability, incorporating sustainability strategies into event planning (e.g. making recycling bins accessible or not serving bottled water) is not, in and of itself, sufficient for this credit. Such strategies may count if they are highlighted and are part of the educational offerings. For example, serving local food would not, in and of itself, be sufficient for this credit; however, serving local food and providing information about sustainable food systems during meals could contribute to earning this credit.

"---" *indicates that no data was submitted for this field*

Are the following students provided an opportunity to participate in orientation activities and programming that prominently include sustainability? :

	Yes or No
First-year students	Yes

	Yes or No
Transfer students	Yes
Entering graduate students	Yes

Percentage of all entering (i.e. new) students (including transfers and graduate students) that are provided an opportunity to participate in orientation activities and programming that prominently include sustainability (0-100):
100

A brief description of how sustainability is included prominently in new student orientation (including how multiple dimensions of sustainability are addressed):

All incoming students are given information packets during orientation which contain safety pamphlets and information on how to live at MSU sustainably. All students are taken on a tour of the MSU dorms and dining halls, along with several buildings throughout campus. All dorm rooms and dorm buildings have signs recommending electricity and water reduction, and all buildings have recycling and trash available. Students are taken through Brody dining hall, where they learn about composting at that location and MSU's waste disposal options. Students are walked through buildings that are LEED certified and learn about MSU's clean commute options and bus route. This tour provides students with a comprehensive understanding of MSU's commitment to environmental sustainability on campus. All students are provided with websites and social media sites to serve as resources and to follow to learn more about it all, and students are all invited to the annual Sparticipation event on campus, which showcases all Registered Student Organizations and clubs on campus. Students are provided with resources that additionally explain where they can find academic assistance, career advice, and counseling on campus; all aspects allow students to dive into the social and cultural life of living as a Spartan, and MSU's Live On website and pamphlets comprehensively cover this as well. All students moving in to 1855 Place are giving a reusable recycling bag, courtesy of a grant agreement with Coca Cola. Students are informed of the surplus store and recycling center, MSU's No Plastic Bags policy, as well as student services and career advising within colleges, allowing students to understand the opportunities available to them economically on campus.

The website URL where information about the programs or initiatives is available:
http://www.liveon.msu.edu/socialresponsibility

Additional documentation to support the submission:
EN2_FINAL.pdf

Data source(s) and notes about the submission:

"Live On: Sustainability

https://liveon.msu.edu/Sustainability

MSU Sustainability Resources:

https://sustainability.msu.edu/get-involved/student-resources/get-involved-students-tips.html

Get Involved in Campus Sustainability:

https://sustainability.msu.edu/get-involved/student-resources/index.html

https://eatatstate.msu.edu/node/225264

Sustainable Food Options:

https://sustainability.msu.edu/get-involved/campus-tips-programs/discover-F-farm-to-lane.html
"

Student Life

Score	Responsible Party
	Mara Spears
2.00 / 2.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Institution has co-curricular sustainability programs and initiatives. The programs and initiatives fall into one or more of the following categories:

- Active student groups focused on sustainability

- Gardens, farms, community supported agriculture (CSA) or fishery programs, and urban agriculture projects where students are able to gain experience in organic agriculture and sustainable food systems

- Sustainable enterprises that include sustainability as part of their mission statements or stated purposes (e.g. cafés through which students gain sustainable business skills)

- Sustainable investment funds, green revolving funds or sustainable microfinance initiatives through which students can develop socially, environmentally and fiscally responsible investment and financial skills

- Conferences, speaker series, symposia or similar events related to sustainability that have students as the intended audience

- Cultural arts events, installations or performances related to sustainability that have students as the intended audience

- Wilderness or outdoors programs (e.g. that organize hiking, backpacking, kayaking, or other outings for students and follow Leave No Trace principles

- Sustainability-related themes chosen for themed semesters, years, or first-year experiences (e.g. choosing a sustainability-related book for common reading)

- Programs through which students can learn sustainable life skills (e.g. a series of sustainable living workshops, a model room in a residence hall that is open to students during regular visitation hours and demonstrates sustainable living principles, or sustainability-themed housing where residents and visitors learn about sustainability together)

- Sustainability-focused student employment opportunities offered by the institution

- Graduation pledges through which students pledge to consider social and environmental responsibility in future job and other decisions

- Other co-curricular sustainability programs and initiatives

Multiple programs and initiatives may be reported for each category and each category may include institution-governed and/or student-governed programs.

"---" *indicates that no data was submitted for this field*

Does the institution have one or more active student groups focused on sustainability?:
Yes

A brief description of active student groups focused on sustainability:

"ReNeu MSU: a combination of two clubs working towards the same goals; MSU Greenpeace and MSU Climate Action Network. ReNeu MSU advocates for sustainability through peaceful protest and creative communication, emphasizing activism, community involvement and environmentalism.
Sustainable Spartans: this group is the central hub of environmental activism on campus. The club meets weekly to work on sustainability projects and keep each other up to date on what's happening around the world.
Sustainable Business Association: This group is dedicated to learning sustainable entrepreneurship and business practices. The SBA hosts several panels of speakers every semester and works with faculty and staff to advocate for sustainable university practices, as well as petition the state government to adopt sustainability-based policies.
Green Alliance: a group made up of selected representatives from many of the environmental student organization on campus. The purpose of Green Alliance is to bring together the various environmental organizations on campus to further strengthen the overarching environmental movement in our community and beyond.
Environmental Engineering Student Society: a club open to all undergraduate and graduate students who are pursuing a degree in an environment-related field. They provide a unique atmosphere for meeting students with similar interests and different backgrounds, while educating members on environmental topics and working together to promote environmental awareness across campus.
MSU Solar Car Team: this group promotes sustainability and innovation by designing, building, testing and racing entirely solar-powered vehicles. The team fosters a collaborative working environment to develop successful projects and compete nationally with other universities.
Spartan Sierra Club: The Spartan Sierra Club advocates and educates the MSU community on the importance of exploring, enjoying and protecting the planet through nature outings, education about environmental issues and grassroots political activity. As a student branch of the Sierra Club, they strive to immerse themselves in the most pressing sustainability issues and drive student participation in such efforts.
Sustainable Spartans: a research-focused student organization that investigates opportunities for campus sustainability through education and projects that address issues like energy consumption and renewable energy. They work closely with university departments and other student groups to obtain support and resources that promote principles of sustainability and environmentalism.
MSU USGBC: Committed to encouraging and developing sustainable building practices on and off MSU's campus, USGBC Students MSU provides students with opportunities to get involved with sustainable building projects at the university and in the surrounding area. They offer Leadership in Energy and Environmental Design (LEED) study sessions that help prepare members for LEED certification testing and work with campus partners on diverse projects.
Student Greenhouse Project: The Student Greenhouse Project strives to educate MSU and the surrounding areas on developing a campus community where people and the environment can better coexist. They sponsor a variety of campus events, including the Dome Roam 5K and Campus Center movies, but also attend numerous field trips and on-campus activities.
Other sustainability-based groups include:

Sunrise Movement
Engineers for a sustainable world
Fisheries and Wildlife Club
Forestry Club
Leadership in Environmental and Agriculture Fields (LEAF)
College of Veterinary Medicine and Bee Medicine
MSU Dairy Club"

The website URL where information about the student groups is available (optional):
https://sustainability.msu.edu/get-involved/student-resources/student-groups.html

Does the institution have gardens, farms, community supported agriculture (CSA) or fishery programs, and/or urban agriculture projects where students are able to gain experience in organic agriculture and sustainable food systems?:
Yes

A brief description of the gardens, farms, community supported agriculture (CSA) or fishery programs, and/or urban agriculture projects:

"The MSU Student Organic Farm: The Student Organic Farm is a space where students can go to learn, work, volunteer, and relax. The farm is 15 acres, with six currently in production. The produce output is primarily vegetables, which the farm can grow year round (outside and in hoop houses for the winter). The farm offers a 48-week Community Shared Agriculture Program and hosts a weekly farm stand on campus during the growing season. The farm stand provides organic, local food to community members, runs six months out of the year, and enables students working on the farm to cultivate knowledge in organic and sustainable food production in their peers and in other community members. The farm hosts paid interns and volunteer hours, and allows field trips and tours to frequent whenever possible.
Horticulture Gardens: 14 acres of diverse gardens, which are used for retreat and resources for gardeners, plant lovers and children of all ages. The plants are identified and serve as an inspirational and education space for mindfulness, exercise, and overall wellness. The mission of The Horticulture Gardens is to promote an understanding of plants and the role they play in our environment and daily lives and provide a place for education, enrichment and delight of all ages. Additional resources at the farm include an edible forest garden, laying hens, bee hives and a small mushroom production area. In
addition, the Bailey Hoop house is an organic and student run green house which produces herbs and greens year round, supplying
several of the dining halls with products. The Bailey Hoop House and Urban Farm is run by students in the Residential Initiative on the Study of the Environment (RISE) program in Bailey Hall."

The website URL where information about the gardens, farms or agriculture projects is available (optional):
http://www.hrt.msu.edu/student-organic-farm-training-program/

Does the institution have student-run enterprises that include sustainability as part of

their mission statements or stated purposes (e.g. cafés through which students gain sustainable business skills)?:
Yes

A brief description of the student-run enterprises:

The university's Student Organic Farm provides students with educational opportunities in the fields and hoop houses, as well as in institutional contracting, marketing and business. Student's who take courses and work at the farm learn about how to market their products and engage the community at their weekly farm stand, where produce and flowers from the student organic farm are sold. Each Thursday from May through October, students set up the farm stand on campus and utilize the opportunity to engage community members and generate revenue for the farm. On average students generate $700 dollars per week at the farm stand.
Along with opportunities for hands-on learning in marketing and business at the stand, students also have the opportunity to participate in institutional contracting between the university residence halls and the Student Organic Farm. The farm provides organic salad greens to the residence halls, demonstrating the importance of local business contracting and providing further business experience for students taking courses at the farm.
In addition, Land Grant Goods is MSU's first student-run business. The business sells tea, honey, and jam, which are all locally sourced from the Bailey Hall herb gardens and bee hives.
Land Grant Goods Mission Statement: Land Grand Goods Strives to be a leader and model in the realm of sustainable business. By intending to create products according to the core values listed below, we are supporting our local communities and helping generate the next generation of food activists.
- Ethically created
- Locally sourced
- Economically viable
- Environmentally conscious
""Not only do we intend on making sustainable, high-value products to the best of our abilities, but we aim at generating a sustainable business model with the ability to be adapted by other institutions. We hope to lay down the groundwork tat a business within a university can succeed, and students are willing to work for companies that uphold sustainable practices are not only profitable but essential for the future.

The website URL where information about the student-run enterprises is available (optional):
https://www.msuorganicfarm.org/

Does the institution have sustainable investment funds, green revolving funds or sustainable microfinance initiatives through which students can develop socially, environmentally and fiscally responsible investment and financial skills?:
Yes

A brief description of the sustainable investment funds, green revolving funds or sustainable microfinance initiatives:

The Spartan Global Development Fund (SGDF) promotes sustainable economic development by enabling entrepreneurs in developing countries to help themselves. The project was launched on July 4, 2009, with four microloans to entrepreneurs in developing countries. To date, SGDF has made more than 500 loans in amounts ranging from $25 to $1,500, formed a nonprofit organization, and involved dozens of students each year from across campus – particularly business students and that number increases each month. This project includes important dimensions of business and service in the 21st century, including sustainability, entrepreneurship and international development. SGDF set and achieved goals for fundraising, outreach and portfolio management–in its first year, SGDF secured a corporate donor, raised over $4,000 and exceeded its goal of helping over 100 entrepreneurs while having a global presence. The fund helped 173 entrepreneurs and made loans in five continents (North America, South America, Europe, Africa and Asia). The default rate on the portfolio was 0% and is diversified across 42 countries and 13 sectors of the economy.

The Sustainable Michigan Endowed Project (SMEP) serves as a catalyst and convener of interdisciplinary dialogue and research around existing and emerging sustainability topics. SMEP has invested considerable resources in exploring the implications of sustainability, and provides seed grants for sustainability research from a Michigan state-level perspective. Researchers (both students and faculty) must apply for grant money through the SMEP, and must outline how their projects properly exemplify emerging sustainability topics.

Additionally, Campus Sustainability a Be Spartan Green Student Project fund. This fund was provided to student groups who were eligible for the grant requirements and helped to install a variety of sustainability-related spaces on the MSU campus. Several project fund recipients included the Bailey Bee Project, a solar-powered bus stop light, a solar-power picnic table, and a green space installed by the Residential Initiative on the Study of the Environment (RISE).

The website URL where information about the sustainable investment funds, green revolving funds or sustainable microfinance initiatives is available (optional): https://www.spartanglobalfund.org/

Does the institution have conferences, speaker series, symposia or similar events related to sustainability that have students as the intended audience?:
Yes

A brief description of the conferences, speaker series, symposia or similar events related to sustainability:

"Several college and departments hold sustainability-related speaker series and forums, including the Kellogg Center, the LBGTQ Center, Eli Broad College of Business, the College of Agriculture and Natural Resources, the Residential College in the Arts and Humanities, and the College of Arts and Letters. Additionally, many of the student groups host panels and visiting speakers throughout the year.
- Heat Mapping, a QGIS exploration of the world's changing landscapes through heat maps, exploring changing soil, elevations, and temperatures during an era of

changing climates

A Conversation with the President: President Lou Anna K. Simon hosted a panel with a publicly available livestream to discuss MSU's energy infrastructure and MSU's steps toward its energy goals. The Panel included faculty and staff from MSU as well as Michigan renewable energy business leaders.

Eat at State hosts monthly speakers series and panel discussions on food systems, sustainable food choices, farm to table practices, and impacts of industrial agriculture.

the 2016 established student group Sustainable Business Association hosts speakers monthly,

- Michigan Trails and Greenways Alliance Director, a presentation on the director's work in policy, law, and government.
- 5Lakes Energy, the Director went over her position at 5Lakes Energy and introduced some job opportunities within the energy field. She also explained how the energy system works and about other committees she is involved in.
- Presentation on Biofuels/Sustainable Business

The presenter went over his research on biofuels and if they are cost-effective/ sustainable. He also went over why sustainability is important in business and how trends in the business world are competing in this trend.

- DEQ on Pollution Prevention and Stewardship, presenter described his work in Pollution Prevention and Stewardship where he actively works with communities, businesses, and government to meet the triple bottom line of sustainability.
- Land Grant Goods, Student-Run Business/ Value-Added Agriculture, CEO of Land Grant Goods as our first speaker for SBA. Alex Marx presented on the formation of this value-added agriculture student-run business and what the future plans were at the time. "

The website URL where information about the conferences, speaker series, symposia or similar events related to sustainability is available (optional):
https://rhs.msu.edu/news/pack-pitch-celebrates-20-years

Does the institution have cultural arts events, installations or performances related to sustainability that have students as the intended audience?:
Yes

A brief description of the cultural arts events, installations or performances related to sustainability:

The Eli and Edythe Broad Art Museum host exhibits, events and film screenings, some each year which support and promote a
sustainability-related theme. During the Water Moves year at MSU, the university hosted a series of large photograph installations by artist Gideon Mendel along the banks of the Red Cedar River. Mendel's exhibition Gideon Mendel: Drowning World was on exhibit at the Broad Art Museum in fall, 2016. Past events at broad can be found here:

http://broadmuseum.msu.edu/exhibitions/exhibitions/exhibitions/past

The MSU Museum, Library, and Abrams Planetarium also host sustainability exbits, several of which include:
- Taking Back Detroit, a phtographic exploration of the environmental social justice movement in the city
- Ice Worlds exhibit, which explored the Earth's melting ice, climate change impact on the poles, and the beauty of the frozen landscape.
- When the Land Speaks, a film documenting the global travels of a plastic water bottle, ""Addressing current issues such as resource extraction, sustainability, land rights, and displacement and dispossession, the works in this video series approach language as a form that does not limit itself to verbal communication.

The website URL where information about the cultural arts events, installations or performances is available (optional):

Does the institution have wilderness or outdoors programs (e.g. that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles?:
No

A brief description of the wilderness or outdoors programs that follow Leave No Trace principles:

Alternative Spartan Breaks hosts break and weekend trips throughout the year. These trips are based on solving social issues and often involve forest and park cleanups, native plant cultivation, and wetland restoration.
The MSU Outdoors club focuses on exploring and enjoying the great outdoors. The club organizes several large trips each year including white water rafting in West Virginia and ice climbing in Canada and Munising. Other fun trips to look forward are rock climbing, skydiving, backpacking, mountain biking and more.
MSU Forestry Club and MSU Fisheries and Wildlife club both have mission statements and principles outlined on their Facebook pages, promoting environmental stewardship, preservation and conservation practices, and fun in the outdoors.

http://www.msuoc.org/

The website URL where information about the wilderness or outdoors programs is available (optional):
https://www.asb.msu.edu/

Does the institution have sustainability-related themes chosen for themed semesters, years, or first-year experiences (e.g. choosing a sustainability-related book for common reading)?:
Yes

A brief description of the sustainability-related themes chosen for themed semesters, years, or first-year experiences:

MSU hosted a Year of Water in 2016 called Water Moves. This was a one-year program with diverse activities including art, film, music, performances, lectures, events, and exhibits across campus. By inviting guest speakers on water to the MSU campus – including artists, scholars, authors, musicians, filmmakers, lawmakers and government officials – MSU aimed to educate to empower community action, inspire creativity, and instill a sense of urgency to respect and appreciate the most prevalent and precious resource on our planet. The initiative strengthened the university-wide focus on water and cut across multiple strategic imperatives under Bolder by Design: enriching the student experience, global inclusiveness, and engaging the community.

The website URL where information about the sustainability-related themes is available (optional):
https://artsandculture.msu.edu/about/water-moves.aspx

Does the institution have programs through which students can learn sustainable life skills?:
Yes

A brief description of the programs through which students can learn sustainable life skills:

"During academic summer orientation, MSU's Residential & Hospitality Services hosts a model room for new students and parents to tour.
Sustainable living concepts are incorporated into the room setup and supporting literature is distributed.
Through the Residential Initiative on the Study of the Environment (RISE), first year students are immersed in an interdisciplinary living-learning program focused on sustainability and environmental stewardship. Beyond their first year, many RISE participants are engaged in undergraduate research, hands-on projects, and co-curricular initiatives in which they can explore their interests within a supportive community of students, faculty and staff with shared values. The RISE program hosts rooftop beehives (Bailey Bees), a composting initiative, and ongoing newsletters and social media.
The Student Organic Farm hosts volunteering for students from any college and any major, and students learn sustainable farming techniques, social interaction and team building skills while volunteering at the farm.
Spartan Innovations has a program Called the Hatch, which is an idea-building space where MSU students can work to start up their own businesses. The Hatch offers a collaborative space that fosters brainstorming and creative thinking, and encourages students to create businesses that last. The Hatch offers start-up loans, digital and media resources, working spaces, and access to capital investment."

The website URL where information about the sustainable life skills programs is available (optional):
https://rise.natsci.msu.edu/

Does the institution offer sustainability-focused student employment opportunities?:

Yes

A brief description of the sustainability-focused student employment opportunities offered by the institution:

Campus Sustainability is active in creating work and internship experiences for MSU undergraduate and graduate level students. The
employment opportunities include sustainability communications, student outreach and engagement, web and technical, sustainability
leadership, waste reduction, etc. Specific locations for such work include the Surplus Store and Recycling Center, Land Grant Goods, and the Student Organic Farm.
Additionally, MSU's student government Associated Students of MSU (ASMSU), a sustainability position has been installed to connect the organization with campus sustainability values. The position is titled ""Liaison for Sustainability Initiatives.""

The website URL where information about the student employment opportunities is available:
http://careernetwork.msu.edu/

Does the institution have graduation pledges through which students pledge to consider social and environmental responsibility in future job and other decisions?:
No

A brief description of the graduation pledges:

N/A

The website URL where information about the graduation pledges is available (optional):

Does the institution have other co-curricular sustainability programs and initiatives?:
Yes

A brief description of the other co-curricular sustainability programs and initiatives:

"Worn and Wear Event: In 2017, MSU hosted it's first annual partnership event with the Post Landfill Action Network (PLAN) by hosting the ""Worn and Wear"" event. The event was hosted by the MSU Recycling Center, Patagonia, and PLAN, and was an all-day event consisting of booths, a recycling drop off, and learning sessions where Patagonia representatives taught local community members how to mend their clothes and footwear.
Clean Plates at State: Culinary Services hosts a fall dining hall audit called Clean Plates at State. Every Wednesday between September and November, student volunteers weigh every plate that passes through the Brody Dining Hall during lunch or dinner. Students who eat there get to see how much waste is accumulated from unfinished plates, and at the end of each session the food waste is composted.

Associated Students of MSU (ASMSU) is our student government, and the organization has created an environmental working group called Greener Together. This group tackles sustainability concerns from the student body and administers information on the university's efforts to address those issues. The group banned grocery bags from all Sparty locations on campus, and helps promote events at the Student Organic Farm. ASMSU has also provided ample funding to Registered Student Organizations for projects, events, and other sustainability activities at MSU.

Worn and Wear Tour:

https://statenews.com/article/2017/04/patagonia-visits-msu-for-worn-wear-college-tour

Clean Plates at State:

https://eatatstate.msu.edu/node/225285

"

The website URL where information about other co-curricular sustainability programs and initiatives is available (optional):

Estimated percentage of students (full-time and part-time) that participate annually in sustainability-focused co-curricular education and outreach programs (0-100):

Additional documentation to support the submission:
EN3_FINAL UPLOAD.7z

Data source(s) and notes about the submission:

https://www.landgrantgoods.com/

https://www.canr.msu.edu/smep/

https://livestream.com/msualumni/EnergyConversation2016

http://www.msuorganicfarm.org/

http://msuhatch.com/

Outreach Materials and Publications

Score	Responsible Party
	Mara Spears
2.00 / 2.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Institution produces outreach materials and/or publications that foster sustainability learning and knowledge. The publications and outreach materials include at least one the following:

- A central sustainability website that consolidates information about the institution's sustainability efforts
- A sustainability newsletter
- Regular coverage of sustainability in the main student newspaper, either through a regular column or a reporter assigned to the sustainability beat
- Social media platforms (e.g. Facebook, Twitter, interactive blogs) that focus specifically on campus sustainability
- A vehicle to publish and disseminate student research on sustainability
- Building signage that highlights green building features
- Signage and/or brochures that include information about sustainable food systems
- Signage on the grounds about sustainable groundskeeping and/or landscaping strategies employed
- A sustainability walking map or tour
- A guide for commuters about how to use more sustainable methods of transportation
- Navigation and educational tools for bicyclists and pedestrians (e.g. covering routes, inter-modal connections, policies, services, and safety)
- A guide for green living and/or incorporating sustainability into the residential experience
- Other sustainability outreach materials and publications not covered above

This credit is focused on ongoing outreach efforts. Materials and publications designed to promote a specific event or time-limited campaign are excluded and covered by other credits in this subcategory.

A single outreach material or publication that serves multiple purposes may be counted more than once. For example, a sustainability website that includes tools for bicyclists and pedestrians may be counted in both categories.

"---" *indicates that no data was submitted for this field*

Does the institution have a central sustainability website that consolidates information about the institution's sustainability efforts?:
Yes

A brief description of the central sustainability website (optional):

    The MSU Sustainability main site is a hub of information for the MSU community and interested external individuals. The Site offers resources for students, staff, and faculty, and provides descriptions for what each resource offers. The site covers a variety of areas where sustainability is present on campus, including sustainability in academics, facilities, departments, and resources for news and events.

The website URL for the central sustainability website:
https://sustainability.msu.edu/index.html

Does the institution have a sustainability newsletter?:
Yes

A brief description of the sustainability newsletter:

    Each month MSU Sustainability publishes a short newsletter including announcements, happenings, outreach and engagement articles, volunteer opportunities and event reminders. It is distributed to the EcoReps (approximately 650 department representatives) to distribute to their units. It is also distributed to all students who sign the Be Spartan Green Student Pledge and to anyone else who signs up for it."

The website URL for the sustainability newsletter:
http://bespartangreen.msu.edu/resources.php

Does the institution have social media platforms (e.g. Facebook, Twitter, interactive blogs) that focus specifically on campus sustainability?:
Yes

A brief description of the social media platforms that focus on sustainability:

    The MSU Sustainability Instagram is a social platform for the office to engage with students, staff, faculty, other divisions and departments, and community members and businesses in the same space. The Instagram account's primary focus to highlight sustainability efforts throughout campus to demonstrate the wide breadth of sustainability at MSU. The account features individual stories and posts promoting sustainability related events or student groups. Hashtags for the account include #bespartangreen, #msusustainability, #gogreen, and #msusustains.

The website URL of the primary social media platform focused on sustainability:
https://www.instagram.com/msusustainability

Does the institution have regular coverage of sustainability in the main student

newspaper, either through a regular column or a reporter assigned to the sustainability beat?:
Yes

A brief description of the regular coverage of sustainability in the main student newspaper:

"The State News is Michigan State University's news publication. It's a bi-daily publication (paper version) that covers local, national and
world news. New articles are posted daily online via their website also. Student reporters change each semester or year, but there is
always a regular reporter that covers sustainability and the environment.
It should be noted that although the State News is a publication for Michigan State University, they are a separate entity with their own
board of trustees."

The website URL for regular coverage of sustainability in the main student newspaper:
http://www.thestatenews.com/

Does the institution produce a vehicle to publish and disseminate student research on sustainability?:
Yes

A brief description of the vehicle to publish and disseminate student research on sustainability:

MSU has many magazines, newsletters, and news sites that serve as vehicles that publish and disseminate sustainability research done by students at the university. MSU has an over-arching research publication site called MSU research, but departments also publish much of their students work on their sites or through newsletters. Two examples of this are the Honors College research hub and the College of Nursing research publication page.

https://honorscollege.msu.edu/news/archives/2014-2015/2015-09-01-recurvolume5.html

The website URL for the vehicle to publish and disseminate student research on sustainability:
https://research.msu.edu/student-research/

Does the institution have building signage that highlights green building features?:
Yes

A brief description of building signage that highlights green building features :

"There are over 550 buildings at MSU. Those that have particular environmental features have signage to highlight them. For example, the
MSU Surplus and Recycling Center has educational signage for the rainwater capture system, recycled conference room tables, and other
features. Erickson Hall has signage for the rain garden. Several buildings also contain building environment monitors. Additionally,
residential halls have large infograph displays showcasing the building's ""green"" features.
MSU has many standard LEED Certified buildings across campus and the university. MSU certifies its own offices with a ""Spartan Green"" Certification, which offices and departments can apply for. MSU is a Tobacco-Free campus and a bike-friendly campus."

The website URL for building signage that highlights green building features :
https://sustainability.msu.edu/campus-information/sustainable-facilities/index.html

Does the institution have signage and/or brochures that include information about sustainable food systems?:
Yes

A brief description of the signage and/or brochures that include information about sustainable food systems:

"MSU's vast campus has a wide variety of food options available for students, and food served at the university is drawn from as many local sources as possible. Signage for food systems depends upon the area of campus that is providing the food, but all dining areas display information and infographics about the food they provide. MSU participates in the Cultivate Michigan Challenge to source 20% of its food locally from the state, and information about the challenge can be found on the sustainability website. Composting signs are available in all RHS dining locations (See attached), and MSU advertises all local foods and FairTrade products; all Spartys on campus sport a Fair Trade logo. The Residential Initiative on the Study of the Environment (RISE) Annual Report discusses the Bailey Greenhouse and Urban Farm relationship with dining locations, and RISE food systems posters (see attached) are available at all dining locations.
All menus have been set up to show food products that are local, organic, vegan, or have other sustainable features. Additionally,
information about MSU's food waste program ""Clean Plates at State,"" is prominently displayed in dining halls across campus."

The website URL for food service area signage and/or brochures that include information about sustainable food systems:
https://rhs.msu.edu/sustainability

Does the institution have signage on the grounds about sustainable groundskeeping and/or landscaping strategies employed?:
Yes

A brief description of the signage on the grounds about sustainable groundskeeping and/or landscaping strategies employed:

"There are multiple types of signage across the MSU East Lansing Campus. Signs include: riparian zone signage, tree protection signs (including ordinances that prohibit anything attached to or affixed to trees); Protected River signage along the Red Cedar River. Additional brochures and information about the Red Cedar River can be found through Friends of the Red Cedar (

redcedarfriends.org

).
Near the waterways on campus, signs designate them as ""Grow Zones,"" areas where animals can hide and nest. These areas are not
mowed. Additionally, there are signs installed highlighting MSU's Stormwater Management Practices. These signs are part of a
self-guided Stormwater Walking Tour.

The website URL for the signage on the grounds about sustainable groundskeeping and/or landscaping strategies employed:
http://ipf.msu.edu/about/departments/plant-protection-statement.html

Does the institution produce a sustainability walking map or tour?:
No

A brief description of the sustainability walking map or tour:

The website URL of the sustainability walking map or tour:

Does the institution produce a guide for commuters about how to use more sustainable methods of transportation?:
Yes

A brief description of the guide for commuters about how to use more sustainable methods of transportation:

"MSU Has a general webpage addressing clean commuting options. In addition to this, brochures and pamphlets are available at Service Desks and the MSU Police Departments. Posters also encourage clean commuting across campus.
MSU Police offers discounted passes to carpoolers Additionally, MSU partners with the Capitol Area Transportation Authority (CATA)
for its mass transit transportation needs. MSU works with CATA to promote the Clean Commute Program for MSU students and
employees.

https://www.cata.org/Rider-Information/Clean-Commute-Options

Bike transportation is also popular on campus. MSU has a complete bike rental and service shop, MSU Bikes, that rents bikes to
individuals and departments by semester or annual basis. The department provides incoming freshman with a pamphlet explaining MSU's
Bike Friendly campus features:

www.bikes.msu.edu

Zipcar, a car sharing service is also available on campus,

www.zipcar.com/msu

"

The website URL for the guide for commuters about how to use more sustainable methods of transportation:
https://sustainability.msu.edu/get-involved/campus-tips-programs/discover-T-bike-repair.html

Does the institution produce navigation and educational tools for bicyclists and pedestrians (e.g. covering routes, inter-modal connections, policies, services, and safety)? :
Yes

A brief description of the navigation and educational tools for bicyclists and pedestrians:

MSU Bikes provides navigation and educational tools for on campus bicyclists and pedestrians in the form of printed fold-out maps which are distributed at student events and information is also provided via the MSU Bikes website (

bikes.msu.edu

) which includes education and advocacy elements. Additionally, bike paths, bike lanes and sharrows are clearly marked across campus.

The website URL for navigation and educational tools for bicyclists and pedestrians:
https://msubikes.files.wordpress.com/2015/04/msu-bike-facilities-map-2015-final.pdf

Does the institution produce a guide for green living and/or incorporating sustainability into the residential experience?:
Yes

A brief description of the guide for green living and incorporating sustainability into the residential experience:

All student residents receive a Residential and Hospitality Services packet detailing sustainable living practices for on-campus living. All MSU buildings have "waste not" stickers on light switches, and signs in all dorm bathrooms to remind students to conserve water and energy.

The website URL for the guide for green living and incorporating sustainability into the residential experience:
https://liveon.msu.edu/Sustainability

Does the institution produce other sustainability outreach materials or publications not covered above?:
Yes

A brief description of these materials or publications:

MSU is a Tobacco-Free Campus, certified with a tobacco-free ordinance since August 15th, 2016, and information about this shift can be found at

sustainability.msu.edu

, on posters and window clings around campus, and by contacting Infrastructure and Planning Facilities directly.

The website URL for these materials or publications:
http://tobaccofree.msu.edu/

Additional documentation to support the submission:
EN_4 FINAL.pdf

Data source(s) and notes about the submission:

"A popular sustainability-based event on campus in March of 2017 was the Patagonia Worn and Waer Tour, which visited MSU through collaboration with the Post-Landfill Action Network nonprofit. Worn and Wear attracted over 400 students and community members, featured community and campus businesses, RSOs, and organizations, and hosted a free recycling drop off. The event was widely popular, despite the weather, and Patagonia taught dozens of people how to repair and refurbish their damaged clothing and apparel.
Further sustainability websites include:

http://energytransition.msu.edu/

http://rhs.msu.edu/sustainability

Outreach Campaign

Score | **Responsible Party**
Mara Spears
4.00 / 4.00 Sustainability Program Coordinator
Office of the EVP for Administration

Criteria

Part 1

Institution holds at least one sustainability-related outreach campaign directed at students that yields measurable, positive results in advancing sustainability. The sustainability-related outreach campaign may be conducted by the institution, a student organization, or by students in a course.

Part 2

Institution holds at least one sustainability-related outreach campaign directed at employees that yields measurable, positive results in advancing sustainability. The sustainability-related outreach campaign may be conducted by the institution or by an employee organization.

The campaign(s) reported for this credit could take the form of a competition (e.g. a residence hall conservation competition), a rating or certification program (e.g. a green dorm or green office rating program), and/or a collective challenge (e.g. a campus-wide drive to achieve a specific sustainability target). A single campus-wide campaign may meet the criteria for both parts of this credit if educating students is a prime feature of the campaign and it is directed at both students and employees.

Measurable, positive results typically involve reductions in energy, waste or water use, cost savings and/or other benefits. To measure if a campaign yields measurable, positive results, institutions should compare pre-campaign performance to performance during or after the campaign. Increased awareness or increased membership of a mailing list or group is not sufficient in the absence of other positive results.

"---" *indicates that no data was submitted for this field*

Has the institution held at least one sustainability-related outreach campaign during the previous three years that was directed at students and yielded measurable, positive results in advancing sustainability? :
Yes

Has the institution held at least one sustainability-related outreach campaign during the

previous three years that was directed at employees and yielded measurable, positive results in advancing sustainability?:
Yes

Name of the campaign:
Green Certification

A brief description of the campaign, including how students and/or employees were engaged:

"The Green Certification program is designed to recognize, assist, and promote sustainability. The program is focused on faculty and staff (all employees) and units. The program engages employees to take steps toward reducing their environmental footprint within their working spaces. Units and departments demonstrate their commitment through initiatives for communication and education, energy efficiency and conservation, waste reduction and recycling, water conservation, and procurement. Green Certification seeks to motivate environmentally friendly behaviors by providing definitive guidelines and reducing confusion about best practices. This year, green certification was expanded to include multiple levels of certification, Bronze, Silver and Gold, to reflect the different levels of sustainable actions and processes within a space. There are four categories of certification including: offices, information technology spaces, science laboratories and kitchens. Each office selects a member to go through the certification procedure, and that office member serves as a liaison between their office and MSU Sustainability. Since the program began over 794 spaces have been certified, meaning almost 800 MSU employees have taken initiative and work to help their office space stay sustainable and promote green practices at work.
The program was set aside briefly in 2018; many offices had signed on and certified their spaces, but the link was left active for interested offices inspired to certify. In the summer of 2018, seven additional offices were certified in MSU Extension. The District 3 director (head of 6 counties) headed the certification and seven of their District 3 Offices. Other prominently certified areas are the Surplus Store and Recycling Center, Procurement and Purchasing, and various IPF buildings. According the MSU's energy transition plan, the university is using less energy every year even as more buildings, employees, and students are taken on at the university.

http://usd.msu.edu/purchasing/sustainable/our-efforts/

http://ipf.msu.edu/green/practices/index.html

A brief description of the measured positive impact(s) of the campaign:

Certifications increased dramatically in targeted high energy areas such as Labs and IT Spaces. MSU Offices throughout Michigan have received the certification,

including division offices and MSU Extension offices. After certifying more than 180 spaces in 2015, staff members now seek out certifications on their own and pursue the certification independently. After certifying more than 180 spaces in 2015, seven additional offices received the certification over the summer of 2018. These offices serve six counties in Northeastern Michigan, and were conducted by MSU Extension offices. These seven offices received silver certifications, and their efforts have let to the restablishment of the certification program.

The website URL where information about the campaign is available: https://sustainability.msu.edu/get-involved/staff-resources/25-greener-habits.html

Name of the campaign (2nd campaign):
Pack Up. Pitch In.

A brief description of the campaign, including how students and/or employees were engaged (2nd campaign):

Pack Up. Pitch In. Is a campus-wide sustainability strategy with the goal of waste reduction during student move-in (at the beginning of each semester) and move-out (at the end of each semester) weeks on campus. SO many waste accumulates during these hectic moving periods, and due to the confines of dorms and the desire to be finished quickly, thousands of pounds of materials are wasted. MSU has hosted this diversion program for 20 years, and during these periods students can donate unwanted items instead of throwing them away. Items eligible for donation include nonperishable food, household items, books, electronics, clothing, and shoes. Items that are accepted during this time for recycling include paper, newspaper, boxboard, glass, all plastics, household metals, cardboard, styrofoam and carpet tubes. In addition to solid waste diversion, students moving our are encouraged to clean up their dorm spaces, shut and secure windows, close curtains and lower window blinds, and turn off the lights to the rooms when they leave.

A brief description of the measured positive impact(s) of the campaign (2nd campaign):

In 2015, MSU accomplished a 73.1% diversion rate; in 2016 MSU's diversion rate was 45.8%; and in 2017 the diversion rate rose again to 73%. While 2016's year showed lower diversion rates, with 153,334 lbs of materials recycling compared to 110,586 in 2015 and 113,774 in 2017. For further detail on waste diversion and impacts of the Pack Up. Pitch In. program, please see the attached document.

The website URL where information about the campaign is available (2nd campaign): https://rhs.msu.edu/sustainability

A brief description of other sustainability-related outreach campaigns, including measured positive impacts:

"The Campus Mobility Plan is a campaign centered on sustainable transportation, raising awareness of the Last Mile Traveled, and helping decrease the amount of

traffic occurring in the main areas of campus. The mobility plan has engaged students through a survey on dockless vs. docked bikeshares, done in partnership with Capital Area Transportation Authority (CATA). In addition, the bus system on campus, which is done in partnership with CATA and uses their public transport buses, made rides free for students on campus. A website was created for campus mobility and social media was amped up around the topic to engage students and the surrounding MSU community, and promotional material was created to spread awareness of MSU's autonomous vehicle research and overall mobility strategy. The Campus Mobility Plan began with a survey conduction of existing campus mobility behavior. The survey was a collaborative, cross-unit inquiry of MSU faculty and staff. It was sent to 11,000 employees who work on the East Lansing campus, and 2,571 survey responses were received from all major administrative units on campus. Those who responded self-identified as 55% support staff, 22% as faculty, 10% as academic specialist, and 9% as administration/executive management. 89% of respondents drive a personal vehicle to work, and it was also found that more respondents move cars for meetings than for lunch. This made it clear that Face-to-face meetings contribute to campus congestion, as do current course scheduling configurations. The survey also made it clear the traditional 8-5 work schedule contributes to campus congestion. In addition to the above quantitative measurements, quality of work and work environment were also addressed during the survey outreach as well. It was found that supervisors not already granting flex-time are perceived as being unsupportive of potentially granting flex-time, and that a culture change is needed on campus to change the perceptions of course scheduling, attending meetings, and work schedules.

https://mobility.msu.edu/

Survey:

https://aan.msu.edu/wp-content/uploads/2017/10/Gaboury-Mobility.pdf

Mobility ppt General:

https://aan.msu.edu/wp-content/uploads/2017/10/Verbonceour-Mobility.pdf

MSU hosted a Year of Water in 2016 called Water Moves. This was a one-year program with diverse activities including art, film, music, performances, lectures, events, and exhibits across campus. By inviting guest speakers on water to the MSU campus – including artists, scholars, authors, musicians, filmmakers, lawmakers and government officials – MSU aimed to educate to empower community action, inspire creativity, and instill a sense of urgency to respect and appreciate the most prevalent and precious resource on our planet. The initiative strengthened the university-wide focus on water and cut across multiple strategic imperatives under Bolder by Design: enriching the student experience, global inclusiveness, and engaging the community. Water moves included a musical concert, photo exhibitions, a drinking water fountain competition, planetarium show, symposium, campus surveys, and a river clean-up. Nine student submissions made it to the final round of the water fountain design competition; $15,000 was

awarded to the winning team, $7,000 and $5,000 were awarded to the second and third teams, respectively. Hundreds of students participated in the event. The performance-based Water events on campus brought in hundreds of students and community members alike. Students separately conducted surveys of campus water use and water bottle recycling rates: students surveyed over 1,200 participants, and highlights include: 90% of participants understand that plastic bottle use has a negative environmental, 36.6% of students mainly drink bottled water, and 24% of students don't use water filter stations on campus (while 37% don't know about the filtering stations at all). The annual Environment and Policy Program Symposium called Fate of the Earth received dozens of student poster submissions and high attendance at their keynote and poster presentations. MSU was able to create campus and community engagement with research and through academic projects; Overall, the year was a tremendous success in raising awareness of water importance across the globe.

https://artsandculture.msu.edu/about/water-moves.aspx

Water surveys:

https://sustainability.msu.edu/get-involved/faculty-resources/get-involved-faculty-water-study.

html

Fate of the Earth:

http://www.espp.msu.edu/events/fateoftheearth/2018/index.html

"

The website URL where information about the programs or initiatives is available:
http://www.sustainability.msu.edu/

Additional documentation to support the submission:
EN5_FINAL UPLOAD(1).pdf

Assessing Sustainability Culture

Score	Responsible Party
	Amy Butler
0.50 / 1.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution conducts an assessment of campus sustainability culture. The cultural assessment focuses on sustainability values, behaviors and beliefs, and may also address awareness of campus sustainability initiatives.

An assessment that covers a single sustainability topic (e.g. a transportation survey) does not count in the absence of a more comprehensive cultural assessment.

Assessments that exclusively address sustainability literacy (i.e. knowledge of sustainability topics and challenges) or student engagement in sustainability-related programs and activities are excluded. Literacy assessments are recognized in the *Sustainability Literacy Assessment* credit in Curriculum.

Participation by U.S, and Canadian institutions in the National Survey of Student Engagement (NSSE) Sustainability Education Consortium does not count, but may be reported as an Exemplary Practice in Innovation & Leadership.

An institution may use a single instrument that addresses sustainability literacy, culture, and/or engagement to meet the criteria for this credit if at least ten questions or a third of the assessment focuses on sustainability values, behaviors and beliefs.

"---" *indicates that no data was submitted for this field*

Does the institution conduct an assessment of sustainability culture (i.e. the assessment focuses on sustainability values, behaviors and beliefs, and may also address awareness of campus sustainability initiatives)?:
Yes

Which of the following best describes the cultural assessment? The assessment is administered to::
A subset of the campus community or a sample that may not be representative of the entire community

Which of the following best describes the structure of the cultural assessment? The assessment is administered::
Longitudinally to measure change over time

A brief description of how and when the cultural assessment(s) were developed and/or adopted:

The surveys have been longitudinally over five years; and in 2017 survey included pre and post survey; 2018 survey was initial one time survey; 1/3 of the questions assessed sustainability culture; attitudes and perceptions about sustainability. It included social, environmental, and economic sustainability. it looks at the differences in the perception between the various colleges as well. An overwhelming 85.9 % reported that MSU sustainability efforts are important, fairly important or very important in their residential choices. For total sustainability scores the lowest was in College of Nursing while highest was in College of Music. The differences in sustainability attitudes by college were lowest in the Eli Broad

College of Business and the highest was in the College of Arts and Letters. The literacy assessment has been conducted annually for the last five years. A manual [see file upload] that describes the process has been developed. and shared with BIG 10 and Friends in the region. A standardized approach that is consistent with the requirements of the IRB is utilized. Details of the methodology are included in the report and guidance which are uploaded in the online reporting tool.

A copy or sample of the questions related to sustainability culture:
en_6 surveys combined.pdf

A sample of the questions related to sustainability culture or the website URL where the assessment tool is available:

Attached

A brief description of how representative samples were reached (if applicable) and how the cultural assessment is administered:

The representative samples were determined according to statistical protocol for the number; approved through the IRB; then 20,000 survey links were distributed randomly. The students received the initial survey between October 11 and October 30,. Of the total; 3797 replied.

A brief summary of results from the cultural assessment, including a description of any measurable changes over time:

The total responses was 3737 with an overall response rate of 18.6 %. Of the total respondents, 45% live off campus and 53.1 % live on campus, and 1.8 % in greek houses.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:
en_6 combined files final.pdf

Data source(s) and notes about the submission:

In addition to a sustainability assessment for the university, MSU has conducted several cultural assessments of the institution to better understand current awareness and knowledge of campus culture. These assessments fall into the area of diversity; further information can be found in PA-5.

Employee Educators Program

Score	Responsible Party
	Amy Butler
2.84 / 3.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution administers or oversees an ongoing staff/faculty peer-to-peer sustainability outreach and education program that meets the following criteria:

- Employee sustainability educators are formally designated and receive formal training or participate in an institution-sponsored orientation to prepare them to conduct peer outreach to other employees;
- The institution supports the program with financial resources (e.g. by providing an annual budget) and/or administrative coordination by staff or faculty; and
- The peer educators represent diverse areas of campus; the outreach and education efforts of sustainability staff or a sustainability office do not count in the absence of a broader network of peer educators.

This credit recognizes ongoing programs that engage employees as peers on a regular basis. For example, employee educators may represent or be responsible for engaging workers in certain departments or buildings. Thus, a group of employees may be served (i.e. directly targeted) by a program even if not all of these employees actively participate.

Ongoing green office certification programs and the equivalent may count for this credit if they include formally designated and trained peer employee educators (e.g. "green leaders").

Employee orientation activities and training and/or professional development opportunities in sustainability for staff are excluded from this credit. These activities are covered in the *Employee Orientation* and *Staff Professional Development* credits.

"---" *indicates that no data was submitted for this field*

Total number of employees (staff + faculty, headcount):
12660

Number of employees served (i.e. directly targeted) by a peer-to-peer sustainability outreach and education program (avoid double-counting):
11996

Percentage of employees served by a peer-to-peer educator program:
94.76

Name of the employee educators program:
Eco-Reps

Number of employees served (i.e. directly targeted) by the program (headcount):
11596

A brief description of the program, including examples of peer-to-peer outreach activities:

"EcoReps were recruited from every department and building on-campus. EcoReps:
- Promote environmental changes among co-workers
- Are points of contact for their department for questions and information on environmental stewardship
- Are liaisons between Campus Sustainability and buildings for suggestions, improvements and progress
As of Summer of 2018, the EcoRep program will be transitioned into the Waste Warriors program, run through the Recycling Center and Surplus Store. Waste Warriors will have all responsibilities EcoReps possess, and will carry out those duties in the same manner, championing sustainability at their respective locations. With over 300 departments on campus and each department developing unique relationships internally and with the campus community, EcoRep outreach varies by area. However, all EcoReps lead, educate, and help to train members of their own offices and departments as well as other members of the campus community. EcoReps with high outreach include Cullinary Recycling Center and Surplus Store, and Infrastructure and Planning Facilities. "

A brief description of how the employee educators are selected:

Ecoreps are selected through a sign-up process that takes place within each department on campus. Those interested in the program elect to be recruited, and are chosen for training based on their enthusiasm for the environment, eagerness to learn about social and economic sustainability, and their experience and ability in public outreach and face-to-face communication.

A brief description of the formal training that the employee educators receive to prepare them to conduct peer outreach:

EcoReps are given a training document and a welcome email with detailed instructions on responsibilities and support network. They are given periodic updates on initiatives and receive calls to action on various campus sustainability events.

A brief description of the financial and/or administrative support the institution provides to the program (e.g. annual budget and/or paid faculty/staff coordination):

The Eco Reps program has one dedicated full-time staff support from MSU Sustainability.

Name of the employee educators program (2nd program):

Culinary Internship Advisory Program

Number of employees served (i.e. directly targeted) by the program (headcount) (2nd program):
400

A brief description of the program, including examples of peer-to-peer outreach activities (2nd program):

Members of the Advisory Program develop best practices, energy and materials conservations, assessments, food waste programs, marketing and communications, and student and fulltime member training involving tours and public speaking in Residential and Hospitality (RHS) Services Sustainability. Overall, participants promote a positive work environment towards sustainability by existing as a resource to provide information, focus, and direction for all members of the MSU community and beyond. Excite, energize, and inform staff and guests about sustainable practices of RHS and recruit further involvement. This advisory program trains employees from all other departments in MSU, and those employees are paired with their equivalent in the RHS Sustainability team, where they learn to become ambassadors of sustainability in their own departments.

A brief description of how the employee educators are selected (2nd program):

Through Residential and Hospitality Services (RHS), individuals are selected to participate in an advisory program. Participants are selected through an open recruiting process, where individuals express interest in the program and are then required to apply and "shadow" their adviser.

A brief description of the formal training that the employee educators receive to prepare them to conduct peer outreach (2nd program):

Participants are trained in food waste programming and building incentive-based programs to encourage composting within the units, and are also taught data tracking and collecting for the RHS Sustainability database. Participants are trained in student supervisor and team member training, and event planning, presentations, and public speaking in tours and engagements.

A brief description of the financial and/or administrative support the institution provides to the program (e.g. annual budget and/or paid faculty/staff coordination) (2nd program):

The Advisory Program is supported by the Residential Education and Hospitality Services (REHS) division, and run through RHS. The program is tailored by the sustainability officer in RHS, and overseen by the Director of REHS.

A brief description of all other employee peer-to-peer sustainability outreach and education programs, including the number of employees served and how employee educators are selected, trained, and supported by the institution:

"Due to MSU's decentralized government, sustainability officers, representatives, and teams are dispersed throughout campus divisions and departments. Although administration heads a sustainability office, divisions have sustainability officers that work cross-divisionally to solve complicated problems and sustainability issues. Other peer-to-peer sustainability outreach programs happen within divisions on a individual and case-by-case basis. Generally, this includes peer-to-peer training in areas with only one branch of sustainability, such as:
The Health4U program: members of the Health4U office hold workshops and activities where they train and engage other employees of varying levels across the university. Past workshops have included cooking, gardening, exercise, meditation, and reflection.
Recycling Center: Employees at the Recycling Center teach new hires how to sort recyclable items on the sort line.
Soartan Green Office Certification Sustainability Champions: through the Spartan Green Office Certification program, applicants can become sustainability champions on behalf of their offices. Through the online certification process, these participants learn about a sustainable and greener office space, and in order to keep the office certification they must educate their peers to continue achieving the behaviors that won the office the original certification.

https://www.canr.msu.edu/news/
local_msu_extension_office_works_toward_spartan_green_certificati

on

MSU Extension requires all of its employees to tour the MSU campus and learn from their peers (from across the state) during the tour as all discuss sustainability, MSU's renewable energy highlights, efforts in sustainable farming, work in campus culture, student involvement, and research. MSU Extension staff are shown the campus farm, Anaerobic digestor, solar carport, power plant, and bike paths on campus by other members of MSU extension. "

Total number of hours employee educators are engaged in peer-to-peer sustainability outreach and education activities annually:

The website URL where information about the programs or initiatives is available:
https://rhs.msu.edu/sustainability

Additional documentation to support the submission:
EcoReps at Be Spartan Green _ Michigan State University.pdf

Employee Orientation

Score	Responsible Party
	Amy Butler
1.00 / 1.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution covers sustainability topics in new employee orientation and/or in outreach and guidance materials distributed to new employees, including faculty and staff. The topics covered include multiple dimensions of sustainability (i.e. social, environmental and economic).

"---" *indicates that no data was submitted for this field*

Percentage of new employees (faculty and staff) that are offered orientation and/or outreach and guidance materials that cover sustainability topics:
100

A brief description of how sustainability is included in new employee orientation (including how multiple dimensions of sustainability are addressed):

"At MSU, sustainability is ingrained in so many departments on campus. MSU is the nation's pioneer Land Grant School, and the university's stewardship, scholarship, and creative cultivation fully represent sustainable practices. All new employees are required to attend institution orientation, called the Spartan Experience. Every employee is required to attend in this in their first year, and the university Campus Services Director conducts a presentation addressing MSU culture and the commitment of the institution to sustainability and sustainable practices. This presentation specifically addresses the campus culture in the wake of sexual abuse cases in the university, and a respectful and thoughtful environment is requested at MSU at all times. Discussion of MSU's Land Grant legacy and commitment to stewardship is covered, as are the Bolder By Design principles the university operates under, which cover anticipating change, and emphasize the attitude to collaborate, create, explore, and discover. Such priniples help lead the attitudes of employees, and demonstrate the university's effort to create a lasting and sustaining campus. Sustainability is more directly addressed in the presentation through discussion of campus efficiency--from energy used, to recycling, to efficient use of time, to meals wasted, to food donated at MSU annually. Discussion on how each Spartan contributes concludes the sustainability portion of the presentation. All employees are made aware of the inclusiveness of MSU's campus and the university's strict policies in that area. All employees are introduced to MSU through its Bolder By Design principles and the 4Cs: Campus, Community, Curriculum, Culture. Through these words employees can see how MSU cultivates its campus through environmental stewardship and preservation, how the university cultivates a thriving diverse community through inclusive events and

interaction between students and the local community, how MSU's academic rigor drives the school and all at MSU are here to further the experience of research and student success. Finally, all are tied together in the culture of the Spartans, demonstrating that MSU is sustainable campust through this collaborative and communicative effort. All of these aspects in orientation together represent the multiple dimensions of sustainability at MSU.

https://www.hr.msu.edu/professional-development/courses/customer-service/the-spartan-experience

-december.html

In addition, other key divisions within MSU carry out specific sustainability training for new employees during orientation. This specific training as a part of onboarding dives even deeper into sustainability and how it directly impacts the operations of these particular divisions in providing exemplary customer service. For example, in IPF, the General Service Level Agreement, the business procedures manual, and the operational policies and procedures serve as their guidance documents and have varying levels of sustainability built into them. In Residential and Hospitality Services (RHS), all employees are exposed to composting, social sustainability practices and office culture, tour the anaerobic digestor and student organic farm, and learn about waste reduction in their department. RHS calls it's orientation ""Celebrate State,"" and the sustainability Officer for RHS presents at each Celebrate State orientation for its new employees, including students. These units also do employee engagement surveys to gauge understanding of sustainability and its applicability in the workplace. RHS also hosted the HR Module, a training for full time RHS staff to attend and gain sustainability training. This training included a 45 minute tour of the MSU Surplus Store and Recycling Center followed by a hour presentation of sustainable practices and initiatives throughout campus by the RHS Sustainability Officer, Carla Iansiti. In the 2017-2018 academic year, 163 staff members attended this training.

https://www.youtube.com/watch?v=urxYHoC3Z6c

All faculty go through Academic Achievement Network (AAN) training, which is a week-long orientation program. Faculty tour the campus, examining their role in the sustaining the university's goals of graduated acclimated and capable professionals, and faculty are shown the grounds, including the solar carport and preservation practices on campus.

https://aan.msu.edu/orientations/new-faculty-and-academic-staff-orientation/

"

The website URL where information about the programs or initiatives is available:
https://sustainability.msu.edu/get-involved/campus-tips-programs/index.html

Additional documentation to support the submission:
EN8_FINAL.pdf

Staff Professional Development

Score	Responsible Party
	Mara Spears
1.75 / 2.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Part 1

Institution makes available professional development and training opportunities in sustainability to all staff at least once per year.

Part 2

Institution's regular (full-time and part-time) staff participate in sustainability professional development and training opportunities that are either provided or supported by the institution.

For both Part 1 and Part 2 of this credit, the opportunities may be provided internally (e.g. by departments or by the sustainability office) or externally as long as they are specific to sustainability. The opportunities may include:

- Training to integrate sustainability knowledge and skills into the workplace.
- Lifelong learning and continuing education in sustainability.
- Sustainability accreditation and credential maintenance (e.g. LEED AP/GA).

This credit focuses on formal professional development and training opportunities, for example as delivered by trainers, managers, sustainability staff, and external organizations. Peer-to-peer educator programs and employee outreach campaigns are recognized in the *Employee Educators Program* and *Outreach Campaign* credits, respectively and should only be reported in this credit if such programs are formally recognized by the institution as professional development and training, for example in employee performance reviews.

For an external professional development and training opportunity to count, the institution must offer financial or other support (e.g. payment, reimbursement, or subsidy).

This credit applies to staff members only; it does not include faculty members. Faculty professional development in sustainability is recognized in the *Incentives for Developing Courses* credit in Curriculum.

Does the institution make available professional development and training opportunities in sustainability to all staff at least once per year?:
Yes

Does the institution wish to pursue Part 2 of this credit (the rate of employee participation in sustainability professional development and training)?:
Yes

Estimated percentage of regular staff (full-time and part-time) that participates annually in sustainability professional development and training that is either provided or supported by the institution (0, 1-24%, 25-49%, 50-74%, 75% or more):
50-74%

A brief description of any internal sustainability professional development and training opportunities that the institution makes available to staff:

"MSU Offers a wide variety of professional development and training opportunities, many of which cover sustainability and aspects of sustainability. Brief descriptions of these programs are listed below.
Academic Achievement Network (AAN): AAN offers professional development opportunities to all rank, appointment types, and career stages of academics at MSU. The AAN holds four Leadership Events every semester, called Conversations, that host a member of leadership at MSU. Every Conversation has over 300 attendees, totaling over 2,400 attendees overall throughout one academic year. The member of leadership who hosts a conversation discusses university priorities, development opportunities, and other events; Conversations are open to MSU faculty, deans, directors, chairs, executive managers, and staff supervisors, but are recorded and available for anyone to view through the AAN website. All conversations in the past two years have discussed sustainability, in professional development, campus improvements, planned and future developments, and university policy. AAN also hosts separate professional development for faculty of any department or level, and attendance at those programs totaled 3,102 in the 2017-2018 academic year; programs offered through AAN dive into time management and efficiencies, sexual harassment and Title IV response, difficult conversations, adapting to change, and idea sharing.

www.aan.msu.edu

Faculty and Academic staff are also offered development through AAN to expand their knowledge and encourage discussions between departments. These discussions are in the form of conversations and led dialogues facilitated by AAN. Different fellows and community dialogues are Cohorts, Learning Communities, Learning Opportunities, Individual Conversations, Teaching and Learning Spring Conference, and Resource for Teaching and Learning. And average of 100 people per session, and each session is recorded on a live-stream for those who cannot attend. AAN also co-sponsors a monthly forum at the Learning Hub on campus for faculty, which provides a place for the MSU community to share ideas, questions, innovations, and experiences around teaching and learning.

https://aan.msu.edu/teaching-learning/

https://aan.msu.edu/leadership-development/leadership-institute/

https://tech.msu.edu/teaching/faculty-development/

Residential and Hospitality Services (RHS): RHS is one of MSU's largest divisions, and sustainability is written into the division's mission statements through its commitment to the values of spirit of partnership, effective communication, commitment to staff and guest experiences, and mindset of innovations. In addition, RHS also holds staff professional development that is heavily centered around sustainability. Annually, RHS holds Innovate State, which is required by all RHS staff to attend and covers new policies, updates, new sustainability practices and diversity training, and changes made in the dining and housing areas of campus that staff should be aware of. RHS Food Stores are also trained regularly on new sustainability purchasing practices. The Sustainability Officer in RHS presents every other year to discuss sustainability policies, procedures, and training for all staff at all levels, including students. Every semester, the same Sustainability Officer carries out individual staff sessions for different RHS departments to update them on sustainability practices and policies that are site-specific to those units. RHS also provides its staff with the opportunity to shadow the leaders in the division during a fellows program called the Center for Excellence in Executive Leadership. This program is designed to grow members of staff in RHS in areas different than those they perform in to create well-rounded and communicative staff on all levels. The program is based on a shadowing and feedback process, where fellows (those leading) and the champions (those shadowing) create a dialogue for constant improvement and growth. Please see attached for further details.

https://rhs.msu.edu/sustainability

Infrastructure and Planning Facilities (IPF): IPF spans several areas of campus, and most IPF employees are educated in sustainability practices. Those who work at the Recycling Center and Surplus Store on campus all go through professional development as sustainability practices at the university change, and the recycling center employees, including all haul drivers, also receive professional development in this area. All staff in LEED certified buildings on campus go through workshops that teach them to follow sustainable office practices, and all new on-campus construction is to be built to LEED-certified levels. The MSU Custodial Services crew is trained in High-performance cleaning which focuses on sustainability, and these products change and develop regularly, required staff sustainability updates to keep the service as sustainable and efficient as possible. Additionally, the IPF

Sustainability Officer is a member of the Business Leadership Council, which has held several panels and education events for staff on campus to improve departmental business performance and efficiency.

http://ipf.msu.edu/green/practices/cleaning.html

The Office of Inclusion and Intercultural Initiatives offers staff dialogues for employees at MSU to discuss diversity, challenging topics, and ways to cope with such issues on campus. These are open on a monthly basis to all faculty and staff at MSU:

http://www.inclusion.msu.edu/education/intercultural-dialogue1.html

MSU also has several online professional development resources, and hosts classes every week for employees to improve their work performance, learn new skills, and develop their expertise in the workplace. This includes the ElevateU program, which is offered to all MSU employees, as well as courses through the MSU's staff portal EBS, the SpartansLearn website, and more:

https://www.hr.msu.edu/professional-development/support-staff/

"

A brief description of any external professional development and training opportunities in sustainability that are supported by the institution(e.g. through payment, reimbursement, or subsidy):

"Every year, MSU hosts numerous speakers, workshops, conferences, and work development sessions from outside and external groups. Each college hosts different workshops for their students, faculty, and staff, and due to divisional separation and college separation within the university, this data is not consistently logged. MSU us constantly hosting visitors to develop its staff, students, faculty, and employees professionally, and many of those opportunities are in sustainability. To view different sustainability professional development opportunities, please view the various events calendar for the university:

https://msu.edu/calendars.php

"

Estimated percentage of regular staff (full-time and part-time) for which sustainability is included in performance reviews (0, 1-24%, 25-49%, 50-74%, 75% or more) :
1-24%

The website URL where information about the programs or initiatives is available:
http://fod.msu.edu/

Additional documentation to support the submission:
EN_9 RHS PPO Principles & Mission.pdf

Data source(s) and notes about the submission:

"In RHS, sustainability is engrained in the divisional mission statement and values, and each employee's review features descriptions of these values and requires the employee to describe how their efforts in their work fulfill these values.
In Infrastructure and Planning Facilities, the mission statements and values of the division echo MSU's land-grant goals of environmental stewardship, while also promising transparency, effective communication, and value in teamwork. IPF's employee reviews also prioritize their division's values, and the sustainability employees in the division are reviewed for their effectiveness in the area as well. "

http://ipf.msu.edu/about/index.html

Public Engagement

 Points Claimed 17.19
 Points Available 20.00

This subcategory seeks to recognize institutions that help catalyze sustainable communities through public engagement, community partnerships and service. Engagement in community problem-solving is fundamental to sustainability. By engaging with community members and organizations in the governmental, non-profit and for-profit sectors, institutions can help solve sustainability challenges. Community engagement can help students develop leadership skills while deepening their understandings of practical, real-world problems and the process of creating solutions. Institutions can contribute to their communities by harnessing their financial and academic resources to address community needs and by engaging community members in institutional decisions that affect them. In addition, institutions can contribute toward sustainability broadly through inter-campus collaboration, engagement with external networks and organizations, and public policy advocacy.

From the institution:

The world's big problems require innovative thinking, passionate people, and a global network of collaborators who will work toward the common good. With our unique partnership approach and capacity to take on increasingly complex problems, MSU is creating a global network that connects faculty, students, universities, government agencies, non-governmental organizations, foundations, and industry partners across countries, projects, and multi-continent consortium. MSU has sharpened its focus on several critical international themes, including agriculture and food systems, sustainable environment, health and nutrition, and education. Through their International Studies and Programs, MSU researchers work directly with farmers, policy makers, government entities, and researchers in partner institutions to increase

agricultural productivity, improve diets, and build greater resilience to challenges like climate change. Backed by more than a quarter-billion dollars in international funding over the past decade, MSU researchers are working with key stakeholders around the globe to improve livelihoods through innovative research and sustainable solutions that address some of the world's most pressing challenges in agriculture and food security. A flagship program is the Partnerships for Sustainable Community Development (PSCD). PSCD is a long-term collaborative alliance of local and international organizations dedicated to improving local livelihoods. The partnership was established at Michigan State University (MSU) in 2007 as a means to find long-term solutions, build capacity, and create collaborations that promote resilient and sustainable communities. https://pscd.isp.msu.edu/about/about/. On a more regional and local basis, community based partnerships are embedded throughout the fabric of the university. University Outreach and Engagement, https://engage.msu.edu/upload/flyers/Outreach-Brochure-2018_acc.pdf fosters MSU's land-grant mission by connecting university knowledge with community knowledge in mutually beneficial ways. UOE also engages in research designed to demonstrate the disciplinary and interdisciplinary impact of engaged scholarship on faculty work and university-community partnerships. In all of its work, UOE emphasizes university community partnerships that are collaborative, participatory, empowering, systemic, transformative, and anchored in scholarship. MSU has also assumed a leadership role with respect to national conversations about the scholarship of engagement—defining, measuring, and evaluating best practices. IN addition there are a number of community-based networks across the state, each with their own structure and governance. Most germane to sustainability are the EDA University Center for Regional Economic Innovation, https://reicenter.org/ and Neighborhoods without Borders (Flint) https://engage.msu.edu/about/projects/community-and-economic-development/neighborh.... MSU is also an endorsing partner in the Grand Rapids Area Community Sustainability Partnership, collaborating with membership to promote sustainability education, awareness, and business strategy. http://grpartners.org/about/.

Credit	Points
Community Partnerships	3.00 / 3.00
Inter-Campus Collaboration	3.00 / 3.00
Continuing Education	5.00 / 5.00
Community Service	2.19 / 5.00
Participation in Public Policy	2.00 / 2.00
Trademark Licensing	2.00 / 2.00

Community Partnerships

Score	Responsible Party
	Amy Butler
3.00 / 3.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution has one or more formal community partnership(s) with school districts, government agencies, non-profit organizations, NGOs, businesses and/or other external entities, to work together to advance sustainability.

This credit recognizes campus-community partnerships that the institution supports (materially or financially) and that address sustainability challenges in the broader community. This may be demonstrated by having an active community partnership that meets one or more of the following criteria:

- The partnership is multi-year or ongoing, rather than a short-term project or event;
- The partnership simultaneously supports all three dimensions of sustainability, i.e. social equity and wellbeing, economic prosperity, and ecological health; and/or
- The partnership is inclusive and participatory, i.e. underrepresented groups and/or vulnerable populations are engaged as equal partners in strategic planning, decision-making, implementation and review.

A partnership is considered to be "transformative", "collaborative", or "supportive" based on the number of criteria that are met (see *D. Scoring*).

This credit is inclusive of partnerships with local and distant communities.

Participatory, community-based research and engaged scholarship around issues of sustainability may be included if it involves formal partnership(s). Although community service activities (e.g. academic service learning, co-curricular service learning and volunteer activities, Work-Study community service and paid community service internships) may involve partnerships and contribute toward sustainability, they are not included in this credit. Community service is covered by the *Community Service* credit.

"---" *indicates that no data was submitted for this field*

Name of the institution's formal community partnership to advance sustainability :
Partnership for Sustainable Community Development

Does the institution provide financial or material support for the partnership? :
Yes

Which of the following best describes the partnership timeframe?:
Multi-year or ongoing

Which of the following best describes the partnership's sustainability focus?:
The partnership simultaneously supports social equity and wellbeing, economic prosperity, and ecological health

Are underrepresented groups and/or vulnerable populations engaged as equal partners in strategic planning, decision-making, implementation and review? (Yes, No, or Not Sure):
Yes

A brief description of the institution's formal community partnership to advance sustainability, including website URL (if available) and information to support each affirmative response above:

The PSCD,

https://pscd.isp.msu.edu/about/about/

, is a long-term collaborative alliance of local and international organizations dedicated to improving local livelihoods. The partnership was established at MSU in 2007 as a means to improve community well-being and promote resilient communities in developing countries and create a model for sustainable prosperity. The strategy is to acknowledge interdependency and create long-term partnerships among local communities, governments, non-governmental organizations, private corporations, universities, and invested individuals to address local challenges and response to emerging opportunities in economic development, food security, public health, education, and community empowerment. The mission is to find long-term solutions, build capacity, and create collaborations that promote resilient and sustainable communities. To unite development, education, and research that boldly pushes the frontiers of knowledge and the role universities play in transforming local communities and the lives of individuals. The Tanzania Partnership Program (TPP) is the first initiative of the (PSCD), a long-term collaborative alliance of local and international organizations dedicated to improving local livelihoods. Tanzania was selected as the initial location for PSCD based on need, potential for success, university experience in the region, and an array of interested partners.https://pscd.isp.msu.edu/files/6915/0791/7846/TPP-AR-2017_FINAL_web2.pdf.

Name of the institution's formal community partnership to advance sustainability (2nd partnership):
MSU EDA University Center for Regional Economic Innovation (REI) in the Center for Community and Economic Development Program.

Does the institution provide financial or material support for the partnership? (2nd partnership):
Yes

Which of the following best describes the partnership timeframe? (2nd partnership):
Multi-year or ongoing

Which of the following best describes the partnership's sustainability focus? (2nd partnership):
The partnership simultaneously supports social equity and wellbeing, economic prosperity, and ecological health

Are underrepresented groups and/or vulnerable populations engaged as equal partners in strategic planning, decision-making, implementation and review? (2nd partnership) (Yes, No, or Not Sure):
Yes

A brief description of the institution's formal community partnership to advance sustainability, including website URL (if available) and information to support each affirmative response above (2nd partnership):

The Center for Community and Economic is dedicated to empowering communities to create sustainable prosperity and an equitable economy. Their mission is to advance MSU's land-grant mission by creating, applying, and disseminating valued knowledge through responsive engagement, strategic partnerships, and collaborative learning-empowering communities to create sustainable prosperity and an equitable economy.

Since its establishment in downtown Lansing, Michigan, in 1969, CCED, in partnership with public and private organizations, has developed and conducted numerous innovative programs that address local concerns while building the capacity of students, scholars and communities to address future challenges. Student, faculty, and community involvement is a crucial element of the CCED's mission. The CCED focuses its resources on the unique challenges of distressed communities throughout the state of Michigan.

A notable and successful program through the CCED is the MSU EDA University Center for Regional Economic Innovation (REI) – a network that works with Michigan's most economically vulnerable communities, turning them into economically vibrant places creating sustainable new-economy jobs and encouraging high growth entrepreneurial development. The REI Network is a community of over 1,000 individuals from public and private sectors. Through annual solicitations and funding, REI is engaged in strategic partnerships and collaborative learning (co-learning) to develop and share the most innovative development tools, models, policies, and practices.

Key projects funded over the past three years that demonstrate the partnerships focused on sustainability include:

Innovation Fellows: The Innovation Fellows program was established in 2016 to attract and support top champions in communities and organizations to tackle the tough economic development issues that our distressed communities face every day. Innovation Fellows provide on-the-ground support and coordination to move concepts to actions, implementing new economic development tools, models, and policies.

Bill Stough is the CEO of Sustainable Research Group (SRG) a consultancy that provides sustainability design and management services to advance sustainable business practices for its clients. In 2017, Bill began his Innovation Fellows project, "Triple Bottom Line." In regions of the state where entrepreneurial innovation is more established, the emergence of the Triple Bottom Line business model is driving growth of companies that are decidedly place-based, pay better wages and prefer purchasing local goods and services. Bill will lead this Fellows initiative to actively introduce and help implement the TBL approach in the East Central Michigan region consisting of: Clare, Gladwin, Arenac, Bay, Midland, Isabella, Gratiot and Saginaw counties. Although not widely described as a disadvantaged community, this 8-county region has an average ALICE rating that indicates 43.25% of the population live below income levels needed to achieve minimal living standards.

Projects in the Green and Food category are focused on finding sustainable solutions thru innovative plans and business practices for forming a successful food economy.

• Agricultural Technological Innovation in Michigan

- An Assessment of the Development of a Sustainable Ecotourism Alliance Organization for Munising
How does ecotourism affect the cities around it?
- An Assessment of the Effects of Mountain Biking in Marquette and on Michigan's Ecotourism Economy
Using mountain biking as a model, this report argues that local economic challenges can potentially be alleviated by the development of an ecotourism industry centered on the attractive national environment surrounding Marquette.
- Big-Box Converted to Co-op
- Ecotourism in the UP
Developing and promoting a plan to create local food sources ensures the growth of regional food systems.
- Generative NZE Infrastructure
This Student-Led, Faculty-Guided Project engages the community and leverages assets of a strong institutional presence, vacancy, and diverse partners in order to generate energy, wealth and educational opportunities.
- Genesee County Material Recovery Facility Feasibility Study
To reduce the overall amount of waste in Genesee County, this project will examine the feasibility of establishing a regional recycling facility in the area.
- Greater Lansing Food Bank Garden Project (2014)
A project to establish practical methodology to assess social, economic, community impacts of community gardening/farming in urban and per-urban environments of Lansing.
- Hybridized Ecosystem for Infrastructure and Renewable Systems
This Student-Led, Faculty-Guided Project engages the community and leverages assets of a strong institutional presence, vacancy, and diverse partners in order to generate energy and wealth.
- North Flint Healthy Food Initiative
It's necessary to point out the issues that city residents face in under served communities.
- Strengthening Michigan's Infrastructure and Sustainability: How Master and Capital Improvement Plans Can Help Build Sustainable "Green-Blue" Communities
- Triple Bottom Line

Name of the institution's formal community partnership to advance sustainability (3rd partnership):
Partnership - Michigan Community Sustainability Partnership

Does the institution provide financial or material support for the partnership? (3rd partnership):
Yes

Which of the following best describes the partnership timeframe? (3rd partnership):
Multi-year or ongoing

Which of the following best describes the partnership's sustainability focus? (3rd partnership):
The partnership simultaneously supports social equity and wellbeing, economic prosperity, and ecological health

Are underrepresented groups and/or vulnerable populations engaged as equal partners

in strategic planning, decision-making, implementation and review? (3rd partnership)
(Yes, No, or Unknown):
Not Sure

A brief description of the institution's formal community partnership to advance
sustainability, including website URL (if available) and information to support each
affirmative response above (3rd partnership):

> As an endorsing member for growing the partnership; also evaluating the
> community sustainability partnership tool kit to expand in the mid-Michigan
> region.

A brief description of the institution's other community partnerships to advance
sustainability:

> Regional Bikeshare Mobility Partnership - Multiple partners in the mid-michigan
> region including CATA Transportation; Michigan Convention Bureal; Lansing and
> East Lansing, Meridian Township, ASMSU, Michigan Trails; Mclaren Hospital
> Systems; Sparrow Health Systems; Ingham County; Michigan Trails.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Inter-Campus Collaboration

Score	Responsible Party
	Amy Butler
3.00 / 3.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution collaborates with other colleges and universities in one or more of the
following ways to support and help build the campus sustainability community. The
institution:

- Is an active member of a national or international sustainability network;
- Is an active member of a regional, state/provincial or local sustainability network;
- Has presented at a sustainability conference during the previous year;
- Has submitted a case study during the previous year to a sustainability resource
  center or awards program that is inclusive of multiple campuses;
- Has had staff, students, or faculty serving on a board or committee of a
  sustainability network or conference during the previous three years;

- Has an ongoing mentoring relationship with another institution through which it assists the institution with its sustainability reporting and/or the development of its sustainability program;
- Has had staff, faculty, or students serving as peer reviewers of another institution's sustainability data (e.g. GHG emissions or course inventory) and/or STARS submission during the previous three years; and/or
- Has participated in other collaborative efforts around sustainability during the previous year, e.g. joint planning or resource sharing with other institutions.

"---" *indicates that no data was submitted for this field*

Is the institution an active member of a national or international sustainability network?:
Yes

The name of the national or international sustainability network(s):

AASHE (Assocation for the Advancement of Sustainability in Higher Education); AASCU (American Association of State Colleges & Universities; ACUHO-I (Association of College & University Housing Officers International); APPA (Association of HIgher Education Facilities Officers); CSHEMA (Campus Safety, Health and Environmental Management Association);NACUBO (National Association of College & Univesity Business Officers); CURC (College and University Recycling Coalition); ISSP (International Society of Sustainability Professionals); SPLC (; Green Sports Alliance;CURC; U.S. Compost Council; Green Power Partnership

Is the institution an active member of a regional, state/provincial or local sustainability network?:
Yes

The name of the regional, state/provincial or local sustainability network(s):

MASU;MIAPPA:Michigan Recycling Coalition, Community Sustainability Partnership; West Michigan Sustainable Business Forum; East Michigan Sustainable Business Forum;MIEIBC.

Has the institution presented at a sustainability conference during the previous year? :
Yes

A list or brief description of the conference(s) and presentation(s):

World Economic Forum - Investing in a Sustainable Future - Keynote (

https://worldinvestmentforum.unctad.org/wp-content/uploads/2018/11/Compressed_WIF2018_Programme

_and_speakers_29.11.18.pdf

); U.S. Compost Council presentations on MRF, Anaerobic Digestion, Recycling (

https://www.compostfoundation.org/Portals/2/LANSING-01-18-2018-FLYERv1-with-registration.pdf?ve

[r=2018-01-18-102736-580](r=2018-01-18-102736-580)

); AASHE Presentation on Solar Project; Presentation on Sustainability Literacy Survey and determining the effectiveness of teaching Sustainability; Facilities and Power Summit - adoption of solar PPA and installation of solar carports: Green Power Partnership - presentation on renewable energy and optimization of energy production;

Has the institution submitted a case study during the previous year to a sustainability awards program that is inclusive of multiple campuses? :
Yes

A list or brief description of the awards program(s) and submission(s):

Business Transformation and Operational Exellence World Summit & Industry Awards - Submitted case study on the development and implemenation of the Mobil Action Plan - innovation in sustainable facilities management;

Has the institution had staff, students or faculty serving on a board or committee of a sustainability network or conference during the previous three years? :
Yes

A list or brief description of the board or committee appointment(s):

AASHE- Advisory Board, co leader of Big Ten and Friends; APPA - on board; MIAPPA - on board; MRC-on board; MIEIBC - on board

Does the institution have an ongoing mentoring relationship with another institution through which it assists the institution with its sustainability reporting and/or the development of its sustainability program?:
Yes

A brief description of the mentoring relationship and activities:

AASHE - director of sustainability participating in the mentoring program with U of Cal - Davis (previously Mercede) focus is on understanding gap analysis, developing a pathway to platinum, and introduction to a diverse set of sustainability programs in higher education; MSU has also mentored GVSU in developing their student organic farm and expanding their recycling and reuse program.. IN addition, MSU has multiple relationships internationally with

universities promoting and providing resources for adoption of sustainability practices.

Has the institution had staff, faculty, or students serving as peer reviewers of another institution's sustainability data (e.g. GHG emissions or course inventory) and/or STARS submission during the previous three years?:
No

A brief description of the peer review activities:

n/a

Has the institution participated in other collaborative efforts around sustainability during the previous year, e.g. joint planning or resource sharing with other institutions?:
Yes

A brief description of other collaborative efforts around sustainability during the previous year:

Collaboration with other Big 10 universities - discussions on specific topics such as how to define and measure waste diversion. Also collaborated with Grand Valley State University in assisting them in their expansion of programs in waste recycling.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Continuing Education

Score	Responsible Party
	Mara Spears
5.00 / 5.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Part 1

Institution has conducted an inventory during the previous three years to identify its continuing education courses that address sustainability. These course offerings may include:

- Continuing education courses that have been identified as sustainability course offerings using the definitions provided in *G. Standards and Terms*; and/or
- Continuing education courses that have been formally designated as sustainability course offerings in the institution's standard course listings or catalog.

For each course, the inventory provides:

- The title and department (or equivalent) of the course.
- A brief description of the course. Courses for which partial or incomplete information is provided may not be counted toward earning points for Part 1 of this credit.

Courses that are typically taken for academic credit are not included in this credit; they are covered in the Curriculum subcategory

Part 2

Institution has at least one sustainability-themed certificate program through its continuing education or extension department.

Degree-granting programs (e.g. programs that confer Baccalaureate, Masters, and Associates degrees) and certificates that are part of academic degree programs are not included in this credit; they are covered in the Curriculum subcategory.

"---" *indicates that no data was submitted for this field*

Does the institution offer continuing education courses that address sustainability?:
Yes

Total number of continuing education courses offered:
4336

Number of continuing education courses offered that address sustainability:
3213

Percentage of continuing education courses that address sustainability:
74.10

A copy of the list and brief description of the continuing education courses that address sustainability:
EN_12 Cont Ed FINAL.xlsx

A list and brief description of the continuing education courses that address sustainability:

MSU hosts an Extension program due it it's unique position as the Land Grant University in Michigan. MSU Extension is responsible for the large number of sustainability-related continuing education courses through its extensive agriculture, business, community, food and health, lawn and garden, and natural resources focus areas. MSU also provides continuing education through its various research institutes, including Center for Global Connections the Kellogg Biological Station, the Center for Packaging Innovation and Sustainability, the Water Research Institute, and the Center for Fiscal Sustainability Government and Community Vitality.

Attached inventory addresses sustainability programs and courses offered, primarily through MSU Extension. Programs with multiple courses offered represent the number of counties and locations that offer variations of that program and its courses. Please see attached for further detail.

Certificate sustainability programs offered listed below.

Community Food Systems: Farm to Institution

This is an umbrella of programs that share to goals of increasing local food being served in Michigan institutions and food related education provided in institutional settings. The three components of this program are as follows. Local food procurement: developing capacities of institutions to purchase, promote and serve local foods. Institutional gardens: promoting on-site gardens as formal and informal educational tools to be effective positive change agents. Good food education: promoting experiential education related to agriculture, food, health and nutrition through direct programs and training those who provide direct education. The local food procurement portion of this program is conducted in partnership, in part, with the Michigan Farm to Institution Network.

Natural Resources: Intro to Lakes

An online course in which participants learn and explore topics including lake ecology, watersheds, natural shorelines, water law, aquatic plants, and citizen involvement. Participants will: 1) understand the ecological and economic values associated with Michigan's inland lakes; 2) recognize that inland lake management is complex, multifaceted and requires stakeholder involvement 3) use federal, state and local resources to help improve water quality

Executive MBA: Special Topics-Innovative Thinking

Designed to explore aspects of entrepreneurship with a particular emphasis on creativity, idea development, and business plan preparation. Develops the skills and competencies that facilitate creation and implementation of a particular business idea in the face of a dynamic and uncertain marketplace.

LEED Training: AP + Building Design and Construction

Discover the real-world application of Green Building Design and Construction practices on LEED projects. Prepare yourself for the LEED AP+BD&C accreditation exam that (after passing) will allow you to operate as a successful LEED practitioner on and off job sites.

LEED Training: Green Associate Exam Preparation

Acquire the fundamental concepts of green building. Then prepare yourself to take the Green Associate exam and earn the LEED Green Associate credential from the Green Building Certification Institute. The course is intended for design, construction and real estate professionals, building owners, or anyone who wants to develop their knowledge in this area.

LEED Training: LEED for Existing Buildings - Operations and Maintenance Exam Preparation

This study group covers the concepts and strategies of the LEED for Existing

Buildings Operations & Maintenance Rating System and is intended for design, construction and real estate professionals, building owners, and anyone who wants to develop their knowledge in this area. The course will prepare students to earn the LEED for Existing Buildings Operations & Maintenance Accredited Professional (LEED AP O+M) credential from the Green Building Certification Institute.
For a complete inventory, please see attached file
[teams/general/additional resources/en12/en_12 Cont Ed Final]

Do the figures reported above cover one, two, or three academic years?:
Three

Does the institution have at least one sustainability-themed certificate program through its continuing education or extension department?:
Yes

A brief description of the certificate program(s), including the year the program was created:

"The Certified Master Gardener Program was created and implemented in 1978. Since then, it has taught over 31,000 Michigan residents. The program shares science-based, environmentally-sound gardening knowledge with engaged citizens and helps to empower communities in sustainability. This is done through environmentally responsible gardening practices that protect and preserve the native species and existing water resources; improve food security for participating communities through lessons in growing one's own food and providing assistance and mentorship for gardeners; improve the community through engagement and activities that benefit all ages and abilities; and develop youth through gardening through after school programs and the Junior Master Gardener class.
Organic Farmer Training Program through the Student Organic Farm is a comprehensive, non-degree seeking program that educates its participants in organic and sustainable farming and produces individuals capable of working at, owning, and running their own farm or farm business. The Program is committed to preparing students to start and operate their own farms, manage existing farm businesses or non-profit farms, or work for other organizations promoting farm and food education and /or food production in a changing market and changing environment. The program covers vegetable, fruit, and flower production, organic certifications, solar greenhouse management and production, wholesale marketing, business planning, and many other areas to create a capable and holistic farmer. Other sustainability-based continuing education programs include the Certified Land Use program, the Great Lakes Turf Schools Certificate, Citizen Planner, and LEED Certification programs. Please see attached inventory for additional programs and further details. "

The website URL where information about the programs or initiatives is available:
https://www.canr.msu.edu/outreach/index

Additional documentation to support the submission:

Data source(s) and notes about the submission:

The Visiting International Professional Program (VIPP) is an exemplery example of a program fully adopting a high performance sustainability culture. A diverse team representing five different nation's that connects the world's emerging leaders with the scholarly resources of MSU and the region to prepare international professionals in solving wicked problems in their home countries and throughout the world.

https://vipp.isp.msu.edu/news1/?id=3555

Master Gardener Program:
https://www.canr.msu.edu/master_gardener_volunteer_program/

Organic Farmer Training Program:
http://www.msuorganicfarm.org/organic-farmer-training-program.html

Community Service

Score	Responsible Party
	Renee Brown
2.19 / 5.00	Director
	Center for Service Learning and Civic Engagement

Criteria

Part 1

Institution engages its student body in community service, as measured by the percentage of students who participate in community service.

Part 2

Institution engages students in community service, as measured by the average hours contributed per student per year.

Institutions may exclude non-credit, continuing education, part-time, and/or graduate students from this credit.

"---" *indicates that no data was submitted for this field*

Number of students enrolled for credit (headcount; part-time students, continuing education, and/or graduate students may be excluded):
50019

Number of students engaged in community service (headcount):
32241

Percentage of students engaged in community service:
64.46

Does the institution wish to pursue Part 2 of this credit (community service hours)? (if data not available, respond 'No'):
Yes

Total number of student community service hours contributed during the most recent one-year period:
128964

Number of annual community service hours contributed per student :
2.58

The website URL where information about the programs or initiatives is available:
http://www.servicelearning.msu.edu/

Does the institution include community service achievements on student transcripts?:
No

Does the institution provide incentives for employees to participate in community service (on- or off-campus)? (Incentives may include voluntary leave, compensatory time, or other forms of positive recognition):
Yes

A brief description of the institution's employee community service initiatives:

"Faculty at MSU are provided a guidebook on installing volunteering opportunities paired with coursework for a semester, week, or project-based service opportunity.

https://servicelearning.msu.edu/upload/Service-Learning-Toolkit.pdf

Volunteering and service learning opportunities for staff and MSU employees are generally posted through Human Resources via the following link:

https://hr.msu.edu/ua/volunteers/index.html

The College of Arts and Letters provides open volunteering and service learning opportunities at their campus and community outreach events:

https://celta.msu.edu/community/cls/getting-involved/service-learning-and-volunteering/

MSU Health4U creates unique opportunities for staff to engage with one another and improve their overall health. Health4U offers campus volunteering opportunities and works with departments to create campus and community events focused on engagement and wellness:

https://health4u.msu.edu/services

"

Additional documentation to support the submission:

Data source(s) and notes about the submission:

"MSU views community volunteering as scholarship, and the Office of University Outreach and Engagement serves as another resource for students and faculty in regards to service learning and scholarship in that area:

https://engage.msu.edu/

2016-2018 MSU Community-Engaged Learning Index:
https://servicelearning.msu.edu/upload/forms-to-download/CSLCE-2016-2018-Learning-Index.pdf

Campus and Community Thank You Video:
https://www.youtube.com/watch?v=8SZ75UJ1R1Y&feature=youtu.be
"

Participation in Public Policy

Score	Responsible Party
	Amy Butler
2.00 / 2.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution advocates for public policies that support campus sustainability or that otherwise advance sustainability. The advocacy may take place at one or more of the following levels:

- Municipal/local,
- State/provincial/regional,
- National, and/or
- International.

The policy advocacy must have the implicit or explicit support of the institution's top administrators and/or governing bodies to count. For example, advocacy by administrators, students, staff, or faculty who are acting as representatives of the institution or its governance bodies may count. Advocacy by students, staff, or faculty conducted in a personal capacity does not count unless it is formally endorsed at the institutional level.

Examples of advocacy efforts include supporting or endorsing legislation, ordinances, and public policies that advance sustainability; active participation in campaigns aiming to change public policy; and discussions with legislators in regard to the above.

This credit acknowledges institutions that advocate for policy changes and legislation to advance sustainability broadly. Advocacy efforts that are made exclusively to advance the institution's interests or projects may not be counted. For example, advocating for government funding for campus sustainability may be counted, whereas lobbying for the institution to receive funds that have already been appropriated may not.

Does the institution advocate for public policies that support campus sustainability or that otherwise advance sustainability at the municipal/local level?:
Yes

A brief description of how the institution engages in public policy advocacy for sustainability at the municipal/local level, including the issues, legislation, and ordinances for or against which the institution has advocated:

There are several methods of engagement that MSU utilizes in influencing; informing; and supporting elements of sustainability policy. Active policy roles include: direct policy advocacy and influence; conducting research and programs to support and inform policy decisions; and serving as subject matter experts on policy teams on a local, state, national and international groups.
1. For local/municipal level policy development: MSU participates in the CATA Transportation Regional Mobility Group – the task force had an assessment done for bike sharing as well as other micro-mobility solutions to transportation. The task force examined existing policies for both e-scooters and bike sharing and formed guidelines for regional coordination of policies in relation to micro-mobility solutions. As a result, MSU determined the need to revisit its ordinance for new technologies being introduced to the campus. The university also collaborated with the regional transportation provider, (CATA) to institute free ridership for all students, faculty, and staff.
2. MSU's Institute for Public Policy and Social Research (IPPSR) provides funding through their Michigan Applied Public Policy Research grant program for applied research on current policy-relevant issues. They funded multiple policy projects including: a project directly related to the Line 5 Oil Pipeline policy in the Straights of Mackinac; Autonomous Vehicles – identifying the tradeoffs in the technology; major barriers and how policy makers can better understand and develop policy in anticipation of the changes in the industry. IPPSR also produced a report providing input to the Michigan Public Service Commission on the utility integrated resource plans and decision-making on renewable energy adoption. Additionally, IPPSR produced the report Michigan's Energy Future: Expert and Public Opinion on Energy Transitions In Michigan to inform the policy debate. A MAPPR Policy Brief.

Does the institution advocate for public policies that support campus sustainability or that otherwise advance sustainability at the state/provincial/regional level?:

Yes

A brief description of how the institution engages in public policy advocacy for sustainability at the state/provincial/regional level, including the issues, legislation, and ordinances for or against which the institution has advocated:

MSU engages in policy discussions at the regional and state level in many instances:
1. MSU is a member of the Michigan Energy Innovation Business Council and participates regularly in the development of the policy recommendations on energy for the Governor and legislative representatives. The Director of Sustainability serves as the key member to the MIEIBC and participates in monthly policy development calls. She provides comment on behalf of the university to the MIEIBC and shares the policy development with the corresponding internal energy team for input as well. Policies have included: community solar, solar and public Act 116; and climate change in state government.

2. Environmental Permit Review Commission – Professor Dana Kirk represents the university on this state commission. Act 268 of 2018 created the Environmental Permit Review Commission (EPRC) in the Department of Environmental Quality to advise the Director on two separate policies: disputes related to permit applications and contested cases regarding a permit decision. The Commission consists of 15 individuals appointed by the Governor. Dana Kirk, Professor of Biological and Agricultural Engineering was appointed to represent MSU and higher education organizations in the policy development.

3. Solid Waste Rules Advisory Committee: Professor and Researcher, Dana Kirk, has served as a representative of MSU, on the subjects of academia, recycling, agriculture, and energy on the Michigan Solid Waste and Sustainability Advisory Panel. Launched in 2015 and a final report in 2017 – to conduct a broad and comprehensive review of Part 115, Solid Waste Management of Natural Resources and Environmental Protection. This group worked with additional stakeholder groups to ensure recommendations to legislation and rules are developed with a common vision for the waste programs.

https://www.michigan.gov/documents/deq/deq-wmrpd-SWSAP_Report_FINAL_555407_7.pdf

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4. Cultivating Goals of Good Food Charter and Cultivate Michigan Campaign- MSU Professor Michael W. Hamm, was a key person in the original development of the state's Michigan Good Food Charter, published in 2010. MSU Leadership endorsed this project and the President of MSU was a part of the Advisory Committee.

https://www.michigan.gov/documents/mda/Good_Food_Charter_-_PPT_325352_7.pdf

. The charter is a roadmap for a food system that is rooted in local communities and centers on good food. It has six goals to advance the vision by 2020. The Center for Regional Food Systems at MSU was established and continues to advance the goals and policies. The 2017 report "Cultivate Michigan 2017 Data Brief summarizes progress to date of the Cultivate Michigan campaign – Michigan Farm to Institution

Network 20 % by 2020.

https://www.canr.msu.edu/foodsystems/uploads/resources/cultivate%20michigan%202017%20data%20bri

ef.pdf

5. Another method of engagement is through the Office of Governmental Relations., whose position is to advocate on behalf of MSU by building and promoting positive relationships with federal, state, and local policymakers. This includes policies related to elements of sustainability. Representatives develop long term relationships and engage them in key activities at the university that are impacted by policy and legislation. For example, the implementation of the 2016 Energy Legislation and its impact on MSU's implementation of its Energy Transition Plan. This is particularly important as MSU is a power provider and legislation impacts the deployment of upgrades, efficiencies, and renewables. Legislators and their staff are invited to tour and discuss projects such as the solar carports [largest in the nation]. This office also collaborates advocacy efforts on behalf of the university, as well as local and regional relationships [see local response].

6. MSU also engages in policy development through background technical and consumer research impacting the direction policy may take. MSU conducted the research for the Michigan Agency for Energy (MAE),

https://www.michigan.gov/energy/0,4580,7-364-85459-485872--,00.html

, on the ideal electric charging infrastructure – this has informed the funding policy being developed by the State's Michigan Agency for Energy and the DEQ for strategizing the policy driving the distribution of their Volkswagon Settlement Funds to improve EV infrastructure and alternative fuel vehicles.

7. Another method of engagement is through Centers of Excellence within the university that interface in the development of and implementation of policy. For example: the Land Policy Institute-https://www.canr.msu.edu/landpolicy/, serves on the MI Sense of Place council; the Center for Food Systems-https://www.canr.msu.edu/foodsystems/our-work/, convenes the Michigan Local Food Council Network engaging in food policy issues and serves as the backbone organization in the development and implementation of the Michigan Good Food Charter; the MSUE Greening Michigan Institute -https://www.canr.msu.edu/uploads/236/35087/State_Council_December_2012/GMI_State_Council_Presentation_Dave_Ivan.pdf; IPPSR Public Policy Forums - Autonomous Vehicles and Renewable Energy Policy

http://ippsr.msu.edu/public-policy/public-policy-forums/past-forums-archive

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8. Institute for Public Policy and Social Research conducts Public Policy Forums: Autonomous Vehicles, 2/15/2017. Renewable Energy Economy 5/18/2018; Flint Water System; state and local responsibilities; 3/16/2018;

IPPSR also provide a new legislator training academy every two years. During this academy, MSU is able to equip legislators with knowledge of key legislative agenda items as well as introduce them to issues important to the university and the resources that the university has to support their legislative activities. Sustainability; climate change and energy are topics that are key to the new administration.

Does the institution advocate for public policies that support campus sustainability or that otherwise advance sustainability at the national level?:
Yes

A brief description of how the institution engages in public policy advocacy for sustainability at the national level, including the issues, legislation, and ordinances for or against which the institution has advocated:

The Office of Governmental Affairs works directly with both state and federal legislators on policy that would be of importance to the University but also to its stakeholders, i.e. business and community. The office of Governmental Affairs has worked diligently with Congresswoman Debbie Stabenow on the last two revisions to the Farm Bill. This was a significant policy direction for Michigan's constituency as we are second only to California in the diversity of agricultural products. Changes in the bill would enable new research and technology advancement to support business in the agricultural sector.

Does the institution advocate for public policies that support campus sustainability or that otherwise advance sustainability at the international level?:
Yes

A brief description of how the institution engages in public policy advocacy for sustainability at the international level, including the issues, legislation, and ordinances for or against which the institution has advocated:

1. Driving SDG policy adoption in member nations who ratified the 17 Sustainable Development Goals. MSU faculty, Tomas Hult, advocates for and assists member nations and companies in the adoption of the UN Sustainable Development Goals and policies that support those goals. Additionally, under his direction as Executive Director of the Academy of International Business (a position supported by the university), AIB has also entered into an arrangement with the WIF / UNCTAD to co-organize the WIF for the foreseeable future, with a bulk related to the SDGs, what countries and companies can do. He works directly with these companies and countries on sustainable strategic policies in implementing the SDG's. He serves as a member of the expert Network of the World Economic Forum for the similar purposes. He is a trusted resource that drives the integration of government policy (countries) marketplace forces (companies) and the people's needs and wants together in coherent sustainability strategies. Dr. Hult is recognized as faculty and representative of MSU in this capacity. His role is clearly identified in his university references and his presentations and discussions directly reference his affiliation with the university.

His work includes work directly impacting and promoting sustainability on a global basis with his MSU affiliation. Dr. Hult was recognized as an MSU Professor and International Business Leader by U.S. Department of Education. He also presents keynotes to promote the policies of adopting SDGs, such as: World Investment Forum (Keynote, Geneva, Switzerland, October 26, 2018) [Blog] Op-Ed Sept 24, 2018: The Hill (Global Sustainability) Op-Ed Sept 18, 2018: The Hill (Customer Satisfaction) Op-Ed Aug 30, 2018: The Hill (Global Efficiencies) Hult regularly hosts a radio show: globalEDGE Business Beat, with the Michigan Business Network. globalEDGE Blog by Tomas Hult UN's Sustainable Development Goals (Journal of Macro marketing, 2018) [Blog] [Dinero] [Radio] [The Hill].

2. New Plastics Economy Global Commitment -Global Campaign: MSU signed on as an endorser of the New Plastics Economy Global Commitment brought together by the Ellen MacArthur Foundation's Plastic Pact – brings together all key stakeholders at the national or regional level to implement solutions towards a circular economy for plastics. e: In addition to contributing through research, the university supports the promotion of efforts to find alternatives to the plastics economy. Targets are aimed at the local level but also align with the global vision as described in the Global Commitment to ensure a consistent approach.

A brief description of other political positions the institution has taken during the previous three years (if applicable):

Global Campaign: MSU signed on as an endorser of the New Plastics Economy Global Commitment brought together by the Ellen MacArthur Foundation's Plastic. In addition to contributing through research, the university supports the promotion of efforts to find alternatives to the plastics economy.

A brief description of political donations the institution made during the previous three years (if applicable):

N/A

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Trademark Licensing

Score	Responsible Party
	Samantha Stevens
2.00 / 2.00	Director
	University Licensing Programs

Criteria

Institution is a member of the Fair Labor Association (FLA) and/or the Worker Rights Consortium (WRC).

Please note that other initiatives to support fair labor standards in the supply chain are recognized in the *Sustainable Procurement* credit in Purchasing.

"---" *indicates that no data was submitted for this field*

Is the institution a member of the Worker Rights Consortium?:
Yes

Is the institution a member of the Fair Labor Association? :
Yes

A brief description of the institution's WRC or FLA membership, including the year membership was last established or renewed:

WRC: MSU joined this independent labor rights monitoring organization in July, 2005. MSU is a member as an educational institution and recognizes the founding contributors, who were university administrators, students, and international labor rights experts. Joining the WRC allows MSU to benefit from the WRC's assistance with enforcement of the university's labor rights and codes of conduct. The university renews its membership annually each July. The last renewal was July 2018.
FLA: MSU joined in July 1999, and the university renews its membership annually each July. The last renewal was July 2018. MSU collaborates with the FLA to provide employees with resources, training, or dialogues as seen fit. The FLA works to create lasting and sustaining solutions to abusive labor practices through provision of such resources.

https://licensing.msu.edu/social-responsibility/index.html

The website URL where information about the programs or initiatives is available:
http://licensing.msu.edu/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

MSU is member of WRC and FLA; in addition, minimum and non-negotiable requirements are that all MS standard licensees seek and receive membership in the FLA and adhere to its code of conduct.

Operations

Air & Climate

Points Claimed 4.81
Points Available 11.00

This subcategory seeks to recognize institutions that are measuring and reducing their greenhouse gas and air pollutant emissions. Global climate change is having myriad negative impacts throughout the world, including increased frequency and potency of extreme weather events, sea level rise, species extinction, water shortages, declining agricultural production, and spread of diseases. The impacts are particularly pronounced for low-income communities and countries. In addition, institutions that inventory and take steps to reduce their air pollutant emissions can positively impact the health of the campus community, as well as the health of their local communities and regions.

From the institution:

Under the Energy Transition Plan, Infrastructure and Planning Facilities: Transitions from coal to natural gas in 2016; have added solar car ports and tied them into our micro-grid and; made multiple equipment dispate and demand limit decisions in order to reduce costs and improve plant efficiency (balancing natural gas usage against predicted solar power contributions and the cost to purchase power off the utility grid. The Energy Transition Plan five year review (2017) reported that MSU has reduced emissions by 30 % in year 2014-2015 from its baseline year of 2009-10. The switching of fuel sources has drastically reduced particulate matter 2.5 emissions, lowered fuel costs, and decreased costs of converting the input fuel into electricity and heat within the power plant. The fuel conversion is resulting in 250,000 tons of CO_2 emissions reductions - approximately equivalent to planting half a million trees annually, a 43% reduction in overall CO_2 emissions from campus.

Credit	Points
[Greenhouse Gas Emissions](#)	3.81 / 10.00
[Outdoor Air Quality](#)	1.00 / 1.00

Greenhouse Gas Emissions

Score	Responsible Party
	Bill Lakos
3.81 / 10.00	Engineer/Architect III
	IPF Energy and Environment

Criteria

Part 1

Institution has conducted a publicly available greenhouse gas (GHG) emissions inventory that includes, at minimum, Scope 1 and Scope 2 GHG emissions and may also include Scope 3 GHG emissions.

The inventory may also be verified by an independent, external third party and/or validated internally by campus personnel who are independent of the GHG accounting and reporting process.

Part 2

Institution reduced its adjusted net Scope 1 and Scope 2 GHG emissions per weighted campus user compared to a baseline.

Part 3

Institution's annual adjusted net Scope 1 and Scope 2 GHG emissions are less than the minimum performance threshold of 0.02 metric tons of carbon dioxide equivalent (MtCO2e) per gross square foot (0.215 MtCO2e per gross square metre) of floor area.

Performance for Part 3 of this credit is assessed using EUI-adjusted floor area, a figure that accounts for significant differences in energy use intensity (EUI) between types of building space (see *G. Standards and Terms*).

For this credit, the following carbon offsets may be counted:

- Third-party verified purchased carbon offsets
- Institution-catalyzed carbon offsets (popularly known as "local offsets")
- Carbon sequestration due to land that the institution manages specifically for sequestration (as documented in policies, land management plans or the equivalent)
- Carbon storage from on-site composting

Purchased Renewable Energy Certificates (RECs) or Guarantees of Origin (GOs) may not be counted as carbon offsets. Emissions reductions attributable to RECs and GOs that are either Green-e Energy certified or meet Green-e Energy's technical requirements and are verified as such by a third party are reported separately (see *E. Reporting Fields*). Purchased carbon offsets and RECs/GOs that have not been third-party verified do not count.

Institution-catalyzed offsets, on-site composting, and carbon sequestration projects (on and off campus) that are to be counted as offsets must be third party verified or, at minimum, quantified using a method that addresses all of the following accounting issues:

- Selection of a baseline scenario (i.e. what would have happened in the absence of the project?);
- Demonstration of additionality (i.e. the project has resulted in emission reductions or removals in addition to what would have happened in the absence of the project);
- Identification and quantification of relevant secondary effects (i.e. small, unintended GHG consequences of a project, include leakage and changes in GHG emissions up- and downstream of the project);

- Consideration of reversibility (i.e. assessing the risk of reversibility, together with any mitigation or compensation measures included in the project design);
- Avoidance of double-counting (i.e. the reductions giving rise to the offset must occur at sources or sinks not included in the target or cap for which the offset is used).

Institutions that have sold or transferred emissions reductions, e.g. in the form of verified emissions reductions (VERs), may not count those reductions toward this credit. Those transactions are reported separately and net GHG emissions are automatically adjusted upward to reflect the sale or transfer of any institution-generated offsets that have been included as carbon offsets (see *D. Scoring*).

"---" *indicates that no data was submitted for this field*

Has the institution conducted a GHG emissions inventory that includes all Scope 1 and 2 emissions? :
Yes

Does the institution's GHG emissions inventory include all, some or none of its Scope 3 GHG emissions from the following categories?:

	All, Some, or None
Business travel	None
Commuting	None
Purchased goods and services	None
Capital goods	None
Waste generated in operations	None
Fuel- and energy-related activities not included in Scope 1 or Scope 2	None
Other categories	None

A copy of the most recent GHG emissions inventory:
OP_1 ghg invenstory and sustainability report.pdf

A brief description of the methodology and/or tool used to complete the GHG emissions inventory, including how the institution accounted for each category of Scope 3 emissions reported above:

The energy and environment department in Infrastructure Planning and Facilities is responsible for gathering data to support the calculation of the GHG emissions. In addition, Sight lines is used as a third party validator of ghg emissions and benchmarks with other universities.. EPA methodology is used to calculate fuel burned in units at power plant as well as purchased electricity and transportation energy.

Has the GHG emissions inventory been validated internally by personnel who are independent of the GHG accounting and reporting process and/or verified by an independent, external third party?:
Yes

A brief description of the internal and/or external verification process:

MSU has used Sightlines to benchmark and assess GHG emissions that include scope 1,2,and 3. While we do not report scope 3 emissions in our report, we have collected data on the purchase of paper, waste, recycling, fertilizer, construction, commuting , institutionally sponsored air travel, student study abroad programs and travel to campus by out of state students.

Documentation to support the internal and/or external verification process:

Does the institution wish to pursue Part 2 and Part 3 of this credit? (reductions in Scope 1 and Scope 2 GHG emissions):
Yes

Gross Scope 1 and Scope 2 GHG emissions:

	Performance Year	Baseline Year
Gross Scope 1 GHG emissions from stationary combustion	352986.89 *Metric Tons of CO2 Equivalent*	556702.12 *Metric Tons of CO2 Equivalent*
Gross Scope 1 GHG emissions from other sources	4268.41 *Metric Tons of CO2 Equivalent*	275.75 *Metric Tons of CO2 Equivalent*
Gross Scope 2 GHG emissions from purchased electricity	53051.99 *Metric Tons of CO2 Equivalent*	24035.18 *Metric Tons of CO2 Equivalent*
Gross Scope 2 GHG emissions from other sources	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*
Total	410307.29 *Metric Tons of CO2 Equivalent*	581013.05 *Metric Tons of CO2 Equivalent*

Start and end dates of the performance year and baseline year (or three-year periods):

	Start Date	End Date
Performance Year	July 1, 2017	June 30, 2018
Baseline Year	July 1, 2009	June 30, 2010

A brief description of when and why the GHG emissions baseline was adopted (e.g. in sustainability plans and policies or in the context of other reporting obligations):

The baseline used is 2009-2010. This was the baseline used to develop the Energy Transition Plan and with the initial STARS reporting. To be able to assess progress this baseline is used for consistency.

Figures needed to determine total carbon offsets:

	Performance Year	Baseline Year
Third-party verified carbon offsets purchased (exclude purchased RECs/GOs)	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*
Institution-catalyzed carbon offsets generated	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*
Carbon sequestration due to land that the institution manages specifically for sequestration	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*
Carbon storage from on-site composting	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*
Carbon offsets included above for which the emissions reductions have been sold or transferred by the institution	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*
Net carbon offsets	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*

A brief description of the offsets in each category reported above, including vendor, project source, verification program and contract timeframes (as applicable):

N/A

Emissions reductions attributable to Renewable Energy Certificate (REC) or Guarantee of Origin (GO) purchases:

	Performance Year	Baseline Year
Emissions reductions attributable to REC/GO purchases	0 *Metric Tons of CO2 Equivalent*	0 *Metric Tons of CO2 Equivalent*

A brief description of the purchased RECs/GOs including vendor, project source and verification program:

N/A

Adjusted net Scope 1 and 2 GHG emissions:

	Performance Year	Baseline Year
Adjusted net Scope 1 and 2 GHG emissions	410307.29 *Metric Tons of CO2 Equivalent*	581013.05 *Metric Tons of CO2 Equivalent*

Figures needed to determine "Weighted Campus Users":

	Performance Year	Baseline Year
Number of students resident on-site	15429	15305
Number of employees resident on-site	236	0
Number of other individuals resident on-site and/or staffed hospital beds	447	0
Total full-time equivalent student enrollment	45676	45149
Full-time equivalent of employees (staff + faculty)	12063	11061
Full-time equivalent of students enrolled exclusively in distance education	900	0
Weighted campus users	46992.50	45983.75

Adjusted net Scope 1 and 2 GHG emissions per weighted campus user:

	Performance Year	Baseline Year
Adjusted net Scope 1 and 2 GHG emissions per weighted campus user	8.73 *Metric Tons of CO2 Equivalent*	12.64 *Metric Tons of CO2 Equivalent*

Percentage reduction in adjusted net Scope 1 and Scope 2 GHG emissions per weighted campus user from baseline:
30.90

Gross floor area of building space, performance year:
24233934 *Gross Square Feet*

Floor area of energy intensive building space, performance year:

	Floor Area
Laboratory space	1363486.16 *Square Feet*
Healthcare space	178587.95 *Square Feet*
Other energy intensive space	685133 *Square Feet*

EUI-adjusted floor area, performance year:

28003215.22 *Gross Square Feet*

Adjusted net Scope 1 and 2 GHG emissions per unit of EUI-adjusted floor area, performance year:
0.01 *MtCO2e / GSF*

Scope 3 GHG emissions, performance year:

	Emissions
Business travel	---
Commuting	---
Purchased goods and services	---
Capital goods	---
Fuel- and energy-related activities not included in Scope 1 or Scope 2	---
Waste generated in operations	---
Other categories	---

A brief description of the institution's GHG emissions reduction initiatives, including efforts made during the previous three years:

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:
OP_1 ghg invenstory and sustainability report.pdf

Outdoor Air Quality

Score	Responsible Party
	Sherri Jett
1.00 / 1.00	Director of Utilities
	Infrastructure and Planning Facilities

Criteria

Part 1

Institution has written policies or guidelines to improve outdoor air quality and minimize air pollutant emissions from mobile sources on campus. Policies and/or guidelines may include prohibiting vehicle idling, restrictions on the use of powered lawn care equipment, and similar strategies.

Policies and guidelines that support cleaner and more fuel-efficient fleet vehicles and more sustainable commuting options are covered by credits in the Transportation subcategory.

Policies adopted by entities of which the institution is part (e.g. government or university system) may count for Part 1 of this credit as long as the policies apply to and are followed by the institution.

Part 2

Institution has completed an inventory of significant air emissions from stationary sources on campus or else verified that no such emissions are produced. Significant emissions include nitrogen oxides (NOx), sulfur oxides (SOx), and other standard categories of air emissions identified in environmental permits held by the institution, international conventions, and/or national laws or regulations.

"---" *indicates that no data was submitted for this field*

Does the institution have policies and/or guidelines in place to improve outdoor air quality and minimize air pollutant emissions from mobile sources on campus?:
Yes

A brief description of the policies and/or guidelines to improve outdoor air quality and minimize air pollutant emissions from mobile sources:

> Reducing the use of mobile sources and encouraging alternative forms of transportation: MSU Transportation Services has integrated a number of green vehicles into their campus fleet; and has installed a limited number of charging stations. MSU has also expanded the CATA Bus ridership by offering free rides to students; faculty and staff throughout the university campus. CATA offers 8 bus routes exclusively for MSU, riders can also travel to nearby off-campus locations on another 23 routes. Ridership has increased nearly 38 %. Zipcar and Rideshare/ Michivan Program have partnered with MSU to provide access to nine vehicles around campus. The campus has been designated a Silver Bicycle Friendly campus with more than 70 percent of roads equipped with bile lanes and 20,000 bike parking spots. It has also included a Bikes Service Center and over 20 self serve bike repair stations. MSU has also established electric moped parking locations. Advancing traffic management in a pedestrian intense environment - Signal controls to optimize traffic flow during campus events; sensor-driven parking management app; dynamic, predictive signal and routing; networked smart signals including vehicle and pedestrian sensors; Mobility Planning - completed a Mobility Report seeking input and feedback over the past year; and established the Mobility Studio to further study how human and technology interface. Consolidated Routes - University Services Logistics consolidates receiving and delivery of UPS ground parcel activity to reduce operation costs and have fewer delivery vehicles on campus. University Services also utilizes campus-wide strategic contracts to help minimize incoming traffic. Contracts allow warehousing of common goods and supplies and distribute them as needed on consolidate routes. Reduces carbon emissions and eases congestion in loading docks.

Has the institution completed an inventory of significant air emissions from stationary campus sources or else verified that no such emissions are produced?:
Yes

Weight of the following categories of air emissions from stationary sources::

	Weight of Emissions
Nitrogen oxides (NOx)	371.97 *Tons*
Sulfur oxides (SOx)	35.60 *Tons*
Carbon monoxide (CO)	235.48 *Tons*
Particulate matter (PM)	22.49 *Tons*
Ozone (O3)	0 *Tons*
Lead (Pb)	0 *Tons*
Hazardous air pollutants (HAPs)	0 *Tons*
Ozone-depleting compounds (ODCs)	0 *Tons*
Other standard categories of air emissions identified in permits and/or regulations	0 *Tons*

A brief description of the methodology(ies) the institution used to complete its air emissions inventory:

MSU uses the Michigan Michigan Air Emissions Reporting System (MAERS) and the EPA greenhouse gas annual reporting process. Emissions are quantified by the use of both continuous emission monitoring systems and emission factor calculations.

The website URL where information about the programs or initiatives is available:
https://mobility.msu.edu/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

http://www.deq.state.mi.us/maers/emissions_query_results.asp?SRN=k3249&Facility_Name=michigan+state+university&EI_Year=&City=&County=&AQD_District=&cmdSubmit=Submit+Query

Buildings

Points Claimed 3.15
Points Available 8.00

This subcategory seeks to recognize institutions that are taking steps to improve the sustainability performance of their buildings. Buildings are generally the largest user of energy and the largest source of greenhouse gas emissions on campuses. Buildings also use significant amounts of potable water. Institutions can design, build, and maintain buildings in ways that provide a safe and healthy indoor environment for inhabitants while simultaneously mitigating the building's impact on the outdoor environment.

From the institution:

In 2009, MSU received its first LEED award (silver certification) for the construction of an addition to the Chemistry Building. The Chemistry addition includes LEED features such as recycled glass in the flooring, low-flow toilets, drip irrigation and motion sensors for classroom lights.

Gold certifications:

Butterfield Hall
MSU Surplus Store and Recycling Center
College of Human Medicine's Secchia Center in Grand Rapids
Shaw Hall
Silver certifications:

Brody Hall (addition three)
Case Hall (addition three)
Chemistry Building (addition two)
Eli and Edythe Broad Art Museum
Life Science (Bott Nursing Education Research)
Kellogg Biological Station's dairy facility
A total of 1,559,273 square feet of MSU-owned space has been LEED registered.

Credit	Points
Building Operations and Maintenance	1.90 / 5.00
Building Design and Construction	1.25 / 3.00

Building Operations and Maintenance

Score	Responsible Party
	Bill Lakos
1.90 / 5.00	Engineer/Architect III
	IPF Energy and Environment

Criteria

Institution owns and operates buildings that are:

1)   Certified under a green building rating system focused on the operations and maintenance of existing buildings, e.g. LEED$^{®}$: Building Operations + Maintenance (O+M)

And/or

2)   Operated and maintained in accordance with published sustainable operations and maintenance guidelines and policies that include one or more of the following:

- Indoor air quality (IAQ) management policy or protocol
- Green cleaning policy, program or contract
- Energy management or benchmarking program
- Water management or benchmarking program

Energy and water management and benchmarking programs include dashboards, analytics tools, and other mechanisms to assess performance, set goals, create and implement action plans, and evaluate progress. See, for example ENERGY STAR Guidelines for Energy Management and U.S. EPA Portfolio Manager.

Building space that meets multiple criteria listed above should not be double-counted.

Building space that is certified under a green building rating system for new construction and major renovation must also be certified under a rating system focusing on operations and maintenance to count as certified space for this credit. For example, a building that is certified under LEED: Building Design + Construction (BD+C) but not LEED: Building Operations + Maintenance (O+M) should not be counted as certified space. Sustainability in new construction and major renovation projects is covered in the *Building Design and Construction* credit.

"---" *indicates that no data was submitted for this field*

Total floor area of building space:
24233934 *Square Feet*

Floor area of building space that is certified at each level under a green building rating system for the operations and maintenance of existing buildings used by an Established Green Building Council:

	Certified Floor Area
LEED O+M Platinum or the highest achievable level under another GBC rating system	0 *Square Feet*
LEED O+M Gold or the 2nd highest level under another 4- or 5-tier GBC rating system	0 *Square Feet*

	Certified Floor Area
Certified at mid-level under a 3- or 5-tier GBC rating system (e.g. BREEAM-In Use, CASBEE for Existing Buildings, DGNB, Green Star Performance)	0 *Square Feet*
LEED O+M Silver or at a step above minimum level under another 4 - or 5–tier GBC rating system	0 *Square Feet*
LEED O+M Certified or certified at minimum level under another GBC rating system	0 *Square Feet*

Floor area of building space that is certified under a non-GBC rating system for the operations and maintenance of existing buildings, e.g. BOMA BESt, Green Globes CIEB:
0 *Square Feet*

Percentage of building space certified under a green building rating system for the operations and maintenance of existing buildings:
0

A brief description of the green building rating system(s) used and/or a list or sample of certified buildings and ratings:

Of the institution's uncertified building space, what percentage of floor area is maintained in accordance with a published indoor air quality (IAQ) management policy or protocol? (0-100):
100

A copy of the IAQ management policy or protocol:
MSU-Indoor Air Quality Management-STARS v.1.pdf

The website URL where the IAQ policy/protocol may be found:
https://ipf.msu.edu/manual-business-procedures-infrastructure-planning-and-facilities-section-2
60

Of the institution's uncertified building space, what percentage of floor area is maintained in accordance with a published green cleaning policy, program or contract ? (0-100):
100

A copy or the green cleaning policy:

A brief description of how green cleaning is incorporated into cleaning contracts:

 MSU has two certified programs that are adhered to for their building green cleaning programs.

For Residential and Hospitality Services (RHS) they are ISSA-CIMS-Green Building w/ Honors certified. RHS has received this honor three times over the past ten years.

For Infrastructure, Planning, and Facilities they use the Management (OS1) and the environment system and have certified trainers to assure adherence to the policy and methods.

Buildings managed by the RHS (6.1 m sq ft) are maintained to the CIMS Green Cleaning standard.

https://www.issa.com/certification-standards/cleaning-industry-management-standard-cims.html

. RHS is certified ISSA-CIMS-Green Building with Honors. They have maintained this certification since 2012. They are one of only 250 in North America to have achieved this cleaning designation. This certification is comprehensive in that it requires policies for cleaning, purchasing, training etc. for the entire program. The certification system reviews and validates the cleaning policies, purchasing policies, staff training, management, as well as health and safety. Review of the requirements for the certification is conducted by independent third party auditors. A document is uploaded to the reporting tool that contains several excerpts of the green cleaning requirements including: mission and values; quality control plan; quality system section; service delivery section and frequency cleaning. RHS uses the APPA standard rating system and cleaning frequencies were established to meet the standard.

RHS custodial maintenance personnel uses cutting -edge technology to sanitize spaces while protecting the health of building occupants and the environment. Since 2015, the entire team utilizes 100 percent ozonated water in all residential facilities. The crews no longer spray bathrooms down with chemicals but instead use hazardous-chemical free floor cleaner and sealant. Additionally, ozonated water is also used in the cleaning of carpet and hard surfaces. This practice leads to a reduced amount of chemicals washed down campus drains and an overall lower water consumption across campus.

Maintenance Requests are submitted using the new Live On website portal. The request is then quickly routed to an available team member.

Buildings maintained IPF – service levels are documented to the APPA Standards and cleaning policy is in accordance with the Management (OS1) and the Environment System.

https://www.usg.edu/assets/facilities/documents/APPA_Standards_(Maintenance,_Custodial__Grounds

).pdf

. Management (OS1) and the Environment.

https://managemen.com/

.

The (OS1) cleaning system (OS1) is a comprehensive, high performance management system for cleaning organizations. (OS1) also incorporates the concept of Team Cleaning. It employs in-depth training, from the upper-management down to the cleaning worker level. (OS1) prescribes standardized cleaning tools and procedures. This means that each cleaning worker is trained and certified on specialized tasks. Workers are provided with tools and chemicals for each team job function, which have been bench marked as the best practice by the (OS1) Users. This simplification of the cleaning process results in a safer, cleaner, healthier and happier working environment. IPF has five Certified Trainers and maintains the training certification through annual retraining. They are responsible for maintaining the adherence to the OS1 cleaning process. They assure staff are trained properly in the procedures and best practices of the OS1 system. This core leadership team are also currently preparing the ISSA CIMS application for the certification process for their buildings, consistent with the RHS buildings.

The underlying philosophy and benefits of the OS1 system includes:

Improved training;

Cleaning for health first and then for appearance

Disposing of cleaning wastes in an environmentally-responsible manner

Increasing worker safety and awareness

Increasing the level of sanitation of building surfaces

Removing pollutants from the facility responsibly

Reducing chemical, particle and moisture residue and

Minimizing human exposure to harmful chemicals and pollutants.

Improved training program

Reduced chemical usage

Lower indoor/outdoor environmental impact

Improved safety for cleaning workers

Higher morale

Balanced workload

Compliance with ISO 9001 standards

Going 'Beyond Compliance' with HAZCOM law

Effective training for people with disabilities

Improved management of custodial budget

Of the institution's uncertified building space, what percentage of floor area is maintained in accordance with an energy management or benchmarking program? (0-100):
85

A brief description of the energy management or benchmarking program:

Currently, 20 million square feet of campus area is committed to the Better Buildings Challenge with a target of 20% reduction in average Energy Utilization Index (or EUI, KBTU/SF) by the year 2020. Benchmarking is based on 2010 steam and electrical data, consistent with the goals set forth as part of the MSU Energy Transition Plan). To accomplish this, along with our overall energy management strategy, all main campus buildings are outfitted with a smart meter for electricity and a steam measurement device – either via condensate return or by a building steam meter. This information is collected and tracked within the campus metering database, eDNA with a monthly report generated for review within the MSU Utility Billing System. To meet and sustain reductions in campus energy consumption, a number of activities come into play:

Investment in Energy Conservation Measures

To date, over $40 million has been invested in energy conservation measures (since 2010). Approximately half was identified via energy audits, Spartan Treasure Hunts and through the 10-year retro-commissioning program. The other half was in conjunction with renewal / renovation projects whereby energy efficient technologies were implemented in concert with capital projects underway. It is expected that a reduction of 15% will result across the entire connected load of campus buildings as a result of these efforts.

Re-commissioning

Upon completion of the one-time, 10-year retro-commissioning program (see attached process), an ongoing approach to focused re-commissioning was developed and implemented. The goal is to sustain the improvements accomplished in energy reduction and operational efficiency. The teams concentrate on three distinct sectors of campus:

Residential and Hospitality Services / Athletics facilities

Laboratory and research facilities

Typical classroom / office facilities

Campus temperature control guideline

Every year in May a campus temperature control guideline is sent out across campus to share our suggested room temperature parameters (see attached / link).

Steam trap management program

Initiated in 2010 as an operational best practice initiative through retro-commissioning, the campus steam trap management program was implemented. It

has had a significant positive impact on trouble calls, reduced steam consumption and a more intentional method for managing our massive steam trap population (over 14,000 tested every winter). Trap failures were reduced from an average of 21% down to our current level of just 3%.

Automated fault detection & diagnostics (AFDD – HVAC analytics) platform

As the one time retro-commissioning program was coming to an end, analytics technology for HVAC and controls was becoming more mainstream and better developed / suited to meet the needs of MSU. In 2015 a dedicated employee was hired to administrate and deploy an analytics software platform provided through a company Iconics. This system is installed as an overlay on our current building automation systems (Siemens and Delta Controls) and identifies operational and energy related opportunities to solve root cause issues in a more predictive manner. Looking to the future, the intent of this system will be for it to provide a foundation for future implementation of artificial intelligence, machine learning and Internet of Things deployment to building controls. Currently we have 20 buildings deployed in Iconics with an operational process for addressing issues in more real time in development.

Energy Systems Alterations and Improvements team

In 2011 a maintenance and repair team was developed to address the increase in energy related maintenance and repair issues along with low cost/no cost energy efficiency opportunities that were being identified through the retro-commissioning process. Due to the immense amount of issues being identified across multiple projects, standard manpower and budgets could not keep up with the pace and this team has been key to making progress toward addressing this high volume of issues (opportunities).

Spartan Treasure Hunts

Through a one-time partnership with General Electric (GE), the concept of a "Treasure Hunt" was shared with facilities and academic unit staff members (within Engineering and Biomedical Physical Sciences buildings). GE had conducted Treasure Hunts in conjunction with Toyota across their facility portfolio. The concept focuses on collaboration between facilities professionals and those who work in the buildings on a day-to-day basis. From hearing how the facility is used and where there might be operational / energy opportunities, the teams are able to build better relationships through collaboration and a mutual understanding of challenges faced on both sides. This approach was formally adopted and re-branded as the "Spartan Treasure Hunt" to be included as an initial process step in the 10-year retro-commissioning program. It was very beneficial in helping to establish contact with building occupants and understanding their needs / hearing their ideas.

Capstone Project Partnerships

Beginning in 2015, collaborations between the academic department of Applied Engineering Sciences and Infrastructure Planning & Facilities were initiated as part of the College of Engineering "Capstone Design Project" program. As part of this, the following projects were carried out relating to improvements in energy efficiency and sustainability:

2015 – The Calculation and Application of Energy Conservation Measures on MSU Campus

2016 – Determination of Filtration Effectiveness (won Sustainability Award)

2017 – District Energy Optimization (co-sponsored with Johnson Controls, Inc. (JCI))

Designing a D3E Proposal for MSU's Campus

Design of a Decentralized Decarbonized District Energy Strategy

2018a – Analysis of Current Operation of the Regional Chilled Water Plant (co-sponsored with JCI)

2018b – Develop Business Case for Campus-wide Temperature Control Guideline

Of the institution's uncertified building space, what percentage of floor area is maintained in accordance with a water management or benchmarking program? (0-100):
95

A brief description of the water management or benchmarking program:

As MSU is a water supplier – it has two aspects to water management. One is provided the supply of water for the use, monitoring and assuring the best quality and availability to meet the demand. The second is the measurement and monitoring of use, or the demand.

Source [supply] monitoring - The water we provide to our buildings for consumption, meets or exceeds all State of Michigan and EPA standards. We partner with other MSU organizations, such as the Institute of Water Research, to establish water tracking measures that help ensure the safest and smartest use of our water resources.

https://ipf.msu.edu/environment/water/drinking-water

. MSU has taken measures to double its water storage capacity and improve the water quality flowing through its distribution system with the construction of a new water treatment plant and storage tank. It is estimated to save nearly $150,000 in annual pumping costs. The MSU Water Quality Report – 2017 documents the monitoring and assessment of water quality for the university.

https://ipf.msu.edu/sites/default/files/2019-04/MSU_Water_Report_6_26_2018.pdf

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Water Usage [demand] and Conservation - Overall, Water conservation helps improve the environment and safeguard water resources for the community. MSU is working to ensure a balanced and sustainable approach to water consumption. Water meters for buildings on campus are tied into the Central Control system that

connects to the Power Plant. Reports can be accessed through the EBS reporting web.

Some examples of MSU's on-campus water conservation measures include installing drip irrigation systems to target plant root systems so less water is wasted and replacing high-water-use fixtures with fixtures that use less. As new build construction standards comport with LEED standards, low flow fixtures and overall water consumption practices are incorporated in the design and build of new systems. Water meters on buildings are tied into the Central Control hub and Building Automation System. Thus, as with energy demand, monitoring is electronic with alarms, and the complaint/service reporting system is also used for water as defined in Manual of Business Procedures for Infrastructure Planning, Section 260.

https://ipf.msu.edu/manual-business-procedures-infrastructure-planning-and-facilities-section-2

60

and service request system .https://intra.pplant.msu.edu/apps/sroipf/request?Token=FAE2CD42F313C27EFB67DA81577006D6

A specific example of conservation goals and monitoring is demonstrated through the Residential and Hospitality Services strategic plan. The RHS Strategic Plan

https://rhs.msu.edu/sites/default/files/RHS-2013-Strategic-Plan.pdf

identifies sustainable practices as a guiding principle, integrating sustainable practice into all facets of the program including purchasing, operations, design and construction, and facility management. Water conservation strategies include:

As we renovate, consider and support conservation strategies for low flow fixtures, sub-metering dining areas and water conserving equipment.

Be aware of renovations and sustainability impacts with regard to water use.

Consider how water use affects energy use.

. Residential and Hospitality Services manages 25 % of the floor space maintained by the university, or 6.1 million sq ft. RHS accesses the data on a monthly basis and reviews monthly water usage. This data is then utilized in assessing progress in water reduction usage in accordance with their strategic plan. The most recent data indicates that usage for 2018 is below the 2011 usage rate, even with a substantial increase in sq ft in new building space, including the addition of 1855 Place. The data usage helps to inform and justify the action plans of installation of low flow fixtures in new buildings and in retrofits that purpose with LEED standards. RHS also looks at the residential hall water usage in relation to other facilities and compares to a national average as provided through APPA.

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:
MSU-CS_DSG-Guidelines STARS v.1.pdf

Data source(s) and notes about the submission:

Building Design and Construction

Score   **Responsible Party**

              John LeFevre
1.25 / 3.00   Director of Planning, Design and Construction
              Infrastructure and Planning Facilities

Criteria

Institution-owned buildings that were constructed or underwent major renovations in the previous five years are:

1) Certified under a green building rating system for new construction and major renovations, e.g. LEED$^{®}$: Building Design & Construction (BD+C)

2) Certified Living under the Living Building Challenge

And/or

3) Designed and built in accordance with published green building codes, guidelines and/or policies that cover one or more of the following:

- Impacts on the surrounding site (e.g. guidelines to reuse previously developed land, protect environmentally sensitive areas, and otherwise minimize site impacts)
- Energy consumption (e.g. policies requiring a minimum level of energy efficiency for buildings and their systems)
- Building-level energy metering
- Use of environmentally preferable materials (e.g. guidelines to minimize the life cycle impacts associated with building materials)
- Indoor environmental quality (i.e. guidelines to protect the health and comfort of building occupants)
- Water consumption (e.g. requiring minimum standards of efficiency for indoor and outdoor water use)
- Building-level water metering

Building space that meets multiple criteria listed above should not be double-counted.

"---" *indicates that no data was submitted for this field*

Total floor area of newly constructed or renovated building space (include projects completed within the previous five years) :

1003076.28 *Square Feet*

Floor area of newly constructed or renovated building space certified Living under the Living Building Challenge:
0 *Square Feet*

Floor area of newly constructed or renovated building space certified at each level under a rating system for design and construction used by an Established Green Building Council (GBC) :

	Certified Floor Area
LEED BD+C Platinum or at the highest achievable level under another rating system	0 *Square Feet*
LEED BD+C Gold or at the 2nd highest level under another 4- or 5-tier GBC rating system	0 *Square Feet*
Certified at mid-level under a 3- or 5-tier GBC rating system for design and construction (e.g. BREEAM, CASBEE, DGNB, Green Star)	0 *Square Feet*
LEED BD+C Silver or at a step above minimum level under another 4- or 5-tier GBC rating system	0 *Square Feet*
LEED BD+C Certified or certified at minimum level under another GBC rating system	0 *Square Feet*

Floor area of newly constructed or renovated building space certified under a non-GBC rating system for design and construction (e.g. Green Globes NC, Certified Passive House):
0 *Square Feet*

Percentage of newly constructed or renovated building space certified under a green building rating system for design and construction:
0

A brief description of the green building rating system(s) used and/or a list of certified buildings and ratings:

0

Floor area of newly constructed or renovated building space that is NOT certified, but that was designed and constructed in accordance with published green building guidelines and policies:
1003076.28 *Square Feet*

A copy of the green building guidelines or policies :

The green building guidelines or policies:

"The Michigan State University standards for construction have been compiled for design professionals involved in creating construction documents. They reflect the planning, construction and maintenance experience of persons responsible for the university facilities.

These standards for design and construction of facilities and infrastructure at MSU are intended to achieve quality structures and systems of maximum utility, thereby requiring minimal maintenance, operating expense and prudent use of energy.

Adherence to these standards is required. Deviations must be reviewed, approved and accepted by the university's design representative. An equal or improved concept, method or product will be given full consideration.

Sections of the standards for construction will be revised and updated based on experience with ongoing construction projects. Each revised section supersedes all previous versions and directives concerning construction practices for Michigan State University.

Design guidelines
Design guidelines are intended for the architect or engineer. They describe the overall philosophies, goals and requirements (ex: energy conservation, accessibility) for Michigan State University.

Front-end documents
These are the business documents governing construction. Front-end documents will be attached to the final specification by MSU, and are included here for reference only."

Do the green building guidelines or policies cover the following?:

	Yes or No
Impacts on the surrounding site (e.g. guidelines to reuse previously developed land, protect environmentally sensitive areas, and otherwise minimize site impacts)	Yes
Energy consumption (e.g. policies requiring a minimum level of energy efficiency for buildings and their systems)	Yes
Building-level energy metering	Yes
Use of environmentally preferable materials (e.g. guidelines to minimize the life cycle impacts associated with building materials)	Yes
Indoor environmental quality (i.e. guidelines to protect the health and comfort of building occupants)	Yes
Water consumption (e.g. requiring minimum standards of efficiency for indoor and outdoor water use)	Yes
Building-level water metering	Yes

A brief description of the green building guidelines or policies and/or a list or sample of buildings covered:

"Michigan State University has pledged that all new on-campus construction is built to LEED-certified levels.

http://ipf.msu.edu/news/features/MSU-construction-standards-go-green.html

http://ipf.msu.edu/resources/business-partners/standards-for-construction/index.html

. List of major constructions occurring during time frame. Brody Neighborhood; Case Hall Interior; 1855 and new apartments; Breslin and Spartan Stadium extensions; "

A brief description of how the institution ensures compliance with green building design and construction guidelines and policies:

"First buildings must be built to university building standards which is a part of vendor contracts. This is monitored by subject matter experts on staff. MSU Planning Design and Construction has several full time staff that are LEED accredited professionals and maintain MSU Construction Standards to include LEED design elements and criteria throughout all the divisions. The MSU Construction Standards were revised in 2006 and continue to be updated as needed. In addition a short checklist for minor renovations was developed to assist designers with compliance. Consultants that are hired are required to note any deviations from MSU Construction Standards and provide justification. Energy Impact statements have been a standard for the past 25 years and require the consultant to estimate the energy use of each new facility. MSU Construction Standards focus on sustainable building practices, along with the MSU Mas. Michigan State University has taken many initiatives to implement sustainable and environmentally-friendly practices in all realms of its operations. In addition to encouraging the campus community to be green, MSU uses green practices from the way that it keeps buildings sanitary to the transportation options it provides to employees and groups. Leadership in Energy and Environmental Design (LEED) is an internationally recognized green building certification system. It provides third-party verification that a building or community was designed to improve performance in health and environmental metrics such as energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality and stewardship of resources.

Michigan State University has pledged that all new on-campus construction is built to LEED-certified levels."

The website URL where information about the programs or initiatives is available: http://ipf.msu.edu/resources/business-partners/standards-for-construction/index.html

Additional documentation to support the submission:

Data source(s) and notes about the submission:

Thank you IPF Buidling Services for data and assistance

Energy

 Points Claimed 2.33
 Points Available 10.00

This subcategory seeks to recognize institutions that are reducing their energy consumption through conservation and efficiency, and switching to cleaner and renewable sources of energy such as solar, wind, geothermal, and low-impact hydropower. For most institutions, energy consumption is the largest source of greenhouse gas emissions, which cause global climate change. Global climate change is having myriad negative impacts throughout the world, including increased frequency and potency of extreme weather events, sea level rise, species extinction, water shortages, declining agricultural production, ocean acidification, and spread of diseases. The impacts are particularly pronounced for vulnerable and poor communities and countries. In addition to causing global climate change, energy generation from fossil fuels, especially coal, produces air pollutants such as sulfur dioxide, nitrogen oxides, mercury, dioxins, arsenic, cadmium and lead. These pollutants contribute to acid rain as well as health problems such as heart and respiratory diseases and cancer. Coal mining and oil and gas drilling can also damage environmentally and/or culturally significant ecosystems. Nuclear power creates highly toxic and long-lasting radioactive waste. Large-scale hydropower projects flood habitats and disrupt fish migration and can involve the relocation of entire communities.

Implementing conservation measures and switching to renewable sources of energy can help institutions save money and protect them from utility rate volatility. Renewable energy may be generated locally and allow campuses to support local economic development. Furthermore, institutions can help shape markets by creating demand for cleaner, renewable sources of energy.

From the institution:

A number of major energy projects were implemented in accordance with the Energy Transition Plan. A five year review was conducted in 2017 and progress reported. http://ipf.msu.edu/_files/pdfs/etp-five-year-review-aug-2017.pdf Major energy projects included: . Power Plant efficiency improvements and the elimination of coal, fuel switching to 100 % natural gas and the installation of the largest solar carport array (non-utility) in the United States. In addition, Steam Trap Program instituted; 10 year building re-commissioning program completed in 2018.

Credit   **Points**
Building Energy Consumption 2.32 / 6.00
Clean and Renewable Energy 0.01 / 4.00

Building Energy Consumption

Score   **Responsible Party**
                 Bill Lakos
2.32 / 6.00 Engineer/Architect III
                 IPF Energy and Environment

Criteria

Part 1

Institution has reduced its total building energy consumption per gross square foot/ metre of floor area compared to a baseline.

Part 2

Institution's annual building energy consumption is less than the minimum performance threshold of 65 Btu per gross square foot per Fahrenheit degree day (389 Btu per gross square metre per Celsius degree day).

Performance for Part 2 of this credit is assessed using EUI-adjusted floor area, a figure that accounts for significant differences in energy use intensity (EUI) between types of building space (see *G. Standards and Terms*).

"---" *indicates that no data was submitted for this field*

Figures needed to determine total building energy consumption:

	Performance Year	Baseline Year
Grid-purchased electricity	1264135.43 *MMBtu*	109344 *MMBtu*
Electricity from on-site renewables	26250.83 *MMBtu*	0 *MMBtu*
District steam/hot water (sourced from offsite)	2308194.70 *MMBtu*	0 *MMBtu*
Energy from all other sources (e.g., natural gas, fuel oil, propane/LPG, district chilled water, coal/coke, biomass)	449926.70 *MMBtu*	0 *MMBtu*
Total	4048507.66 *MMBtu*	109344 *MMBtu*

Start and end dates of the performance year and baseline year (or 3-year periods):

	Start Date	End Date
Performance Year	July 1, 2017	June 30, 2018
Baseline Year	July 1, 2009	June 30, 2010

A brief description of when and why the building energy consumption baseline was adopted (e.g. in sustainability plans and policies or in the context of other reporting obligations):

The baseline of July 1, 2009 through June 30, 2010 was used consistently as that is the baseline data used in the developing the energy transition report of January 2012.

Gross floor area of building space:

	Performance Year	Baseline Year
Gross floor area of building space	24233934 *Gross Square Feet*	22803227 *Gross Square Feet*

Source-site ratio for grid-purchased electricity:
3.14

Total building energy consumption per unit of floor area:

	Performance Year	Baseline Year
Site energy	0.17 *MMBtu / GSF*	0.00 *MMBtu / GSF*
Source energy	0.30 *MMBtu / GSF*	0.02 *MMBtu / GSF*

Percentage reduction in total building energy consumption (source energy) per unit of floor area from baseline:
0

Degree days, performance year (base 65 °F / 18 °C):

	Degree days (see help icon above)
Heating degree days	6553 *Degree-Days (°F)*
Cooling degree days	791 *Degree-Days (°F)*

Floor area of energy intensive space, performance year:

	Floor Area
Laboratory space	1363486.16 *Square Feet*

	Floor Area
Healthcare space	178587.95 *Square Feet*
Other energy intensive space	

EUI-adjusted floor area, performance year:
28003215.22 *Gross Square Feet*

Building energy consumption (site energy) per unit of EUI-adjusted floor area per degree day, performance year:
19.69 *Btu / GSF / Degree-Day (°F)*

Documentation (e.g. spreadsheet or utility records) to support the performance year energy consumption figures reported above:

A brief description of the institution's initiatives to shift individual attitudes and practices in regard to energy efficiency (e.g. outreach and education efforts):

Between 2014-2017, in conjunction with the 10 year retro-commissioning initiative, building occupant energy engagement events were conducted. These spartan treasure hunts were modeled after GE Treasure Hunts whereby a team of engineers from GE worked with stakeholders from MSU to develop an approach to engaging building occupants in identifying opportunities for improved energy efficiency, behavior changes with respect to sustainability and develop better working relationships between operations staff and departments across campus. Additionally through collaborations with our Environmental Health and Safety Division, a monthly Safe Sustainable Labs meeting was established bringing together building lab facilities staff, departmental representatives EHS and operations professionals from our Infrastructure Planning and Facilities team. The discussions focused on how to balance safety with sustainability and energy efficiency. Last, over the past 4 years, various IPR team members from Sustainability and Building Performance Services have sponsored student Capstone Deigns projects with the Department of Applied engineering. These projects have focused on energy savings and efficiency topics such as a mobile steam insulation calculator, HVAC filer optimization, ideas for changes to campus district energy production and distribution (in conjunction with Johnson Controls, Inc) and the development of an enforceable campus temperature control guideline.

A brief description of energy use standards and controls employed by the institution (e.g. building temperature standards, occupancy and vacancy sensors):

In 2002 a campus temperature control guideline was drafted and distributed across campus to all Deans, Directors, and Chairs by the office of Vice President for Finance and Operations. This continues today and a version of the document can be found in the attachments. Further , this is possible through our comprehensive building automation and control system (BAS) that dates back to the early 1980s. Our system covers approximately 17 million square feet of campus and allows for the scheduling and monitoring of HVAC systems across campus. However, only

approximately 50 % of campus buildings are controlled down to the room level via Direct Digital Controls (DDC) and it ins our construction standards to always deploy integrated occupancy sensors for lighting and HVAC renovations and new builds. Every year as energy conservation measures (projects) are funded and implemented this technology, along with other advanced control sequence strategies, such as CO_2 control, static pressure reset and others, are included in the project execution.

A brief description of Light Emitting Diode (LED) lighting and other energy-efficient lighting strategies employed by the institution:

MSU has incorporated LED fixtures in our design standards and invested over $4 million in LED upgrades and lighting control systems over the past 6 years as part of renovation projects and through investments in energy conservation measures. In many cases, LED is the best solution. For example the Athletic Facilities use of LED, street and parking lot exterior lights. Many universities are struggling with the wholesale replacement of linear florescent fixtures with LED fixtures. the discussion is around actual long-term cost of replacement of fixtures when the LED fixture has reached is rated life. Currently when an LED fixture reaches its end of life, the entire fixture must be replaced. Florescent light fixture and lamp technology has also advanced over time becoming close to being as energy efficient as an LED while allowing for the replacement of just lamps and the end of their rated life. Florescent lamps have very limited potential to be a health hazard. There have also been debates around the LED fixture high color temperatures that may increase cortisol levels creating negative health effects. with all this said MSU is committed to energy efficient design and will continue to incorporate energy efficient lighting systems in its renovation, construction and capital renewal projects.

A brief description of passive solar heating, geothermal systems, and related strategies employed by the institution:

A brief description of co-generation employed by the institution, e.g. combined heat and power (CHP):

"MSU powers campus through the T.B. Simon Power Plant.

http://ipf.msu.edu/green/energy/generating-power.html

. It is a co-generation plant that provides steam, heat and electricity for the university. It utilizes steam to generate electricity. The power plant capacity is 1.3 million pounds of steam and 100 megawatts. The historical peak demand of the campus is 63 megawatts.

Since the plant is co-generation, about 60 percent of the stored energy in fuel is converted to direct energy. For most conventional electric power plants, that number is only 35. The high efficiency is significant in keeping utility costs low."

A brief description of the institution's initiatives to replace energy-consuming appliances, equipment and systems with high efficiency alternatives (e.g. building re-commissioning or retrofit programs):

MSU supports and practices its commitment to reducing its carbon footprint through embracing green methods and materials. Beginning in 2009 all construction standards were modified to facilitate the construction of facilities that could achieve a "certifiable" rating through the U.S. Green Building Councils LEED program. Focusing on existing building fleet, and that same year, a 10 year campaign to carry out energy audits and retro-commissioning of existing campus facilities was initiated. This work consisted of systematic assessments of campus facilities connected to T.B. Sion Power Plant in an effort to optimize the performance of mechanical systems, identify energy efficient maintenance and operations practices, and to identify energy conservation measures. The program was completed in June 2018 and was successful in receiving over $20 million in funding from the Office of the Executive Vice President for energy conservation measures with simple paybacks between 5- 7 years. To date, across the 103 buildings in the program, steam and electricity have been reduced by over 15%. Additionally , as part of the work, a campus-wide steam trap management program was developed resulting in a reduction of device failures from 20 % to 3% and an overall reduction in send out steam to buildings of over 20 % . Since 2012, capital projects with a focus on system upgrades and building renovations have completed another $20 million in energy conservation projects.

The website URL where information about the programs or initiatives is available:
http://ipf.msu.edu/green/practices/energy-conservation-measures.html

Additional documentation to support the submission:

Clean and Renewable Energy

Score	Responsible Party
	Bill Lakos
0.01 / 4.00	Engineer/Architect III
	IPF Energy and Environment

Criteria

Institution supports the development and use of clean and renewable energy sources, using any one or combination of the following options.

Option 1:	Generating electricity from clean and renewable energy sources on campus and retaining or retiring the rights to the environmental attributes of such electricity. (In other words, if the institution has sold Renewable Energy Credits for the clean and renewable energy it generated, it may not claim such energy here.) The on-site renewable energy generating devices may be owned and/or maintained by another party as long as the institution has contractual rights to the associated environmental attributes.
Option 2:	Using renewable sources on-site to generate energy other than electricity, such as biomass for heating.
Option 3:	Catalyzing the development of off-site clean and renewable energy sources (e.g. an off-campus wind farm that was designed and built to supply electricity to the institution) and retaining the environmental attributes of that energy.
Option 4:	Purchasing the environmental attributes of electricity in the form of Renewable Energy Certificates (RECs), Guarantees of Origin (GOs) or similar renewable energy products that are either Green-e Energy certified or meet Green-e Energy's technical requirements (or local equivalents) and are verified as such by a third party, or purchasing renewable electricity through the institution's electric utility through a certified green power purchasing option.

Since this credit is intended to recognize institutions that are actively supporting the development and use of clean and renewable energy, neither the electric grid mix for the region in which the institution is located nor the grid mix reported by the electric utility that serves the institution (i.e. the utility's standard or default product) count for this credit.

The following renewable systems are eligible for this credit:

- Concentrated solar thermal
- Geothermal systems that generate electricity
- Low-impact hydroelectric power
- Solar photovoltaic
- Wave and tidal power
- Wind

Biofuels from the following sources are eligible:

- Agricultural crops
- Agricultural waste
- Animal waste
- Landfill gas

- Untreated wood waste
- Other organic waste

Technologies that reduce the amount of energy used but do not generate renewable energy do not count for this credit (e.g. daylighting, passive solar design, ground-source heat pumps). The benefits of such strategies, as well as the improved efficiencies achieved through using cogeneration technologies, are captured by the *Greenhouse Gas Emissions* and *Building Energy Consumption* credits.

Transportation fuels, which are covered by the *Greenhouse Gas Emissions* and *Campus Fleet* credits, are not included.

"---" *indicates that no data was submitted for this field*

Total energy consumption (all sources, excluding transportation fuels), performance year :
7008682 *MMBtu*

Total clean and renewable electricity generated on site during the performance year and for which the institution retains or has retired the associated environmental attributes:
25733.68 *MMBtu*

A brief description of on-site renewable electricity generating devices :

"The Agriculture Livestock Pavilion has a 10 KW photo-voltaic array (

https://www.msu.edu/unit/pavilion/solar.htm

).

MSU's Surplus and Recycling Center has a 40 KW photo-voltaic array (

http://www.recycle.msu.edu/LEED.html

and

http://news.msu.edu/story/8634/

). There are also solar-powered lights at the recycle center drop off area -

http://www.recycle.msu.edu/tours/LEED/7.html

.
An anaerobic digester was brought online in 2013. The digester uses organic waste from farms and dining halls to generate 2800 MWHR each year.

http://msutoday.msu.edu/news/2013/new-msu-anaerobic-digester-to-supply-power-for-south-campus-b

uildings/

Solar Carport Array - MSU's solar carport array is constructed on five of the university's largest commuter parking lots and covers 5,000 parking spaces. The solar carports are designed to deliver a peak power of 10.5 Megawatts and an annual energy of 15 million kilowatt-hours. Created through a PPA, the project provides a renewable power production and energy consumption reduction showcase on campus, where the university's students can study solar photo-voltaic and inverted technology, as well as their integration into the micro-grid. The judges called the project audacious and impressive, with innovative finance and execution. It results in approximately $10 million savings in electricity costs for MSU integrated over the 25-year duration of the power purchase agreement contract. "

Non-electric renewable energy generated on-site, performance year:
0 *MMBtu*

A brief description of on-site renewable non-electric energy devices:

Small geothermal array is located at the Bott Building.

Total clean and renewable electricity generated by off-site projects that the institution catalyzed and for which the institution retains or has retired the associated environmental attributes, performance year:
0 *MMBtu*

A brief description of off-site, institution-catalyzed, renewable electricity generating devices:

Total third-party certified RECs, GOs and/or similar renewable energy products (including renewable electricity purchased through a utility-provided certified green power option) purchased during the performance year:
0 *MMBtu*

A brief description of the RECs, GOs and/or similar renewable energy products, including contract timeframes:

The website URL where information about the programs or initiatives is available:
http://ipf.msu.edu/green/energy/sources.html

Additional documentation to support the submission:

Electricity use, by source (percentage of total, 0-100):

	Percentage of total electricity use (0-100)
Biomass	0.06
Coal	4.48
Geothermal	0
Hydro	2.12
Natural gas	85.99
Nuclear	1.59
Solar photovoltaic	2.16
Wind	1.83
Other (please specify and explain below)	1.77

A brief description of other sources of electricity not specified above:

Energy used for heating buildings, by source::

	Percentage of total energy used to heat buildings (0-100)
Biomass	0
Coal	0
Electricity	100
Fuel oil	0
Geothermal	0.02
Natural gas	0
Other (please specify and explain below)	---

A brief description of other sources of building heating not specified above:

Percentage of total energy consumption from clean and renewable sources:
0.37

Food & Dining

Points Claimed 2.12

Points Available 8.00

This subcategory seeks to recognize institutions that are supporting a sustainable food system. Modern industrial food production often has deleterious environmental and social impacts. Pesticides and fertilizers used in agriculture can contaminate ground and surface water and soil, which can in turn have potentially dangerous impacts on wildlife and human health. The production of animal-derived foods often subjects animals to inhumane treatment and animal products have a higher per-calorie environmental intensity than plant-based foods. Additionally, farm workers are often directly exposed to dangerous pesticides, subjected to harsh working conditions, and paid substandard wages. Furthermore, food is often transported long distance to institutions, producing greenhouse gas emissions and other pollution, as well as undermining the resiliency of local communities.

Institutions can use their purchasing power to require transparency from their distributors and find out where the food comes from, how it was produced, and how far it traveled. Institutions can use their food purchases to support their local economies; encourage safe, environmentally friendly and humane farming methods; and help eliminate unsafe working conditions and alleviate poverty for farmers. These actions help reduce environmental impacts, preserve regional farmland, improve local food security, and support fair and resilient food systems.

Dining services can also support sustainable food systems by preventing food waste and diverting food materials from the waste stream, by making low impact dining options available, and by educating its customers about more sustainable options and practices.

From the institution:

RHS Purchasing: majority within 600 miles
Clean Plates at State
Student Organic Farm program

Credit	Points
Food and Beverage Purchasing	0.12 / 6.00
Sustainable Dining	2.00 / 2.00

Food and Beverage Purchasing

Score	Responsible Party
	Mara Spears
0.12 / 6.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Institution and/or its primary dining services contractor conducts an inventory to identify food and beverage purchases that have the following attributes:

1. **Third Party Verified**. The product is sustainably and/or ethically produced as determined by one or more recognized food and beverage sustainability standards (see G. Standards and Terms).

2. **Local & Community Based**. The product does not qualify as Third Party Verified, but meets the criteria outlined in the table below. This category provides a path for campus farms and gardens and small and mid-sized producers to be recognized in the absence of third party certification.

Consistent with the Real Food Standards, a product must meet the following criteria to qualify as Local & Community Based:

Single-Ingredient Products	A single-ingredient product must meet ALL of the following criteria: 1. Ownership. Producer must be a privately or cooperatively owned enterprise. Wild-caught seafood must come from owner-operated boats. 2. Size. Produce: Gross annual sales for individual farms must not exceed $5 million (US/Canadian). Meat, poultry, eggs, dairy, fish/seafood, grocery/staple items (e.g., grains): Producing company's gross annual sales must not exceed $50 million (US/Canadian). 3. Distance. All production, processing, and distribution facilities must be within a 250 mile (400 kilometre) radius of the institution. This radius is extended to 500 miles (800 kilometres) for meat (i.e., beef, lamb, pork, game).
Single-Ingredient Products Aggregated From Multiple Sources (e.g., fluid milk)	At least 75 percent of the product (by volume) must meet the Ownership, Size, and Distance criteria outlined above.

Multi-Ingredient Products (e.g., baked goods)	Producing company must meet ALL of the following criteria: 1. Ownership. Company must be a privately or cooperatively owned enterprise. 2. Size. Company's gross annual sales must be less than or equal to $50 million (US/Canadian). 3. Distance. All processing and distribution facilities must be within a 250 mile (400 kilometre) radius of the institution. AND At least 50 percent of the ingredients must come from farms meeting the Ownership, Size, and Distance criteria for Single-Ingredient Products outlined above.

Products from intensive livestock operations (e.g., CAFO-permitted facilities in the U.S.) are excluded. Due to the prevalence of industrial livestock production, meat, poultry, egg, and dairy producers should be assumed to be intensive operations unless the institution can verify otherwise through third party certification, transparent information from the supplier, and/or an appropriate regulatory body.

For additional guidance in identifying products that are Local & Community Based, see the [Real Food Calculator](#).

The institution may also choose to identify purchases that have Other Sustainability Attributes (see E. Reporting Fields), i.e., that are environmentally or socially preferable in ways that are not recognized above. Examples include expenditures on products with credible sustainability claims and labels not formally recognized in the Third Party Verified category and products from local companies and regional farms that do not fully meet the Local & Community Based criteria. Although products reported in this category are considered to be conventionally produced and do not count toward scoring, identifying them can provide a more comprehensive picture of the institution's sustainable purchasing efforts.

Products that meet more than one of the criteria outlined above (e.g., products from small and mid-sized local producers that are Certified Organic) should not be double-counted.

While products with sustainability attributes may be sourced through distributors or other third parties, the attributes of distributors do not count. For example, a product purchased from a local distributor may only be considered local if the product itself meets the criteria outlined above.

Transparency in the supply chain is a fundamental component of a sustainable food system. Products without verifiable sustainability attributes do not count in any of the categories outlined above. For each product that has one or more verifiable sustainability attributes, the inventory provides (at minimum):

- Product description/type.

- Label, brand or producer.

- The category in which the product is being counted (e.g., Third Party Verified, Local & Community-Based), and/or a brief description of the specific sustainability attribute(s) for which it is being counted (i.e., information about the producer and any sustainability certifications or claims justifying its inclusion, e.g., "Certified Organic", "local farm-to-institution program").

Institutions in the U.S. and Canada with students running the Real Food Calculator may upload Calculator results to fulfill the inventory requirement. Likewise, products that have been formally verified through the use of the Real Food Calculator to be "Real Food A" or "Real Food B" may be counted as "third party verified… or Local & Community-Based" (see E. Reporting Fields).

For transparency and to help ensure comparability across institutions, it is strongly recommended that institutions not reporting Real Food Calculator results use the STARS Food and Beverage Purchasing Inventory template to record their purchases, and upload the results as documentation.

This credit includes food and beverage purchases for on-campus dining halls and catering services operated by the institution or the institution's primary dining services contractor (e.g., Aramark, Bon Appétit Management Company, Chartwells, Sodexo). Outlets that are unique to the institution or its primary contractor (e.g., retail concepts developed and managed by the institution or contractor) are included. On-site franchises (e.g., national or global brands), convenience stores, vending services, and concessions may be excluded; they are covered in the Sustainable Procurement credit in Purchasing

Part 1

Institution's dining services purchase food and beverage products that are third party verified under one or more recognized food and beverage sustainability standards or Local & Community-Based.

Part 2

Institution's dining services minimize the purchase of conventional animal products, as measured by the percentage of total dining services food and beverage expenditures on such products.

Conventional animal products include all meat, fish/seafood, poultry, eggs, and dairy products that do NOT qualify in either the Third Party Verified category or the Local &

Community-Based category (as outlined above). Please note that products reported in the "other sustainability attributes" category are considered to be conventionally produced.

Percentage of dining services food and beverage expenditures on products that are third party verified under one or more recognized food and beverage sustainability standards or Local & Community-Based:
2.17

Does the institution wish to pursue Part 2 of this credit (expenditures on conventional animal products)? (If data is not available, respond "No"):
No

Percentage of total dining services food and beverage expenditures on conventional animal products (meat, poultry, fish/seafood, eggs, and dairy products that do NOT qualify in either the Third Party Verified or Local & Community-Based category):

A brief description of the sustainable food and beverage purchasing program, including how the sustainability impacts of products in specific categories are addressed (e.g. meat, poultry, fish/seafood, eggs, dairy, produce, tea/coffee):

Residential and Hospitality Services use a procurement guide book that shares our mission for local / regional foods called the Sustainability Procurement Guide. This is a comprehensive overview of all of food purchasing choices, which take sustainability into account in regards to distance, providers, community support, and organic choices.

An inventory of the institution's sustainable food and beverage purchases that includes for each product: the description/type; label, brand or producer; and the category in which it is being counted and/or a description of its sustainability attribute(s):
OP7-Final Resubmission-5.8.19.xlsx

A brief description of the methodology used to conduct the inventory, including the timeframe and how representative samples accounted for seasonal variation (if applicable):

Inventory of products was conducted by the consolidation of data sets including: Supplier requested information, internal product data, cross referenced and verified with internal purchase/sales actuals from the most recent complete fiscal year, 2018. Seasonal variation does not effect the representative sample because MSU internal accounting is in actuals accounts for the reduced consumption during summer months.

Percentage of total dining services expenditures on Real Food A (0-100):

Percentage of total dining services expenditures on Real Food B (0-100):

Which of the following food service providers are present on campus and included in the total food and beverage expenditure figures?:

	Present?	Included?
Dining operations and catering services operated by the institution	Yes	Yes
Dining operations and catering services operated by a contractor	No	No
Student-run food/catering services	No	No
Franchises (e.g. national or global brands)	Yes	Yes
Convenience stores	Yes	Yes
Vending services	Yes	Yes
Concessions	Yes	Yes

A brief description of purchased food and beverage products that have other sustainability attributes not recognized above :

Along with purchasing from the Student Organic Farm and Meatlab, MSU also has its own Dairy Store and Bakery, both of which use the majority of the milk in their treats from the MSU Dairy Farm. Additionally, a large portion of MSU food purchases come from companies with sustainability plans, strategies, efforts, and initiatives. While these companies do not meet AASHE's standards for local and community-based or Third-Party Verified, many of them have made significant progress in their reduction of greenhouse gases, energy efficiency, local farm partnerships, animal ethics, and adherence to certification standards. Two such companies have been highlighted in the inventory; Hormel and Country Fresh. While MSU does a significant amount of local purchasing for such a large university, it must also be noted that much of the university's food purchases are to distributors, and while they are not included on the inventory, many of these distributors are also working towards sustainable operations and distribution practices, including support of local farmers, scope 3 emission reductions, living wage pay for their workers, and energy efficiency practices and certifications.

https://www.canr.msu.edu/resources/forward_contracting_webinar

Additional percentage of dining services food and beverage expenditures on

conventional products with other sustainability attributes not recognized above (0-100) :
12.35

The website URL where information about the programs or initiatives is available:
http://food.rhs.msu.edu/

Additional documentation to support the submission:
OP7-Sustainable Food Procurement Guide FINAL.pdf

Sustainable Dining

Score	Responsible Party
	Carla Iansiti
2.00 / 2.00	Sustainability Officer
	Culinary Services

Criteria

Institution's dining services support sustainable food systems in one or more of the following ways. The institution or its primary dining services contractor:

- Has a published sustainable dining policy that includes specific criteria to support the procurement of environmentally and socially preferable food and beverage products and/or includes guidelines to reduce or minimize the adverse environmental and social impacts of dining operations;
- Sources food from a campus garden or farm;
- Hosts a farmers market, community supported agriculture (CSA) or fishery program, and/or urban agriculture project, or supports such a program in the local community;
- Has a vegan dining program that makes diverse, complete-protein vegan options available to every member of the campus community at every meal;
- Hosts low impact dining events (e.g. Meatless Mondays);
- Hosts sustainability-themed meals (e.g. local harvest dinners);
- Hosts a sustainability-themed food outlet on-site, either independently or in partnership with a contractor or retailer;
- Informs customers about low impact food choices and sustainability practices through labeling and signage in dining halls;
- Engages in outreach efforts to support learning and research about sustainable food systems; and/or
- Other sustainability-related initiatives (e.g. health and wellness initiatives, making culturally diverse options available)

Part 2

Institution's dining services minimize food and dining waste in one or more of the following ways. The institution or its primary dining services contractor:

- Participates in a competition or commitment program (e.g. U.S. EPA Food Recovery Challenge) and/or uses a food waste prevention system (e.g. LeanPath) to track and improve its food management practices;
- Has implemented trayless dining (in which trays are removed from or not available in dining halls) and/or modified menus/portions to reduce post-consumer food waste;
- Donates food that would otherwise go to waste to feed people;
- Diverts food materials from the landfill, incinerator or sewer for animal feed or industrial uses (e.g. converting cooking oil to fuel, on-site anaerobic digestion);
- Has a pre-consumer composting program;
- Has a post-consumer composting program;
- Utilizes reusable service ware for "dine in" meals;
- Provides reusable and/or third party certified compostable containers and service ware for "to-go" meals (in conjunction with an on-site composting program);
- Offers discounts or other incentives to customers who use reusable containers (e.g. mugs) instead of disposable or compostable containers in "to-go" food service operations; and/or
- Other materials management initiatives to minimize waste not covered above (e.g. working with vendors and other entities to reduce waste from food packaging).

This credit includes on-campus dining operations and catering services operated by the institution and the institution's primary dining services contractor.

"---" *indicates that no data was submitted for this field*

Does the institution or its primary dining services contractor have a published sustainable dining policy?:
Yes

A brief description of the sustainable dining policy:

Copied from the Sustainable Food and Procurement Guide:
"MSU seeks to build an evolving infrastructure into its supply chain, procuring responsibly sourced food that is safe, seasonal, nutritious and fair market priced. To this end, MSU Food Stores utilizes the following protocols in its purchasing consideration:
MSU Grown: MSU considers its own production capabilities before looking off-campus
Local: Food sourced within either the State of Michigan or surrounding states within a 250-mile radius of East Lansing, Michigan.
Regional: Food sourced within a surrounding-state radius of 600 miles of East Lansing, Michigan.
Responsibly Produced: Products grown and produced demonstrating responsible safety, environmental, conservation and fair worker practices, verified by 3rd party certifications, agencies or transparent operational practices, subject to review
We believe that responsible sourcing will only be successful within a mutually

beneficial and transparent partnership between MSU, our manufacturers and distributors, and the farmers and producers that help keep our campus community fed."

Does the institution or its primary dining services contractor source food from a campus garden or farm?:
Yes

A brief description of the program to source food from a campus garden or farm:

"The Student Organic Farm (SOF) sells produce to three or more dining halls on campus weekly. Annual planning meetings are held at the beginning od every year to commit to weekly amounts or produce or specific purchases.
The Bailey Hoop House and Urban Farm also sells honey, tea, herbs, and some vegetables to certain dining areas on campus. "

Does the institution or its primary dining services contractor host a farmers market, community supported agriculture (CSA) or fishery program, and/or urban agriculture project, or support such a program in the local community?:
Yes

A brief description of the farmers market, CSA or urban agriculture project:

"The Student Organic Farm (SOF) provides a CSA for the MSU community. The CSA is dropped off by a farm crew member across campus, and there is also a CSA stand that is operated by students in the center of campus during the fall. The CSA program is year-round.
Case Dining Hall purchases several CSAs and receives them weekly to provide seasonal and interesting dishes in a regular basis."

Does the institution or its primary dining services contractor have a vegan dining program that makes diverse, complete-protein vegan options available to every member of the campus community at every meal?:
Yes

A brief description of the vegan dining program:

The dining halls are grouped in clusters called neighborhoods. We have 9 full service dining halls and 6 neighborhoods. Please follow link for visual.

https://liveon.msu.edu/neighborhoods

. We have various menus in each neighborhood for students to have access to a variety of options. The menus are displayed at each food station. The food items that are listed on the menus are clearly marked vegan with a green circled VG along with the word vegan. Please visit

https://eatatstate.msu.edu/campus-dining

. Attached menus and descriptions attached.

Does the institution or its primary dining services contractor host low impact dining events (e.g. Meatless Mondays)?:
Yes

A brief description of the low impact dining events:

"Culinary Services works with several student groups and classes to promote sustainable efforts and events.
1. Student chapter of SLOW food does an event in partnership (menu attached).
Several events hosted include:
Ark of Taste. Promotion of a seed biodiversity project.
Documentary screenings
Volunteering at farms
Cooking classes
Skill workshops
Community outreach and education

https://msugreenalliance.wordpress.com/orgs/orgslow-food/

2. HNF Dietetics plans events with the Culinary around healthy and sustainable options. Students from this class are required to participate in volunteer hours at Clean Plates at State or at the Student Organic Farm.
3. ""Clean Ingredients"" featured for allergies, menu attached. "

Does the institution or its primary dining services contractor host sustainability-themed meals (e.g. local harvest dinners)?:
Yes

A brief description of the sustainability-themed meals:

Local/Regional events are hosted. Examples are Michigan birthday day with local/ regional events. Meals written around Healthy options, Identified the States Apple crunch day, Support the Real Food initiative.

Does the institution or its primary dining services contractor host a sustainability-themed food outlet on-site, either independently or in partnership with a contractor or retailer?:
Yes

A brief description of the sustainability-themed food outlet:

"Culinary Services works with several student groups and classes to promote sustainable efforts and events.
1. Student chapter of SLOW food does an event in partnership, helping to serve sustainability-grown food for a dinner in Brody. Locally grown food is served and diners learn about organic, local, and sustainable foods.
2. HNF Dietetics plans events with the Culinary around healthy and sustainable options.
3. ""Clean Ingredients"" is a featured theme for allergies (menu attached).
4. Case hall is designed exclusivly for local and regional foods."

Does the institution or its primary dining services contractor inform customers about low impact food choices and sustainability practices through labeling and signage in dining halls?:
Yes

A brief description of the sustainability labeling and signage in dining halls:

Consistent logos, branding of local and regional foods, social media, table tents and web pages. Additionally, dining halls have posters describing food sourcing and sustainable dining.

Does the institution or its primary dining services contractor engage in outreach efforts to support learning and research about sustainable food systems?:
Yes

A brief description of the outreach efforts to support learning and research about sustainable food systems:

Operational and academics partner on class projects involved in food systems with Residential and Hospitality Services, the Bailey Hoop House and Urban Farm, and the Student Organize Farm. These partnerships are formalized independently through each department and case by case. When food from campus is served, signs inside dining halls promote that dish. During trayless dining days, posters, flyers, and pamphlet are displayed, and culinary employees encourage diners to skip a tray. MSU student group Slow Foods has partnered with other MSU student groups to promote awareness for sustainable dining. They have events with food workshops where students learn new and innovative ways to make their diet more sustainable.

Does the institution or its primary dining services contractor have other sustainability-related initiatives (e.g. health and wellness initiatives, making culturally diverse options available)?:
Yes

A brief description of the other sustainability-related dining initiatives:

"Health4U is a department on campus whose full-time team members offer counseling, health, ad food-related events, and help staff explore healthy food options.
Our MSU chapter of SLOW Foods is very active on campus, and hosts many events and info sessions to educate their peers on food sourcing and sustainable food choices.
Food@MSU is an initiative from Agriculture and Biology Research in the College of Agriculture and Natural Resources. Food@MSU aims to educate the MSU community about food and connect them with those who grow and produce it. Food@MSU hosts Our Table panel events open to the campus and community to educate attendees about current food issues and works to find solutions.

https://www.canr.msu.edu/food/index

"

Does the institution or its primary dining services contractor participate in a competition or commitment program and/or use a food waste prevention system to track and improve its food management practices?:
Yes

A brief description of the food recovery competition or commitment program or food waste prevention system:

MSU Donates both perishable and non perishables foods to area food shelters, including Feeding America and food banks. Over 80,000 lbs lbs per year is donated . Annual donation reports attached OP-8 Food Donations
Campus commitment to a pre and post consumer food waste programs. Please see OP8 for current Sustainable food programs.

Has the institution or its primary dining services contractor implemented trayless dining (in which trays are removed from or not available in dining halls) and/or modified menus/portions to reduce post-consumer food waste?:
Yes

A brief description of the trayless dining or modified menu/portion program:

All halls are set up for trayless opportunites if desired. As the dining halls are renovated, they are designed trayless. A whole new desing of trayless designed dishes are intergrated into the halls. Trays are only availabe upon request All food service areas (expect Salads) are designed for full service. Provides portion controls.

Does the institution or its primary dining services contractor donate food that would otherwise go to waste to feed people?:

Yes

A brief description of the food donation program:

"The MSU Food Bank is regularly donated to and is run by students for the student community at MSU. In the course of one year the MSU Student Food Bank serves over 4,000 students, many with families, and distributes over 35,000 pounds of food. The Food Bank has a formal partnership with the Greater Lansing Foodbank in order to better serve those in the community who need it.

http://foodbank.msu.edu/index.html

"

Does the institution or its primary dining services contractor divert food materials from the landfill, incinerator or sewer for animal feed or industrial uses (e.g. converting cooking oil to fuel, on-site anaerobic digestion)?:
Yes

A brief description of the food materials diversion program:

"Food scraps from MSU dining locations are diverted from landfills in three ways. The food that does not come into contact with dining hall patrons is gathered,, pulverized, and send to the campus Anaerobic Digester. The digestor turns organic waste into energy; the leftover materials not used to produce this energy are repurposed: the solids are composted and the liquid is seasonally applied to campus land and nearby farms as carbon-rich fertilizer.
Pre-consumer food scraps are gathered at certain dining halls and add to compost at the student organic farm. All other food waste (such as post-consumer and food waste gathered during dishing) is send to a local composting company called Hammond Farms.

https://www.egr.msu.edu/bae/adrec/

"

Does the institution or its primary dining services contractor have a pre-consumer composting program?:
Yes

A brief description of the pre-consumer composting program:

Brody dining has a pulper and post consumer waste is transported to the campus Digester.

Does the institution or its primary dining services contractor have a post-consumer composting program?:
Yes

A brief description of the post-consumer composting program:

Brody Square dining hall, which serves 7,000 meals per day, has a Somat Pulper in the dish room and an extractor that captures all post consumer waste.

A portion of the material is being used and evaluated for vermi-composting program at the MSU student Organic Farms and an on-campus anaerobic digester.

Does the institution or its primary dining services contractor utilize reusable service ware for "dine in" meals?:
Yes

A brief description of the reusable service ware program:

All halls are set up for trayless opportunites if desired. As the dining halls are renovated, they are designed trayless. A whole new desing of trayless designed dishes are intergrated into the halls. Trays are only availabe upon request All food service areas (expect Salads) are designed for full service. Provides portion controls.

Does the institution or its primary dining services contractor provide reusable and/or third party certified compostable containers and service ware for "to-go" meals (in conjunction with an on-site composting program)?:
Yes

A brief description of the compostable containers and service ware:

Culinary does offer a limited take out program. All take out items are made of compostable or recycle ware materials

Does the institution or its primary dining services contractor offer discounts or other incentives to customers who use reusable containers (e.g. mugs) instead of disposable or compostable containers in "to-go" food service operations?:
No

A brief description of the reusable container discount or incentives program:

Has the institution or its primary dining services contractor implemented other materials management initiatives to minimize waste not covered above (e.g. working with vendors and other entities to reduce waste from food packaging)?:

Yes

A brief description of other dining services materials management initiatives:

> Due to a bill passed through the university's student government, Associated Students of MSU (ASMSU), the university stopped using and buying plastic bags in 2017. There are also sustainable materials available at dining halls and at selective Sparty's locations.

The website URL where information about the programs or initiatives is available:
http://eatatstate.com/nutrition

Additional documentation to support the submission:
OP8_FINAL.zip

Grounds

Points Claimed 3.03
Points Available 4.00

This subcategory seeks to recognize institutions that plan and maintain their grounds with sustainability in mind. Beautiful and welcoming campus grounds can be planned, planted, and maintained in any region while minimizing the use of toxic chemicals, protecting wildlife habitat, and conserving resources.

From the institution:

1) IPF collaborated with the Civil Engineering Department, which established the National Center for Pavement Preservation, to assess campus pavements and provide data for preservation and maintenance. Potentially saving thousands of dollars with the right plan in place. 2) MSU Developed a Sustainable Stormwater Management Walking Tour highlighting the low impact development practices utilized on campus. 3) Posts were installed in specific locations on campus to provide an alternative way to hang up hammocks that would not damage or impact the campus arboretum.

Credit	**Points**
Landscape Management	1.03 / 2.00

2.00 / 2.00

This credit is weighted more heavily for institutions that own or manage land that includes or is adjacent to any of the following:

- Legally protected areas (e.g. IUCN Category I-VI)
- Internationally recognized areas (e.g. World Heritage, Ramsar, Natura 2000)
- Priority sites for biodiversity (e.g. Key Biodiversity Areas, Alliance for Zero Extinction sites)

[Biodiversity](#)

- Regions of conservation importance (e.g. Endemic Bird Areas, Biodiversity Hotspots, High Biodiversity Wilderness Areas)

Institutions may identify legally protected areas, internationally recognized areas, priority sites for biodiversity, and regions of conservation importance using the [Integrated Biodiversity Assessment Tool (IBAT) for Research & Conservation Planning](#), the U.S. [Information, Planning, and Conservation (IPaC)](#) decision support system, or an equivalent resource or study.

[Close](#)

Landscape Management

Score	Responsible Party
1.03 / 2.00	**Adam Lawver** Director of Campus Services Infrastructure and Planning Facilities

Criteria

Institution's grounds include areas that are managed in accordance with:

1)   An Integrated Pest Management (IPM) program;

Or

2)   An organic land care standard or landscape management program that has eliminated the use of inorganic fertilizers and chemical pesticides, fungicides and herbicides in favor of ecologically preferable materials.

To count, an IPM program must use a four-tiered approach as outlined in *G. Standards and Terms*. Management programs that employ some IPM principles or techniques but do not include a four-tiered approach should be counted as conventional programs.

"---" *indicates that no data was submitted for this field*

Total campus area (i.e. the total amount of land within the institutional boundary):
5199 *Acres*

Figures required to calculate the total area of managed grounds:

	Area (double-counting is not allowed)
Area managed in accordance with an Integrated Pest Management (IPM) program that uses a four-tiered approach	3464 *Acres*
Area managed in accordance with an organic land care standard or sustainable landscape management program that has eliminated the use of inorganic fertilizers and chemical pesticides, fungicides and herbicides in favor of ecologically preferable materials	790.64 *Acres*
Area managed using conventional landscape management practices (which may include some IPM principles or techniques)	634.02 *Acres*
Total area of managed grounds	4888.66 *Acres*

A brief description of any land excluded from the area of managed grounds (e.g. the footprint of buildings and impervious surfaces, experimental agricultural land, areas that are not regularly managed or maintained):

427.31

Percentage of grounds managed in accordance with an IPM program:
70.86

A copy of the IPM plan or program:

A brief description of the IPM program:

The Integrated Pest Management Plan uses the four tiered approach: set action thresholds; monitor and identify pests; prevent or remove conditions that attract pests; and controlled management of land. Specifically the plan calls for using the least-toxic chemical pesticides; the minimum use of chemicals, and the use of chemicals only in targeted locations and only for the targeted species. MSU also works with Landscape Architects to select disease and insect resistant plant materials to be used in the campus landscape. Research is ongoing to determine alternative treatments or remedies to solve pest problems. In addition, the continued maintenance of healthy soil beds and healthy plant materials to reduce specific pesticide usage. Staff are trained to identify problems and to evaluate the threshold when corrective actions need to be taken. MSU also offers the Desire to Learn Integrated Pest Management Academy for both internal staff/students and non-MSU staff/students to provide a comprehensive learning experience to IPM including access to experts.

Percentage of grounds managed in accordance with an organic program:
16.17

A brief description of the organic land standard or landscape management program that has eliminated the use of inorganic fertilizers and chemical pesticides, fungicides and herbicides in favor of ecologically preferable materials:

The Sustainable Landscape Management Program includes formally adopted guidelines and best practices covering all of the following: •Integrated pest management (see above)
•Plant stewardship - protecting and using existing vegetation (e.g. through the use of a tree care plan), using native and ecologically appropriate plants, and controlling and managing invasive species
•Soil stewardship - organic soils management practices that restore and/or maintain a natural nutrient cycle and limit the use of inorganic fertilizers and chemicals
•Use of environmentally preferable materials - utilizing reused, recycled and local and sustainably produced landscape materials
•Hydrology and water use - restoring and/or maintaining the integrity of the natural hydrology by promoting water infiltration, minimizing or eliminating the use of potable water for irrigation, and protecting/restoring riparian, wetland, and shoreline habitats and lost streams
•Materials management and waste minimization - composting and/or mulching waste from groundskeeping, including grass trimmings
•Snow and ice management (if applicable) - implementing technologies or strategies to reduce the environmental impacts of snow and ice removal. The Protected Areas and Lands program includes the following: •Maintained in accordance with an organic land care standard or sustainable landscape management program that has eliminated the use of inorganic fertilizers and chemical pesticides, fungicides and herbicides in favor of ecologically preferable materials
•Certified Organic
•Certified under the Forest Stewardship Council (FSC) Forest Management standard
•Certified under the Sustainable Sites Initiative™ (SITES™) and/or
•Managed specifically for carbon sequestration (as documented in policies, land management plans or the equivalent)

A brief description of the institution's approach to plant stewardship:

A MSU bigeographer developed an App for Midwestern residents to log and snap photos of invasive species. The Midwest Invasive Species Information Network (MISIN) is a regional effort to develop and provide tools and resources to enhance early detection and rapid response to invasive species and develop more effective management plans

A brief description of the institution's approach to hydrology and water use:

MSU adheres to the MI Department of Environmental Quality Storm Water Pollution Prevention Initiative. The campus landscape master plan identifies a no-net loss of green space. If a construction project is unable to offset green space, then a storm water management devises are installed to maintain the integrity of the natural hydrology on campus. MSU works collaboratively across departments to implement campus-based best management practices to protect water sources(www.iwr.msu.edu). MSU has a storm water committee that meets monthly; an MSU Water Website (

msu-water.msu.edu

), and is a member of the Greater Lansing Regional Committee for Storm water Management. MSU highlights its best practices of low impact landscaping through its sustainable storm water management walking tour (

http://msu-water.msu.edu/what-is-storm-water/campus-storm-water-walking-tour/

). The tour features campus bmps's including: bioretention basins; porous paving; green roofs; wetlands; rain gardens; riparian buffers;grown zones; and proprietary storm water treatment devices.

A brief description of the institution's approach to materials management and waste minimization (e.g. composting and/or mulching on-site waste):

 Topsoil is recycled and reused for all campus construction renovations averaging 20,0000 cu. yds. annually. The MSU Mowing fleet is outfitted with mulching decks to reduce the amount of lawn trimmings and leaves that are collected on an annual basis. Blowers are used to blow the leaves and organic materials that fall on hard surfaces back into lawn area to mulch.   MSU recycling receives approximately 1000 cu yds. annually from the campus greenhouse organic waste and other miscellaneous organic wastes from the south farms. Concrete sidewalks, roadways, and parking areas are also recycled and repurposed as subbase which is reinstalled under new sidewalks and parking lots on campus in volumes of 7000 tons annually.

A brief description of the institution's approach to energy-efficient landscape design:

MSU incorporates many best management practices for energy-efficient landscaping, i.e utilizing trees to reduce heat islands; act as windbreaks; and shades for reduced cooling costs. MSU takes special means to protect trees in construction zones, and in some instances have relocated to preserve the trees through air spacing. To accommodate pedestrian pathways that would otherwise impact root systems, rubber sidewalk practices have been installed successfully (ipf.msu.edu/green/practices/landscaping.html).

A brief description of other sustainable landscape management practices employed by

the institution (e.g. use of environmentally preferable landscaping materials, initiatives to reduce the impacts of ice and snow removal, wildfire prevention):

> MSU's methods to remove snow and keep campus roads clear are innovative and environmentally friendly. Crews pre-treat roads and sidewalks with an organic-based liquid deicer [BEETHEAT, a sugar beet byproduct). Mixed with salt brine this deicer melts snow and ice at colder temperatures. it also prevents precipitation from bonding making snow removal easier. it also reduces th amount of salt needed,expediting the effects and helps remain on the pavement. MSU also has many environmentally friendly materials in landscapes throughout campus such as rooftop gardens, pervious recycled rubber sidewalks, pervious concrete sidewalks, pervious asphalt parking areas, and recycled tire asphalt roadways, and recycled glass concrete sidewalks and sections of parking areas. We have also installed environmentally friendly brick pavers at Wells Hall. Brush and decayed wood materials are ground into mulch annually and respread on campus to reduce purchasing new mulch and importing into campus. The Beaumont Nursery also propagates hundreds of plants annually that are procured from cuttings on campus, grown in our greenhouse, and replanted on campus. This full cycle operation sustainably manages the campus arboretum.

The website URL where information about the programs or initiatives is available:
http://ipf.msu.edu/_files/documents/FIR-121218.pdf

Additional documentation to support the submission:

Data source(s) and notes about the submission:

Resource list: stormwater walking tour brochure; ipf reports from 2017 and 2016; and ipf.msu.edu/resources/campus-master-plan.index.html;
www.cpa.msu.edu/beal
;
http://ipf.msu.edu/resources/campus-master-plan/index.html
;
http://www.cityofeastlansing.com/home/departments/publicworks/
; stormwaterpollutionprevention/stormwaterpollutionpreventioinitiavties/

Biodiversity

Score	Responsible Party

2.00 / 2.00

This credit is weighted more heavily for institutions that own or manage land that includes or is adjacent to any of the following:

Steve Troost
Campus Planner
IPF Engineering & Architectural

- Legally protected areas (e.g. IUCN Category I-VI)
- Internationally recognized areas (e.g. World Heritage, Ramsar, Natura 2000)
- Priority sites for biodiversity (e.g. Key Biodiversity Areas, Alliance for Zero Extinction sites)
- Regions of conservation importance (e.g. Endemic Bird Areas, Biodiversity Hotspots, High Biodiversity Wilderness Areas)

Institutions may identify legally protected areas, internationally recognized areas, priority sites for biodiversity, and regions of conservation importance using the [Integrated Biodiversity Assessment Tool (IBAT) for Research & Conservation Planning](#), the U.S. [Information, Planning, and Conservation (IPaC)](#) decision support system, or an equivalent resource or study.

[Close](#)

Criteria

Institution conducts one or both of the following:

- An assessment to identify endangered and vulnerable species (including migratory species) with habitats on institution-owned or -managed land;

  And/or

- An assessment to identify environmentally sensitive areas on institution-owned or -managed land.

The institution has plans or programs in place to protect or positively affect the species, habitats and/or environmentally sensitive areas identified.

Assessments conducted and programs adopted by other entities (e.g. government, university system, NGO) may count for this credit as long as the assessments and programs apply to and are followed by the institution.

"---" *indicates that no data was submitted for this field*

Does the institution own or manage land that includes or is adjacent to legally protected areas, internationally recognized areas, priority sites for biodiversity, and/or regions of conservation importance?:
Yes

A brief description of the legally protected areas, internationally recognized areas, priority sites for biodiversity, and/or regions of conservation importance:

Woodlots are considered protected areas on campus as well as other areas identified in the campus landscape master plan such as historically sensitive areas; i.e. Beal Garden, Beal woodlot, designated green spaces; Campus Arboretum; Horticulture Demonstration Gardens' Children's Gardens; Clancy Lewis Arboretum; all are curated gardens along with the Beal Gardens. In addition, the campus maintains a tree inventory consistent with the Tree USA certification. A full list of main collections is located at:

http://www.cpa.msu.edu/beal/beal_frames.htm

. Wetlands, Red Cedar Watershed and related features are described at: Wetlands, Red Cedar River, etc. See http://ipf.msu.edu/green/water/protection.html.

Has the institution conducted an assessment or assessments to identify endangered and vulnerable species (including migratory species) with habitats on institution-owned or – managed land?:
Yes

Has the institution conducted an assessment or assessments to identify environmentally sensitive areas on institution-owned or –managed land?:
Yes

The methodologies used to identify endangered and vulnerable species and/or environmentally sensitive areas (including most recent year assessed) and any ongoing assessment and monitoring mechanisms:

Faculty, Campus Sustainability; Office of Water Research; Land Management as a part of the storm water management process. IN addition, MSU has a chief Arborist whose responsibility is to manage the curated areas and inventories.

A brief description of identified species, habitats and/or environmentally sensitive areas:

see the Stormwater Pollution Prevention Initiatives Manual;

https://www.cityofeastlansing.com/Home/Departments/PublicWorks/StormwaterPollutionPrevention/St

ormWaterPollutionPreventionInitiatives/

Campus Master Plan update, 2017. http://ipf.msu.edu/resources/campus-master-plan/index.html and http://www.cpa.msu.edu/beal/beal_frames.htm.

A brief description of plans or programs in place to protect or positively affect identified species, habitats and/or environmentally sensitive areas:

MSU is endowed with a diversity of woodlands and wetlands located on the campus properties. These invaluable natural resources include more than 700 acres in 27 distinct sites. They provide significant, accessible resources for teaching, research, demonstration and nature appreciation. In addition they serve vital natural ecosystem functions and are a part of the land-grant heritage that MSU is known and recognized for. Areas are protected by ordinance, by the Master Plan; and by oversight committees to ensure the campus arboretum is preserved. The Tree inventory is managed by the Arborist and the Tree Management Plan - which includes a sustainability strategy and the unique "MSU Shadows" program for reclaimed wood. A key ordinance requires: In no case shall endangered, threatened or special concern species be taken, nor shall any species be taken without proper, current state and federal permits as required by law. Use of firearms on campus is prohibited. Pedestrian travel shall be the only allowable mode of transport in any campus natural area. Applications for scientific collection, class use and other activities with potential for environmental impact in Natural Areas shall be reviewed on a case by case basis by the CNAC, or its designee. Any research or instruction materials left on a site that are related to unauthorized activities will be removed without notice.   In addition to the ordinances; the Land Management Plan provides protections to assure that areas are not jeopardized during new construction. The natural areas are also protected with committee oversight. The Beal Garden Database is managed by the Beal Garden staff and Dr. Telwski who is the curator of the Garden and Campus Arboretum. The Horticultural Demonstration Garden, Children's Garden and Clancy Lewis Arboretum are also curated gardens like the Beal Botanical Garden. As a designated Tree USA campus; MSU Is required to have a Tree Management Plan. the campus arborist, is responsible for the management of the plan. All of the sensitive natural areas are managed through various mechanisms, committees, and oversight. One of the oldest traditions of MSU has been the careful maintenance of its park like campus of green space, trees and shrubs. It prides itself on preserving the natural beauty for all to enjoy. https://msutoday.msu.edu/news/2019/honoring-past-helps-preserve-campus-beauty-1/

The website URL where information about the programs or initiatives is available:
http://ecpa.msu.edu/beal/beal_frames.html

Additional documentation to support the submission:
op_10 biodiversity master plan and stormwater plan.pdf

Data source(s) and notes about the submission:

http://ipf.msu.edu/_files/pdfs/campus-master-plan-2017.pdf

Purchasing

 Points Claimed 2.78
 Points Available 6.00

This subcategory seeks to recognize institutions that are using their purchasing power to help build a sustainable economy. Collectively, colleges and universities spend many billions of dollars on goods and services annually. Each purchasing decision represents an opportunity for institutions to choose environmentally and socially preferable products and services and support companies with strong commitments to sustainability.

From the institution:

A notable accomplishment in this category is the implementation of High-Performance Cleaning; Custodial Services using cutting-edge technology [user and environmentally friendly] to clean spaces while protecting the health of the building occupants and the environment. They have also implemented the use of chemical-free floor cleaner; sealed floors to protect from stains and decrease need for harsh stain-removers; and made increased recycling a priority. They have lowered water consumption and electricity usage and and reduced the amount of chemicals being washed down drains. The floor finish that we recently selected for the finishing of our resilient flooring, Buckeye Clarion 25, has achieved an EPA registered antimicrobial, Microban certification. https://www.buckeyeinternational.com/products/floor-finishes/clarion-25.

Credit	Points
Sustainable Procurement	1.75 / 3.00
Electronics Purchasing	0.11 / 1.00
Cleaning and Janitorial Purchasing	0.44 / 1.00
Office Paper Purchasing	0.48 / 1.00

Sustainable Procurement

Score	Responsible Party
	Matt Gosselin
1.75 / 3.00	Supervisor
	Senior Purchasing Agent

Criteria

Part 1

Institution has written policies, guidelines or directives that seek to support sustainable purchasing across commodity categories institution-wide, for example:

- A stated preference for post-consumer recycled or bio-based content or to otherwise minimize the negative environmental impacts of products and services.
- A stated intent to support disadvantaged businesses, social enterprises and/or local small and medium-sized enterprises (SMEs) or otherwise support positive social and economic impacts and minimize negative impacts.
- A vendor code of conduct or equivalent policy that sets expectations about the social and environmental responsibility of the institution's business partners (i.e. product and service providers).

Part 2

Institution employs Life Cycle Cost Analysis (LCCA) as a matter of policy and practice when evaluating energy- and water-using products, systems and building components (e.g. HVAC systems). Practices may include structuring RFPs so that vendors compete on the basis of lowest total cost of ownership (TCO) in addition to (or instead of) purchase price.

Please note that LCCA is a method for assessing the *total cost of ownership* over the life cycle of a product or system (i.e. purchase, installation, operation, maintenance, and disposal). Life Cycle Assessment (LCA), by contrast, is a method for assessing the *environmental impacts* of a product or service over its life cycle. While LCAs may inform the sustainability criteria recognized in Part 3 of this credit, Part 2 specifically recognizes institutions that employ LCCA.

Part 3

Institution has published sustainability criteria to be applied when evaluating products and services in one or more of the following categories. The criteria address the specific sustainability challenges and impacts associated with products and services in each category, e.g. by requiring or giving preference to multi-criteria sustainability standards, certifications and labels appropriate to the category.

Category	**Examples**
1) Chemically intensive products and services (e.g. building and facilities maintenance, cleaning and sanitizing, landscaping and grounds maintenance)	• Published measures to minimize the use of chemicals. • A stated preference for green cleaning services and third party certified products.
2) Construction and renovation (e.g. furnishings and building materials).	• A stated preference for materials that meet LEED requirements.
3) Information technology (IT) (e.g. computers, imaging equipment, mobile phones, data centers and cloud services)	• Published measures to reduce the demand for equipment. • A stated preference for ENERGY STAR or EPEAT registered products.
4) Food services (i.e. franchises, vending services, concessions, convenience stores) (Note that dining halls and catering services operated by the institution or the institution's primary dining services contractor are covered in Food & Dining).	• Including sustainability objectives in contracts with on-site franchises. • Requiring that franchises pay a living wage to employees.

5) Garments and linens	• Published labor and human rights standards that suppliers must meet.
6) Professional services (e.g. architectural, engineering, public relations, financial)	• A stated preference for disadvantaged or community-based service providers. • A stated preference for B Corporations.
7) Transportation and fuels (e.g. travel, vehicles, delivery services, long haul transport, generator fuels, steam plants)	• Published measures to minimize the size of the campus fleet or otherwise reduce the impacts of travel or transport. • A stated preference for clean and renewable technologies.
8) Wood and paper	• A stated preference for post-consumer recycled, agricultural residue or third party certified content. • A stated preference for FSC certified printing services.
9) Other commodity categories that the institution has determined to have significant sustainability impacts	• Strategies designed to address the specific impacts of the commodities, e.g. a stated preference for relevant multi-criteria sustainability standards.

Policies and directives adopted by entities of which the institution is part (e.g. government or the university system) may count for this credit as long as the policies apply to and are followed by the institution.

"---" *indicates that no data was submitted for this field*

Does the institution have written policies, guidelines or directives that seek to support sustainable purchasing across commodity categories institution-wide?:
Yes

A copy of the policies, guidelines or directives:

The policies, guidelines or directives:

Procurement and Purchasing policies and procedures are published in the Manual of Business Procedures. The purchasing process at MSU is governed by the Manual of Business Procedures as well as local, state and federal laws and regulations. The MBP is coordinated by the Office of the Controller. Purchasing

Policy Objectives:270.2   POLICY OBJECTIVES
270.6 SOURCING CONSIDERATIONS AND OPTIONS

270.6.1 SOURCING CONSIDERATIONS

A. Domestic/Michigan Purchases - Every effort should be made to purchase domestically produced goods and services from domestically based sources. This policy is particularly important when spending funds appropriated by the State of Michigan under MCL 388.1839: "Funds appropriated shall not be used for the purchase of foreign goods or services, or both, if competitively priced and of comparable quality American goods and services, or both, are available. Preference should be given to goods or services, or both, manufactured or provided by Michigan businesses if they are competitively priced and of comparable value."
B. Sustainability - MSU is committed to engaging in activities that are sustainable and consider the university's impact environmentally, economically, and societally. In support of these efforts, the following considerations are to be given when working with suppliers:

Total cost of ownership, including impacts such as energy use and end of life disposition, when acquiring broadly used items or engaging in high dollar purchases with long range implications.
Take-back programs for packaging material and/or end-of-life cycle product.
Purchasing products with an Eco label certification or that meet the standards of the industry associated Eco label and certification program.
Providing business opportunities to suppliers who meet product standards while using pre-consumer and post-consumer waste in their products.
Buying locally or from suppliers within the State of Michigan when doing so a) saves money or is cost neutral and b) results in equal or improved product or service quality.
Supporting a diverse supplier base to ensure appropriate access to the goods and services required for institutional operations and delivery of service.
The Purchasing Department can provide guidance and assistance in identifying opportunities and in applying these considerations. For further information on campus sustainability or environmental stewardship at MSU, visit the MSU Sustainability or Be Spartan Green websites.
270.2.1   To ensure that the purchase of equipment, materials, supplies and services are executed in a consistent, open, and competitive manner;
270.2.2   To aid the university community by investigating new or improved materials, equipment, or services; researching sourcing options; or via other means, such as process improvements, to enhance the efficiency of the university;
270.2.3   To create and maintain effective and appropriate business relationships with suppliers, the university community, and the general public;
270.2.4   To ensure that all transactions are devoid of conflicts of interest;
270.2.5   To obtain quality products at the best possible price under the most advantageous terms and conditions;
270.2.6   To ensure procurement compliance with university procurement policies and procedures, as well as federal, state, and local laws and regulations;
270.2.7   To identify and recommend environmentally responsible purchasing practices;
270.2.8   To implement best practices for cost containment;
270.2.9   To maintain a diverse supplier base; "270.6.2 BUSINESS INCLUSION PROGRAM

The Michigan State University Purchasing Department is actively involved in shaping and expanding the global supplier diversity landscape and promoting its Business Inclusion Program. This program offers minority-owned business enterprises (MBE), woman-owned business enterprises (WBE), Small Business Administration (SBA) defined small and/or other disadvantaged businesses the opportunity to develop sound business relationships with MSU. Outreach activities are sponsored to introduce suppliers to the university community and to foster the growth of supplier contracts inclusive of a diverse supplier database.

MBE and WBE companies are legally defined as, "a privately or publicly owned corporation, joint venture or any other type of business organization that is at least fifty one percent beneficially owned and controlled by one or more minority persons or women."

The MSU Business Inclusion Program Coordinator provides support to assist campus departments to be proactive when working with Federal grant proposals and creating subcontracting plans. Sustainable Procurement Guidelines include:
Sustainable Procurement
University Services supports MSU's sustainability goals as identified by Campus Sustainability by providing responsible procurement and supply chain guidelines and practices.

Environmental considerations are a factor when Purchasing negotiates strategic contracts. Since these contracts provide the best value to the university, please visit Spartan Marketplace prior to using other buying methods.

All things being equal—price, quality, shipping, terms and conditions—a sustainable product should be selected for purchase.

Green Purchasing Guidelines
Though not exhaustive, the following are guidelines for sustainable procurement decisions.

Certifications and rankings

Look for environmentally certified products, i.e. Energy Star, Forest Stewardship Council, etc.
See list of common certifications
Manufacturing and Production

Look for products that are recycled, remanufactured, or have re-used content
Use companies that implement environmentally preferable manufacturing techniques
Buy locally produced or grown products to reduce transportation costs and support local communities
Packaging and Distribution

If possible, consolidate shipments to reduce environmental impact as well as cost to MSU
Ask if modifications can be made to packaging to reduce material used and downstream waste
Consider alternative service delivery options, such as remote diagnostics
Use and Maintenance

When buying equipment and supplies, consider all aspects of use including cost and operating expenses—electricity, steam, water, and supplies used over the life of the product. Purchasing can assist with this analysis.
Use teleconference options as compared to face-to-face meetings requiring travel
Avoid waste—buy in bulk when appropriate
Look for items with warranties, so they can be fixed instead of replaced
MSU Surplus Store: Repurpose previously used items
Disposal

Consider supplier take-back, resale, recyclability, and repurposing options at the end of product life
BUYING LOCALLY
/purchasing/sustainable/buy-locally
Purchasing encourages buying goods and services from local suppliers whenever possible.
OUR EFFORTS
Our Efforts
University Services is committed to enacting sustainable practices, both internally and as part of the purchasing and distribution processes.
SUPPLY CHAIN METRICS
Supply Chain Metrics
Studies of MSU's top suppliers help us understand the environmental impact of our supply chain.

Does the institution employ Life Cycle Cost Analysis (LCCA) when evaluating energy- and water-using products and systems?:
Yes

Which of the following best describes the institution's use of LCCA?:
Institution employs LCCA less comprehensively, e.g. for certain types of systems or projects and not others

A brief description of the LCCA policy and/or practices:

Sustainable Procurement
University Services supports MSU's sustainability goals as identified by Campus Sustainability by providing responsible procurement and supply chain guidelines and practices.
Environmental considerations are a factor when Purchasing negotiates strategic contracts. Since these contracts provide the best value to the university, please visit Spartan Marketplace prior to using other buying methods.
All things being equal—price, quality, shipping, terms and conditions—a sustainable product should be selected for purchase.Use and Maintenance
When buying equipment and supplies, consider all aspects of use including cost and operating expenses—electricity, steam, water, and supplies used over the life of the product. Purchasing can assist with this analysis. The TOC (total cost of ownership) template is utilized at the procurement stage. However, programmatically, the life cycle costs of purchasing electricity, steam, and water is also utilized to evaluate solutions for optimizing our energy assets. "
A. Product factors such as recycled, remanufactured or re-used content in

products.

B. When procuring equipment considering all aspects of the use of the equipment including the cost of the equipment, the operating expenses including electricity, steam, water, supplies factored over the useful life of the equipment.

C. Procuring environmentally certified products such as Energy Star, Forest Stewardship Council certified, etc.

D. Disposal costs of goods and equipment or waste produced through utilization.

E. Alternative service delivery options such as remote diagnostics.

F. Modifications to packaging to reduce downstream waste.

G. Consideration of the reduction of multiple product use when replaced by a single product and the cost implications of such a decision.

H. Teleconference options as compared to face to face meetings requiring air and/or vehicle travel.

I. Locally produced/locally grown reducing transportation costs and impacts.

J. Shipment consolidation to reduce environmental impact and cost to the university community.

Does the institution have published sustainability criteria to be applied when evaluating chemically intensive products and services (e.g. building and facilities maintenance, cleaning and sanitizing, landscaping and grounds maintenance)?:
No

A brief description of the published sustainability criteria for chemically intensive products and services:

MSU Custodial practices the (OS1) Cleaning system.
Responsible Cleaning Products
The (OS1) program focuses on both the health of the building occupants and the cleaning staff. Environmentally preferable cleaning strategies, procedures, training, and purchasing guidelines for consumables, tools and equipment are all part of responsible cleaning. All of the daily-use cleaning chemicals in the (OS1) Program have earned the Green Seal Certification or are EPA registered disinfectants.

GS-37 Designation
o PortionPac's MopPac Lite 1802
o PortionPac's ScrubPac 102

EPA Registered Disinfectant
o PortionPac's Germicidal Detergent 264N & 201N

The Carpet and Rug Institute (CRI) Seal of Approval o PortionPac's Germicidal Detergent 264N & 201N "

Does the institution have published sustainability criteria to be applied when evaluating construction and renovation products (e.g. furnishings and building materials)?:
Yes

A brief description of the published sustainability criteria for construction and renovation products:

MSU construction standards requires constructs to LEED-certified levels. Construction Procurement must comply with those standards.http://ipf.msu.edu/green/practices/leed-certification.html.

http://ipf.msu.edu/news/features/MSU-construction-standards-go-green.html

. Furnishings must also be purchased to purport with LEED-certified levels. Certifications utilized include: Cradle to Grave; Sustainable Forestry Intiative; Green Seal; SCS Global Services.

http://usd.msu.edu/common/documents/sustainable-buying-tips.pdf

. In addition, the following are also elements in the evaluation and purchasing process: • Consider used from MSU Surplus Store
• Forest Stewardship Council (FSC) certified
lumber
• Recycled material: Look for post-consumer
recycled content
• Purchase items with warranties
• Buy furniture that is easy to disassemble and
recycle
• Look for items manufactured with Low VOCs"

Does the institution have published sustainability criteria to be applied when evaluating Information technology (IT) products and services (e.g. computers, imaging equipment, mobile phones, data centers and cloud services)?:
Yes

A brief description of the published sustainability criteria for IT products and services:

MSU's purchasing unit provides guidelines for Sustainable purchasing including EPEAT, Energy Star, Green Seal, and Water Sense.

http://usd.msu.edu/common/documents/sustainable-buying-tips.pdf

.

Does the institution have published sustainability criteria to be applied when evaluating food services (i.e. franchises, vending services, concessions, convenience stores)?:
No

A brief description of the published sustainability criteria for food services:

Policies and Guidelines for incorporating sustainability as a requirement for contracting vendor services including franchises, vending services, concessions, and convenience stores in RHS is governed by the Manual of Business Procedures (MBP) and the RHS Purchasing Policies Procedures Manual (RHS PM). Consistent with these requirements, policies, and guidelines MSU Food Stores supports sustainable purchasing by utilizing sustainable specification requirements within contracts, bids, and vendor selection for Retail, Concessions, and Sparty's Stores in accordance with the University Services. A number of elements of sustainability are incorporated into the principles and guidelines for contracting vendors including sustainability principles such as total cost of ownership; packaging; certifications; and diversity of vendors. The overarching policy is:

The MPB Purchasing Sourcing Policy 270.6.1B requires:
B. "Sustainability - MSU is committed to engaging in activities that are sustainable and consider the university's impact environmentally, economically, and societally. In support of these efforts, the following considerations are to be given when working with suppliers:
1. Total cost of ownership, including impacts such as energy use and end of life disposition, when acquiring broadly used items or engaging in high dollar purchases with long range implications.
2. Take-back programs for packaging material and/or end-of-life cycle product.
3. Purchasing products with an Eco label certification or that meet the standards of the industry associated Eco label and certification program.
4. Providing business opportunities to suppliers who meet product standards while using pre-consumer and post-consumer waste in their products.
5. Buying locally or from suppliers within the State of Michigan when doing so a) saves money or is cost neutral and b) results in equal or improved product or service quality.
6. Supporting a diverse supplier base to ensure appropriate access to the goods and services required for institutional operations and delivery of service. "

RHS is the authorized procurement source for food services/building facility supplies, equipment and services for the Division of RHS (per Controller Designation) and is required to have a manual and processes approved by USD that governs by the RHS Food Stores Purchasing and Policies and Procedure Manual. The RHS manual follows the USD manual.

The RHS PM provides the Procurement Team Member Guidelines in Section III – Guideline 11 & 12 specifically address sustainability and diversity as a part of the vendor purchasing process. 11. Embracing sustainable practices for future generations at MSU, and 12. Support the University's Supplier Diversity and Business Inclusion Program to assure a diverse vendor base in our pursuit of strategic partnerships.
Attached to and incorporated into the RHS PM are the Principles and Standards of Ethical Supply Management Conduct with guidelines. Section 6 is Social Responsibility and Sustainability.
Champion social responsibility and sustainability practices in supply management. Supply management professionals are in a position to lead and direct the development and integration of sustainability and social responsibility policies and strategies into the business and supply chain. Supply professionals are also in the position to reinforce the importance of personal commitment and how such

commitment impacts sustainability and social responsibility initiatives and outcomes. While there are many key and important facets of sustainability and social responsibility, the specific areas of diversity and inclusiveness (supply base and workforce), human rights and environment are addressed below.

Recommended guidelines for support of diversity and inclusiveness supply base:
a. Provide socially diverse suppliers the opportunity to participate.
b. Promote inclusion of diverse suppliers in the organization's supplier development and mentoring programs.
c. Ensure long-term program sustainability through application of forward-thinking concepts beyond price.

Recommended guidelines for support of diversity and inclusiveness workforce:
a. Drive employee diversity within the organization.
b. Proactively promote diverse employment practices throughout the supply chain.

Recommended guidelines for support of human rights:
a. Treat people with dignity and respect.
b. Support and respect the protection of international human rights within the organization's sphere of influence.
c. Lead the organization and its supply chain to ensure application of human and employment rights.

Recommended guidelines for support of the environment:
a. Encourage the organization to be proactive in examining and implementing opportunities to be environmentally responsible internally and throughout the supply chain.
b. Encourage environmental responsibility across the supply base.
c. Promote development and diffusion of environmentally friendly ("green") practices and products throughout the organization and the supply chain.
d. Champion consumption of environmentally responsible products and services within the organization.
e. Design and redesign products and services to improve environmental impact.
f. Develop a complete understanding of the organization's environmental footprints and their impact on sustainability. Implement strategies to reduce and eliminate negative footprint impacts.
g. Implement market intelligence capabilities to proactively monitor and plan for changes in domestic and international legislation.

Does the institution have published sustainability criteria to be applied when evaluating garments and linens?:
No

A brief description of the published sustainability criteria for garments and linens:

SLS Garment vendors adopted the Higg Index to reduce energy, fuel, electric, work from home programs, reduce air milage, shipping containers filled to 89.7 % capacity, nautical miles saved,bunker fuel reduced.

Does the institution have published sustainability criteria to be applied when evaluating professional services (e.g. architectural, engineering, public relations, financial)?:
No

A brief description of the published sustainability criteria for professional services:

Does the institution have published sustainability criteria to be applied when evaluating transportation and fuels (e.g. travel, vehicles, delivery services, long haul transport, generator fuels, steam plants)?:
No

A brief description of the published sustainability criteria for transportation and fuels:

   MSU Transportation and fuels purchasing policies are subject to purchasing policy and guidelines. The sourcing considerations within the MBP requires the buyer to look at several criteria including applicable certifications. In the case of transportation, SmartWay Transport Partner, is the required certification.
   BMP Purchasing Section 270.6.1 : Source Considerations and Options (paraphrased):
   A. Domestic/Michigan Purchasing: Efforts should be made to purchase domestically and preference is given to those manufactured or provided by Michigan Businesses.
   B. The buyer has an obligation to consider all aspects of a procurement decision. Total Cost of Ownership analyses are to be used as an evaluation tool in measuring the total impact of a procurement decision, particularly those of high impact or high dollar volume. While not an exhaustive listing, the following are considerations for procurement decisions as determined applicable by the buyer:
   A. Product factors such as recycled, remanufactured or re-used content.
   B. When procuring equipment and supplies, consider all aspects of the use of the equipment including the cost of the equipment, the operating expenses including electricity, steam, water and supplies factored over the useful life of the equipment.
   C. Procuring environmentally certified products such as Energy Star, Forest Stewardship Council certified, etc.

   http://usd.msu.edu/purchasing/sustainable/certifications/index.html

   D. Disposal costs of goods and equipment or waste produced through utilization.
   E. Alternative service delivery options such as remote diagnostics.
   F. Modifications to packaging to reduce material used and/or downstream waste.
   G. Consideration of the reduction of multiple product use when replaced by a single product and the cost implications of such a decision.
   H. Teleconference options as compared to face to face meetings requiring air and/or vehicle travel.
   I. Locally produced/locally grown to reduce transportation costs and impacts.
   J. Shipment consolidation to reduce environmental impact and cost to the university.
   K. Supplier take back, resale, recyclability and repurposing options of goods at the end of useful life.

L. Environmentally preferable manufacturing techniques and/or raw material used. This information is required as a part of the RFP process.

Does the institution have published sustainability criteria to be applied when evaluating wood and paper products?:
Yes

A brief description of the published sustainability criteria for wood and paper products:

When purchasing paper and wood products, in addition to the standard Green Purchasing Guidelines, MSU specifically evaluates: • Maximize recycled content: 100%
recycled, minimum 30% post-
consumer
• Chlorine-free production: Labeled
Totally Chlorine Free (TCF) or
Processed Chlorine Free (PCF)
• Sustainably sourced fiber
• No plastic coatings. MSU also looks for four different types of certification: Forest Stewardship Council (FSC) Sustainable Forestry Initiative; Green Seal; and Water Sense.

http://usd.msu.edu/common/documents/sustainable-buying-tips.pdf

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http://usd.msu.edu/purchasing/sustainable/index.html

"

Does the institution have published sustainability criteria to be applied when evaluating products and services in other commodity categories that the institution has determined to have significant sustainability impacts?:
No

A brief description of the published sustainability criteria for other commodity categories:

Scientific Supplies are a commodity that is purchased that has not been previously addressed in this credit.
First; purchasing requirements are subject to the Manual of Business Practices Section 270.6 as previously reference so all the factors listed above in A through L would apply to scientific equipment. Given that MSU is a top tier research university with many laboratories that support STEM education and research, scientific supplies are a major purchase. To maximize the efficiency of purchasing and be able to assure the sustainable aspects are considered when purchasing scientific products - this is a product category that is included within the Spartan Marketplace. This is critical to ensure the best procurement given the volumes and variety of demand.

Spartan Marketplace is an online e-procurement solution that provides the MSU community with a centralized, convenient, cost-effective way to buy items using campus wide contracts. Using a "shopping cart" experience, MSU employees can select from thousands of items by "punching out" to supplier catalogs to make departmental purchases—with no administrative markup on off-campus supplier pricing.

Advantages include: one-stop order and payment portal
• Robust "search" functionality
• Integrates with the Finance System
• Off-campus supplier catalogs reflect MSU discounted pricing—no administrative markup
• Order history is easily accessible
• Allows Purchasing to collect and analyze spend data to better negotiate contracts

Suppliers in Spartan Marketplace have been selected through a competitive bid and negotiation process. Campus wide strategic contracts are in place that offer the best overall value to the university. The campus Strategic Contract process is governed by the MBP 270.6.3.C. The University Stores Purchasing Manual Section 21 also describes the environmental sustainability procurement guidelines for strategic contracts. Developing a sustainable source strategy is included and detailed in exhibit 20- Strategic Process for Strategic Sourcing Initiative.

Fisher Scientific is a key supplier of scientific equipment. They maintain a significant sustainability program as a business.

https://www.fishersci.com/us/en/programs/sustainability-program.html

. They also identify those products on their website that qualify as "green" and identify the criteria of the green grass icon.

The website URL where information about the programs or initiatives is available:
http://usd.msu.edu/purchasing/sustainable/index.html

Additional documentation to support the submission:

Electronics Purchasing

Score	Responsible Party
	Amy Butler
0.11 / 1.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution purchases EPEAT registered products for desktop and notebook/laptop computers, displays, thin clients, tablets/slates, televisions and imaging equipment (copiers, digital duplicators, facsimile machines, mailing machines, multifunction devices, printers and scanners).

This credit does not include servers, smartphones, or specialized equipment for which no EPEAT certified products are available.

"---" indicates that no data was submitted for this field

Total expenditures on desktop and laptop computers, displays, thin clients, tablets/slates, televisions, and imaging equipment:
5524372.30 *US/Canadian $*

Expenditures on EPEAT registered desktop and laptop computers, displays, thin clients, tablets/slates, televisions, and imaging equipment::

	Expenditure Per Level
EPEAT Gold	413271 *US/Canadian $*
EPEAT Silver	174521.11 *US/Canadian $*
EPEAT Bronze	266401.20 *US/Canadian $*

Percentage of expenditures on electronic products that are EPEAT Gold registered:
7.48

Do the figures reported above include leased equipment?:
No

A brief description of the time period from which the figures reported above are drawn (i.e. one-year time period or representative sample):

   FY 17-18 (July 1, 2017-June 30, 2018)

The website URL where information about the programs or initiatives is available:
https://usd.msu.edu/sustainability/index.html

Additional documentation to support the submission:

Data source(s) and notes about the submission:

Thanks to University Services and Purchasing for the data and support

Cleaning and Janitorial Purchasing

Score	Responsible Party
	Brandon Baswell
0.44 / 1.00	Director
	IPF Custodial Services

Criteria

Institution's main cleaning or housekeeping department(s) and/or contractor(s) purchase cleaning and janitorial paper products that meet one or more of the following criteria:

- Forest Stewardship Council (FSC) certified
- Green Seal certified
- UL ECOLOGO certified
- U.S. EPA Safer Choice labeled (formerly Design for the Environment)
- Local equivalents for institutions outside the U.S. and Canada

Cleaning products include general purpose bathroom, glass and carpet cleaners; degreasing agents; biologically-active cleaning products (enzymatic and microbial products); floor-care products (e.g. floor finish and floor finish strippers); hand soaps and hand sanitizers, disinfectants, and metal polish and other specialty cleaning products.

Janitorial paper products include toilet tissue, tissue paper, paper towels, hand towels, and napkins.

Other janitorial products and materials (e.g. cleaning devices that use only ionized water or electrolyzed water) should be excluded from both total expenditures and expenditures on environmentally preferable products to the extent feasible.

"---" *indicates that no data was submitted for this field*

Total expenditures on cleaning products:
244677 *US/Canadian $*

Expenditures on cleaning products that are Green Seal or UL ECOLOGO certified and/or Safer Choice labeled (or local equivalents for institutions outside the U.S. and Canada):
98294 *US/Canadian $*

Total expenditures on janitorial paper products:
364239 *US/Canadian $*

Expenditures on janitorial paper products that are FSC, Green Seal, and/or UL ECOLOGO certified (or local equivalents for institutions outside the U.S. and Canada):
169656 *US/Canadian $*

Percentage of expenditures on cleaning and janitorial products that are third party certified to meet recognized sustainability standards:
44.00

A brief description of the time period from which the figures reported above are drawn (i.e. one-year time period or representative sample):

Three year average

The website URL where information about the programs or initiatives is available:
http://ipf.msu.edu/green/practices/cleaning.html

Additional documentation to support the submission:

Office Paper Purchasing

Score	Responsible Party
0.48 / 1.00	**Matt Gosselin** Supervisor Senior Purchasing Agent

Criteria

Institution purchases office paper with post-consumer recycled, agricultural residue, and/or Forest Stewardship Council (FSC) certified content.

"---" *indicates that no data was submitted for this field*

Total expenditures on office paper :
251110 *US/Canadian $*

Expenditures on office paper with the following levels of post-consumer recycled, agricultural residue, and/or FSC certified content::

	Expenditure Per Level
10-29 percent	0 *US/Canadian $*
30-49 percent	218440 *US/Canadian $*
50-69 percent	0 *US/Canadian $*
70-89 percent (or FSC Mix label)	0 *US/Canadian $*
90-100 percent (or FSC Recycled label)	32670 *US/Canadian $*

Percentage of expenditures on office paper that is 90-100 percent post-consumer recycled and/or agricultural residue content and/or FSC Recycled label:
13.01

A brief description of the time period from which the figures reported above are drawn (i.e. one-year time period or representative sample):

one year

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Data source(s) and notes about the submission:

Thanks to Purchasing and University Stores for the data and assistance

Transportation

Points Claimed 5.24
Points Available 7.00

This subcategory seeks to recognize institutions that are moving toward sustainable transportation systems. Transportation is a major source of greenhouse gas emissions and other pollutants that contribute to health problems such as heart and respiratory diseases and cancer. Due to disproportionate exposure, these health impacts are frequently more pronounced in low-income communities next to major transportation corridors. In addition, the extraction, production, and global distribution of fuels for transportation can damage environmentally and/or culturally significant ecosystems and may financially benefit hostile and/or oppressive governments.

At the same time, campuses can reap benefits from modeling sustainable transportation systems. Bicycling and walking provide human health benefits and mitigate the need for large areas of paved surface, which can help campuses to better manage storm water. Institutions may realize cost savings and help support local economies by reducing their dependency on petroleum-based fuels for transportation.

From the institution:

MSU developed and published in 2018 the MSU Mobility Plan. Michigan State University's Mobility Plan initiative comprises mobility technology, mobility source management, and infrastructure. The combination of these collective efforts results in the weaving of a mobility tapestry that serves as a comprehensive and adaptable road map to guide and position MSU as a recognized leader in mobility, both nationally and globally.
The MSU Mobility Technology Committee, the MSU Mobility Source Management Committee, and the MSU Infrastructure Committee summarize their work in the MSU Mobility Report which is attached. Several aspects of this plan are in implementation mode and have served to provide data driven decisions as to mobility safety and policy.
 The university has also engaged in collaborative research in establishing a test bed for advanced mobility in the newly formed Spartan Mobility Village. MSU has also engaged in the multi-partner regional effort to explore a regional bike and scooter sharing program with CATA, Meridian Twp; Lansing, East Lansing, and several other partners.
 MSU has also contracted with the CATA Transportation System to provide bus ridership for free for students. CATA reprots that bus ridership increased nearly 38 % in the first semester that the free service was offered. In addition to the charging stations installed by MSU, MSU's partnership with the Lansing Board of Water and Light for the

Kellogg Center station. MSU Bikes is Michigan State University's resource for all things bike related. Its mission is to encourage bicycling and provide the accessibility, support and education necessary to make biking an option for the MSU community. MSU Bikes has both new and used bikes available to rent or purchase, and the MSU Bikes Service Center, located on the south-side of Bessey Hall, manages all bike-repair needs as well as providing various parts and biking accessories for sale. In addition to plenty of bike racks around campus, two new MSU bike garages offer secure, covered parking for bicycles. The Campus Fleet program continues to emphasize adding electric vehicles to the fleet - promoting and giving customers the opportunity to experience new technology like hybrid and all electric vehicles and utilizing the campus as a living laboratory for understanding how alternative transportation modes integrates with the broader campus mobility strategy. Lastly, the Solar Carports detailed in the Innovation Section provide a multi-modal transport hub for the last vehicle mile traveled. The carports serve as a hub for a combination of walking, biking, scooters, and bus transportation. MSU Bikes' brochure which shows not only all the bike-related facilities on campus but also the EV charging stations, the Multi-Modal Transp. Center and solar car ports:

https://msubikes.files.wordpress.com/2017/11/bikes-brochure-8-10-2017-final_page_2...

Credit	Points
Campus Fleet	0.45 / 1.00
Student Commute Modal Split	1.59 / 2.00
Employee Commute Modal Split	1.20 / 2.00
Support for Sustainable Transportation	2.00 / 2.00

Campus Fleet

Score	Responsible Party
0.45 / 1.00	**Brain Watts** Service Manager V IPF Motor Pool

Criteria

Institution supports alternative fuel and power technology by including in its motorized vehicle fleet vehicles that are:

A. Gasoline-electric hybrid

B. Diesel-electric hybrid

C. Plug-in hybrid

D. 100 percent electric (including electric assist utility bicycles and tricycles)

E. Fueled with Compressed Natural Gas (CNG)

F. Hydrogen fueled

G. Fueled with B20 or higher biofuel for more than 4 months of the year

And/or

H. Fueled with locally produced, low-level (e.g. B5) biofuel for more than 4 months of the year (e.g. fuel contains cooking oil recovered and recycled on campus or in the local community)

For this credit, the institution's motorized fleet includes all cars, carts, trucks, tractors, buses, electric assist cycles, and similar vehicles used for transporting people and/or goods, including both leased vehicles and vehicles that are institution-owned and operated. Heavy construction equipment (e.g. excavators and pavers), maintenance equipment (e.g. lawn-mowers and leaf blowers), and demonstration/test vehicles used for educational purposes are not included in this credit.

Vehicles that meet multiple criteria (e.g. hybrid vehicles fueled with biofuel) should not be double-counted.

"---" *indicates that no data was submitted for this field*

Total number of vehicles (e.g. cars, carts, trucks, tractors, buses, electric assist cycles) in the institution's fleet:
1092

Number of vehicles in the institution's fleet that are:

	Number of Vehicles
Gasoline-electric, non-plug-in hybrid	61
Diesel-electric, non-plug-in hybrid	0
Plug-in hybrid	0
100 percent electric	54
Fueled with compressed natural gas (CNG)	6
Hydrogen fueled	0
Fueled with B20 or higher biofuel for more than 4 months of the year	0
Fueled with locally produced, low-level (e.g. B5) biofuel for more than 4 months of the year	373

Do the figures reported above include leased vehicles?:
No

A brief description of the institution's efforts to support alternative fuel and power technology in its motorized fleet:

MSU began to offer E85 (85% ethanol) and LPG (liquid propane gas) at MSU fueling station; Charging station infrastructure for electric vehicles has been installed; designated parking for alternative fuels vehicles as detailed in mobility credit; in addition, 170 vehicles have been equipped with GPS to facilitate efficient routing and reduced vehicle miles traveled. The development of the Mobility Plan has placed great emphasis on expanding the infrastructure and support for alternative fuel vehicles. The Spartan Mobility Village has been established to conduct research; testing; demonstration; and deployment as new opportunities are developed.

The website URL where information about the programs or initiatives is available:
http://ipf.msu.edu/green/practices/green-transportation.html

Additional documentation to support the submission:

Student Commute Modal Split

Score	Responsible Party
	Amy Butler
1.59 / 2.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution's students commute to and from campus using more sustainable commuting options such as walking, bicycling, vanpooling or carpooling, taking public transportation, riding motorcycles or scooters, riding a campus shuttle, or a combination of these options.

Students who live on campus should be included in the calculation based on how they get to and from their classes.

"---" *indicates that no data was submitted for this field*

Total percentage of students (graduate and undergraduate) that use more sustainable commuting options as their primary means of transportation:
79.70

A brief description of the method(s) used to gather data about student commuting, including the timeframe for when the analysis was conducted and how a representative sample was reached, if applicable:

A survey was submitted to a statistically determined population of 20,000 students per our sustainability survey procedures. The study was conducted in 2018.

The percentage of students that use each of the following modes as their primary means of transportation to get to and from campus::

	Percentage (0-100)
Commute with only the driver in the vehicle (excluding motorcycles and scooters)	---
Walk, bicycle, or use other non-motorized means	34.20
Vanpool or carpool	---
Take a campus shuttle or public transportation	45.50
Use a motorcycle, scooter or moped	---

The website URL where information about the programs or initiatives is available:
https://mobility.msu.edu/about/index.html

Additional documentation to support the submission:
op_16 surveys compiled.pdf

Employee Commute Modal Split

Score	Responsible Party
1.20 / 2.00	**Amy Butler** Campus Sustainability Director MSU Sustainability

Criteria

Institution's employees (faculty, staff, and administrators) get to and from campus using more sustainable commuting options such as walking, bicycling, vanpooling or carpooling, taking public transportation, riding motorcycles or scooters, riding a campus shuttle, telecommuting, or a combination of these options.

Employees who live on campus should be included in the calculation based on how they get to and from their workplace.

"---" *indicates that no data was submitted for this field*

Total percentage of the institution's employees that use more sustainable commuting options as their primary method of transportation:
60.07

A brief description of the method(s) used to gather data about employee commuting, including the timeframe for when the analysis was conducted and how a representative sample was reached, if applicable:

"Results include: 11.07 % use alternate sustainable commuting and 49 % of respondents have a flexible schedule or work remotely at times. Methodology -As a part of drafting a master plan for campus mobility [MSU Mobility Plan], the Office of the Associate Provost for Academic Services, Enrollment Management, and Academic Initiatives administered the MSU Mobility Survey to MSU employees during the summer of 2017. The rationale behind conduction the survey was to understand current behaviors and beliefs and utilize the information to identify and guide implement of changes that would: enhance mobility and convenience; position MSU as a recognized mobility leader; Improve MSU community and visitor experiences; and influence behavior and find new ways to optimize mobility. In addition to the rationale directly related to mobility planning, making positive, campus-wide improvements related to mobility will also:
• Increase student success
• Provide a high-quality educational and work environment
• Increase safety
• Promote positive on-campus experiences for students, faculty, staff, and visitors
• Encourage environmentally sound practices
• Support cutting-edge research Population surveyed included the entire MSU faculty and staff employees who work on the East Lansing campus (approximately 11,000). Survey sent on July 12, 2017 with responses due July 31, 2017. A total of 2,571 responses were received with representation from all major administrative units on campus. "

The percentage of the institution's employees that use each of the following modes as their primary means of transportation to and from campus::

	Percentage (0-100)
Commute with only the driver in the vehicle (excluding motorcycles and scooters)	90.81
Walk, bicycle, or use other non-motorized means	6.61
Vanpool or carpool	1.02
Take a campus shuttle or public transportation	1.33
Use a motorcycle, scooter or moped	0.23
Telecommute for 50 percent or more of their regular work hours	---

The website URL where information about the programs or initiatives is available:

https://mobility.msu.edu/

Additional documentation to support the submission:
op_17 surveys compiled.pdf

Support for Sustainable Transportation

Score | **Responsible Party**
Tim Potter
2.00 / 2.00 Manager, Bike Service Center
IPF Sustainability, Recycling & Surplus

Criteria

Institution has implemented one or more of the following strategies to encourage more sustainable modes of transportation and reduce the impact of student and employee commuting. The institution:

- Provides secure bicycle storage (not including office space), shower facilities, and lockers for bicycle commuters. The storage, shower facilities and lockers are co-located in at least one building/location that is accessible to all commuters.
- Provides short-term bicycle parking (e.g. racks) for all occupied buildings and makes long-term bicycle storage available for students who live on-site (if applicable). Long-term bicycle storage may include bicycle depots/hubs/stations, indoor bicycle rooms, and/or bicycle cages/secure bicycle parking areas. Standard public bicycle racks are not sufficient for long-term storage.
- Has a bicycle and pedestrian plan or policy (or adheres to a local community plan/ policy) that sets standards and practices for campus streets to enable safe access for all users (e.g. a "complete streets" or bicycle accommodation policy)
- Has a bicycle-sharing program or participates in a local bicycle-sharing program.
- Offers free or reduced price transit passes and/or operates a free campus shuttle for commuters. The transit passes may be offered by the institution itself, through the larger university system of which the institution is a part, or through a regional program provided by a government agency.
- Offers a guaranteed return trip (GRT) program to regular users of alternative modes of transportation
- Participates in a car/vanpool or ride sharing program and/or offers reduced parking fees or preferential parking for car/vanpoolers
- Participates in a car sharing program, such as a commercial car-sharing program, one administered by the institution, or one administered by a regional organization
- Has one or more Level 2 or Level 3 electric vehicle recharging stations that are accessible to student and employee commuters
- Offers a telecommuting program for employees, either as a matter of policy or as standard practice
- Offers a condensed work week option, for employees,either as a matter of policy or as standard practice, that reduces employee commuting
- Has incentives or programs to encourage employees to live close to campus
- Other strategies to reduce the impact of commuting (e.g. preferred parking for fuel-efficient vehicles, cash-out of parking programs)

Does the institution provide secure bicycle storage (not including office space), shower facilities, and lockers for bicycle commuters?:
Yes

A brief description of the facilities for bicycle commuters:

MSU offers bike commuters to campus a growing number of resources & benefits in addition to the most obvious, the MSU Bikes Service Center, which is owned/ operated by MSU and open year-round offering full-menu of bike repairs, sales, short and long-term rentals and parts/ accessories for all your transportation biking needs. Additionally, some MSU departments provide bikes and other services to encourage their staff to bike more for a host of reasons; some examples of those services are described on the provided link.We provide 2 secure bike parking facilities on campus available to the MSU community in addition to 3/4 of our residence halls that have indoor secure bike parking rooms for those residents. Lockers and showers are available to all MSU commuters thru our recreational sports facilities on campus for no charge. A leased personal locker benefit program for bike commuters is also available.

https://msubikes.wordpress.com/commuter-benefits/

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https://msubikes.wordpress.com/2013/08/09/new-secure-bike-parking-facilities-on-campus/

Does the institution provide short-term bicycle parking for all occupied buildings and makes long-term bicycle storage available for students who live on-site (if applicable)?:
Yes

A brief description of the bicycle parking and storage facilities:

MSU offers bike commuters to campus a growing number of resources & benefits in addition to the most obvious, the MSU Bikes Service Center, which is owned/ operated by MSU and open year-round offering full-menu of bike repairs, sales, short and long-term rentals and parts/ accessories for all your transportation biking needs. Additionally, some MSU departments provide bikes and other services to encourage their staff to bike more for a host of reasons; some examples of those services are described on the provided link.We provide 2 secure bike parking facilities on campus available to the MSU community in addition to 3/4 of our residence halls that have indoor secure bike parking rooms for those residents. Lockers and showers are available to all MSU commuters thru our recreational sports facilities on campus for no charge. A leased personal locker benefit program for bike commuters is also available.

https://msubikes.wordpress.com/commuter-benefits/

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https://msubikes.wordpress.com/2013/08/09/new-secure-bike-parking-facilities-on-campus/

Does the institution have a bicycle and pedestrian plan or policy (or adhere to a local community plan/policy) that sets standards and practices for campus streets to enable safe access for all users?:
Yes

A brief description of the bicycle and pedestrian plan or policy:

"More than half of MSU's roads are equipped with bike lanes and more than 20,000 bicycle parking spaces are designated. Bicycle usage on campus is governed by ordinance and is required to be registered. These ordinances in instructions are approved by the Board of Trustees and published. IN addition, information is contained in the MSU Student Handbook.. MSU Police have also implemented a MOVE SAFE campaign to promote harmony in mobility on campus for the many types of transportation that are in use. https://movesafe.police.msu.edu/. It provides the guidelines and safety tips for walking, biking, scooters and mo-peds as well as how drivers should react as well. Remember that University ordinances prohibit biking on sidewalks; drivers must share the road with bicycles, even when marked bike lanes are not available. In the non-motorized section of the Land Use Master Plan - Circulation Priorities in the ""Campus Land Use Master Plan: Update 2017"" http://ipf.msu.edu/_files/pdfs/campus-master-plan-2017.pdf. PLANNING PRINCIPLES RELATED TO CIRCULATION
⌷ Emphasize personal safety in the circulation system's planning and design.
⌷ Design all roads as complete streets (designed and operated to enable safe, attractive, and comfortable access and travel for all legal users).
⌷ Provide a safe, efficient, and effective transportation network that enhances the overall quality of life on the campus.
⌷ Incorporate traffic-calming measures where appropriate.
⌷ Plan and design for the following circulation priorities:
– pedestrians first;
– bicycles and other forms of non-motorized transportation second;
– mass transit and service vehicles third; and,
– private vehicles last.
⌷ Design for the safety of persons with disabilities in accordance with the Americans with Disability Act.
⌷ Reduce private vehicular traffic in academic and residential districts.
⌷ Establish a coordinated bicycle system including bike lanes within roadways, dedicated pathways and/or shared-use pathways, and convenient and appropriately sized storage facilities where appropriate."

Does the institution have a bicycle-sharing program or participate in a local bicycle-sharing program?:
Yes

A brief description of the bicycle sharing program:

MSU has multiple bike sharing programs. First, is The MSU Bikes Service Center; an on-campus, University-operated bike shop. They provide bicycle sales, rentals, and repairs to the MSU community. They also offer classes on bicycle repair and safety. MSU also has a "add a bike to your Department Transportation Fleet program". Discounted bike rentals and sales are available for all departments. the ASMSU Bike Share Program is an effort to provide free, non-vehicular transportation options to students with a low cost, effective bike share rental service. The Bike Share Program is a partnership between RHS, REHS, Recreation Sports and Fitness Services, Student Affairs and Services, Resource Center for Persons with Disabilities, MSU Bikes and ASMSU. This program was launched to provide students an easier way to get to class, that's envrionmentally safe and eliminates waste on campus (in terms of abandoned bikes at the university). MSU Bikes (the campus bike center) rents bikes for short, medium and long term use. The rental fleet is approx. 400 bikes plus the MSU student government, ASMSU, has funded a bike share system of another 40+ bikes (along with 5 hand-pedal trikes for those unable to pedal with their feet) for use for free by undergraduate students for up to 1 day for no charge. MSU is also in discussions with a regional consortium working towards a bike share system that will serve the whole region. It's expected this system to be operational spring or summer 2019

Does the institution offer free or reduced price transit passes and/or operate a free campus shuttle for commuters?:
Yes

A brief description of the mass transit programs:

MSU has a relationship with CATA Bus system. CATA provides Campus bus and special transportation services. Such services include daily transit buses, evening fixed bus route service, later-evening demand response buses [Night Owl], parking shuttle and paratransit buses. Faculty, staff and students ride for free on the campus designated routes. There are six dedicated routes on campus during the week and three on the weekends, plus the later-evening demand response; parking shuttle and paratransit buses. This transit system also connects with the The Capital Area Multimodal Gateway on campus houses the Amtrak Blue Water train stop and three intercity bus services: MegaBus, Greyhound and Indian Trails. Local CATA bus routes stop at the station, and the facility also offers taxicab and bike-sharing services.

Does the institution offer a guaranteed return trip program to regular users of alternative modes of transportation?:
Yes

A brief description of the guaranteed return trip program:

Riders of CATA bus systems ride for free, thus have a return trip option. IN addition, CATA provides a late night on demand bus route [Night Owl] to assure that students have a return ride even if its beyond the operating hours of the normal bus routes. See this blog post describing the program for bicyclists:

https://msubikes.wordpress.com/2016/02/09/emergency-ride-home-extended-to-bicyclists/

Does the institution participate in a car/vanpool or ride sharing program and/or offer reduced parking fees or preferential parking for car/vanpoolers?:
Yes

A brief description of the carpool/vanpool program:

"There are several resources for making your commute to and from campus easier. Getting around the East Lansing campus is also made easier with CATA and the MSU Bikes Service Center. Find the option that works best for you and go ""Spartan Green!""

https://worklife.msu.edu/commuting-resources

CATA (Capital Area Transit Authority) offers many transportation resources and supports. But did you know that the on-campus bus lines provides free rides around campus with your employee ID? If you're tired of trying to find parking when you have to attend a meeting, try the campus CATA routes.

https://www.cata.org/Routes-Schedules/Where-can-I-Ride/MSU-Campus

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MSU Bikes Service Center offers bike rentals and repairs. Biking is a ""green"" way of getting around and getting to work. MSU Bikes provides many resources and support for bike commuting. MSU Bikes also published the first Green Transportation Map for the University, which includes a section on Bicycling Laws & Safety Tips.

Carpooling
Michivan Ride Share - this service is available across the state of Michigan for long-distance commuters.

http://www.vpsiinc.com/Home/index.asp?OID=27

or call 1(800)VAN-RIDE (1-800-826-7433).

CATA Clean Commute - CATA provides a matching program to help you find carpoolers in your area. Visit:

https://cleancommute.rideamigos.com/#/

- use the Start and Destination boxes to enter your home and work address, then click ""Let's Go!"" Make sure a little check mark appears in each address field before clicking the green button. You'll then get information about any relevant carpools, vanpools, bus routes, bike routes, and walking routes that fit your commute. You can also email

cleancommute@cata.org

with questions.
Emergency Ride Home - As a participant in the program, you will receive access to two digital vouchers every six months. Each voucher entitles you to one free, 24-hour rental from Enterprise Rent-A-Car OR reimbursement up to $60 for taxi/public transit fare - including Uber and Lyft. If someone is sick, you have a family emergency, you work unplanned overtime or your ride leaves without you, ERH is your back-up plan. Plus, it's totally free!

https://www.cata.org/Rider-Information/Clean-Commute-Options/Emergency-Ride-Home

.
MSU Parking fees are reduced with a carpool permit.

http://police.msu.edu/management-services-bureau/parking-office/

. "

Does the institution participate in a car sharing program, such as a commercial car-sharing program, one administered by the institution, or one administered by a regional organization?:
Yes

A brief description of the car sharing program:

"MSU offers seven Zipcar parking locations on campus. Students 18 years and older, including drivers with an international license, can rent a car to use by the hour or day. In addition, as a part of MSU's fleet sharing system, MSU IPF offers ""green vehicles to use from the Infrastructure Plannning and Facilities's Transportation Department. Chevy Bolt all-electric vehicles
Ford Fusion hybrid vehicles.
GMC full-sized Yukon hybrid vehicles
Ford Escape hybrid vehicles
Charter buses that run on biodiesel fuel
Ford C-Max hybrid vehicles

Chevy Express cargo vans (run on propane auto-gas)http://ipf.msu.edu/green/practices/green-transportation.html"

Does the institution have one or more Level 2 or Level 3 electric vehicle recharging stations that are accessible to student and employee commuters?:
Yes

A brief description of the electric vehicle recharging stations:

MSU is encouraging the use of eco-friendly transportation with five electric vehicle charging stations around campus: four stations in the south Spartan Stadium parking lot and one in the parking ramp of the Kellogg Center. They are compatible with the Chevrolet Volt, Chevrolet Bolt, Ford Transit Connect, Ford Focus Electric, BMW ActiveE and Nissan LEAF. Drivers simply access the station with a credit card, debit card or key fob and plug in the vehicle. It takes approximately four hours to charge a vehicle, after which non-charging cars can be issued parking tickets. A $2.50-per-hour cost covers charging station maintenance and parking, so paying again for parking in the lot is unnecessary. Just show the receipt from the charging station to the parking attendant to have additional parking fees waived. The electric vehicle charging station at the Kellogg Center is part of the Lansing Board of Water and Light's Plug-in Electric Vehicle Community Project.To make it easier for drivers to find stations, websites and cell-phone applications such as Plug Share, Recargo, CarStations and ChargePointwill tell users where a station is, if a station is available and when their vehicle is done charging.

Does the institution offer a telecommuting program for employees as a matter of policy or as standard practice?:
Yes

A brief description of the telecommuting program:

All approved telecommuting arrangements require both the supervisor and employee to sign a Telecommuting Agreement. The Telecommuting Agreement specifies the terms and conditions of the agreed upon arrangement, which includes verification that the alternate location provides a workspace that is free from safety and fire hazards. In the agreement, the employee holds the employer harmless from any and all claims from the employee working in the alternate location, except Workers' Compensation claims. It also documents the responsibilities for both parties and establishes expectations regarding work hours and performance for the employee. It acknowledges the special importance of effective communication between the employee and supervisor in telecommuting arrangements and includes provisions for making communication a priority.

Does the institution offer a condensed work week option that reduces employee commuting (as a matter of policy or standard practice)?:
Yes

A brief description of the condensed work week option:

"A condensed work week is a part of the Flexible Work Arrangements available between a supervisor and employee. Flexible work schedules at MSU entail arrangements between supervisors and employees that allow employees to complete their employment duties while working non-traditional schedules.

Flexible Work Arrangements ARE:

Flexible, they include variations in when, where, and/or how work is done
Focused on overall business goals, rather than case-by-case accommodations to individuals
Planned and predictable
Structured to emphasize the long-term rather than the short-term
Flexible Work Arrangements ARE NOT:

An entitlement or reward
A secret arrangement or special deal
For every employee or every job
Examples include:

Non-traditional start and end times (such as working 9 a.m. to 6 p.m., or 7 a.m. to 4 p.m.)
Extended meal times offset by additional hours worked at the beginning or end of the shift (such as working 7 a.m. to 11 a.m. and 2 p.m. to 6 p.m.)
Start and end times individualized by day (such as working 9 a.m. to 6 p.m. Monday through Wednesday and 7 a.m. to 4 p.m. Thursday and Friday.) *
Longer work days with shorter work weeks (such as working four 10-hour days and having three days off.) *
*Certain unions, including 1585 Service Maintenance, 999 Skilled Trades and 547 Power Plant may prohibit arrangem"

Does the institution have incentives or programs to encourage employees to live close to campus?:
Yes

A brief description of the incentives or programs to encourage employees to live close to campus:

on campus transitional housing is available to facilitate locating in the region

Does the institution employ other strategies to reduce the impact of commuting (e.g. preferred parking for fuel-efficient vehicles, cash-out of parking programs)?:
Yes

A brief description of other strategies to reduce the impact of commuting:

"Vehicles parking at charging stations do not have to pay the parking fee; reduced parking fee for car pooling. An additional tool launched by the university to encourage walking on campus was the Wayfinding Walking Map Service.
WAYFINDING "WALKING MAP" SERVICE
Several years ago, the Wayfinding team from MSU's Infrastructure and Planning and Facilities (IPF) contacted the Registrar's Office regarding the potential use of campus maps with walking routes in conjunction with course scheduling. That collaboration resulted in a "walking map" service at the end of summer 2017. Working together, both units refined and enhanced the Schedule of Courses map to include many features in support of student success:
• Display/hide each day's route (useful when routes or meeting locations overlap)
• Identify construction zones
• Calculate accessible route/entrances
• Zoom to building (click on any building or numbered point, then "Zoom to")
• Exact room location and detailed floor plan of buildings (click on numbered point, then "Show floorplan")
• Walking distance and time per day (click on route line)
• Current location (click in upper left corner of map to pinpoint the user's current location)
The new features were quietly launched in the Schedule of Courses on August 29, 2017. Within the first two days, more than 5,700 students found and used this new tool more than 9,000 times. The other technology deployed in conjunction with CATA Bus Services is an app that shows the bus arrival time within 10 seconds of its arrival. "

The website URL where information about the programs or initiatives is available:
http://bespartangreen.msu.edu/transportation.php

Additional documentation to support the submission:

Data source(s) and notes about the submission:

Multiple websites support the data provided for this credit:
https://admissions.msu.edu/life-at-msu/getting-around.aspx
.
https://admissions.msu.edu/life-at-msu/getting-around.aspx
MSU Police Move Safe Campaign web page:
https://movesafe.police.msu.edu/
MSU's "Pedal for Platinum" Bike Friendly University plan:
https://msubikes.wordpress.com/2016/10/20/pedal-for-platinum-msu/
E. Lansing's Bike Friendly Community report card - summary:
https://bikeleague.org/sites/default/files/bfareportcards/
BFC_Fall_2016_ReportCard_East_Lansing
_MI.pdf

Waste

Points Claimed 4.34
Points Available 10.00

This subcategory seeks to recognize institutions that are moving toward zero waste by reducing, reusing, recycling, and composting. These actions mitigate the need to extract virgin materials, such as trees and metals. It generally takes less energy and water to make a product with recycled material than with virgin resources. Reducing waste generation also reduces the flow of waste to incinerators and landfills which produce greenhouse gas emissions, can contaminate air and groundwater supplies, and tend to have disproportionate negative impacts on low-income communities. Waste reduction and diversion also save institutions costly landfill and hauling service fees. In addition, waste reduction campaigns can engage the entire campus community in contributing to a tangible sustainability goal.

From the institution:

A unique and accomplished unit within MSU is its Surplus Store & Recycling Center (SSRC). The SSRC puts a reuse first focus on both recycling and waste with an emphasis on positively impacting the local community. Construction and demolition waste is routinely sorted for reusable materials that are either sold or given away though the store. The waste stream is routinely evaluated to identify new opportunities for reuse first and recycling where possible. Reusable materials are regularly removed from the recycling stream and are either sold or given away through the store. A sub-store (Spartan Upcycle) was created to inspire and promote creativity, resource conservation and community engagement through art, education and imagination. SSRC actively supports reuse and recycling community collections across 3 counties and maintains a public recycling drop-off center available 24 hours a day, 7 days a week. Additional accomplishments:
• Spartan Sports Sale – generated $140,000 in six hours selling materials when offices moved.
• Sparty's Cabin [Tiny House] construction
• Hosted Patagonia "Worn Wear College Tour"
• Completed Organic Wastes Inventory and Assessment
• Launched premier SPARTAN SHADOWS program – creating furniture and wood products out of reclaimed wood from campus
• Launched SPARTAN UPCYCLE – reduces waste by inspiring creativity, resources conservation, and community engagement through art, education and imagination.
• Ride a Bike to the Movies Night
• Hosted Food@MSU Forums;
• Capstone project with Mechanical Engineering and Electrical and Computer Engineering to design and test sensor technology on waste receptacles.
• RecycleMania participation recycled more than 836,000 pounds of materials – 2nd in the Big 10 conference for Gorilla Prize Category.

Credit	Points
Waste Minimization and Diversion	2.38 / 8.00
Construction and Demolition Waste Diversion	0.96 / 1.00

[Hazardous Waste Management](#)   1.00 / 1.00

Waste Minimization and Diversion

Score	Responsible Party
	Kris Jolley
2.38 / 8.00	Director
	MSU Recycling and Surplus Store

Criteria

Part 1

Institution has implemented source reduction strategies to reduce the total amount of waste generated (materials diverted + materials disposed) per weighted campus user compared to a baseline.

Part 2

Institution's total annual waste generation (materials diverted and disposed) is less than the minimum performance threshold of 0.50 tons (0.45 tonnes) per weighted campus user.

Part 3

Institution diverts materials from the landfill or incinerator by recycling, composting, donating or re-selling.

For scoring purposes, up to 10 percent of total waste generated may also be disposed through post-recycling residual conversion. To count, residual conversion must include an integrated materials recovery facility (MRF) or equivalent sorting system to recover recyclables and compostable material prior to conversion.

This credit includes on-campus dining services operated by the institution or the institution's primary on-site contractor.

Waste includes all materials that the institution discards, intends to discard or is required to discard (i.e. all materials that are recycled, composted, donated, re-sold, or disposed of as trash) except construction, demolition, electronic, hazardous, special (e.g. coal ash), universal and non-regulated chemical waste, which are covered in the *Construction and Demolition Waste Diversion* and *Hazardous Waste Management* credits.

Consistent with the U.S Environmental Protection Agency's Waste Reduction Model (WARM), the on-site reuse of materials is treated as a form of source reduction for scoring purposes. All materials that are reused on campus are automatically recognized in scoring for Part 1 and Part 2 of this credit. To avoid double counting, reuse therefore does not also contribute to scoring for Part 3 as waste diversion.

Figures needed to determine total waste generated (and diverted):

	Performance Year	Baseline Year
Materials recycled	10001 *Tons*	1570 *Tons*
Materials composted	9285 *Tons*	4410 *Tons*
Materials donated or re-sold	1854 *Tons*	2000 *Tons*
Materials disposed through post-recycling residual conversion	249 *Tons*	0 *Tons*
Materials disposed in a solid waste landfill or incinerator	5619 *Tons*	7102 *Tons*
Total waste generated	27008 *Tons*	15082 *Tons*

A brief description of the residual conversion facility, including affirmation that materials are sorted prior to conversion to recover recyclables and compostable materials:

Anaerobic digester. Food waste from kitchens is source separated in put through a pulper prior to being digested.

Start and end dates of the performance year and baseline year (or three-year periods):

	Start Date	End Date
Performance Year	July 1, 2017	June 30, 2018
Baseline Year	July 1, 2009	June 30, 2010

A brief description of when and why the waste generation baseline was adopted (e.g. in sustainability plans and policies or in the context of other reporting obligations):

Baseline year was established along with the energy baseline for the energy transition plan as well as a baseline for the first reporting year of STARS.

Figures needed to determine "Weighted Campus Users":

	Performance Year	Baseline Year
Number of students resident on-site	15429	15305
Number of employees resident on-site	236	0

	Performance Year	Baseline Year
Number of other individuals resident on-site and/or staffed hospital beds	447	0
Total full-time equivalent student enrollment	45677	45149
Full-time equivalent of employees (staff + faculty)	12063	11061
Full-time equivalent of students enrolled exclusively in distance education	900	0
Weighted campus users	46993.25	45983.75

Total waste generated per weighted campus user:

	Performance Year	Baseline Year
Total waste generated per weighted campus user	0.57 *Tons*	0.33 *Tons*

Percentage reduction in total waste generated per weighted campus user from baseline:
0

Percentage of materials diverted from the landfill or incinerator by recycling, composting, donating or re-selling, performance year:
78.27

Percentage of materials diverted from the landfill or incinerator (including up to 10 percent attributable to post-recycling residual conversion):
79.20

In the waste figures reported above, has the institution recycled, composted, donated and/or re-sold the following materials?:

	Yes or No
Paper, plastics, glass, metals, and other recyclable containers	Yes
Food	Yes
Cooking oil	Yes
Plant materials	Yes
Animal bedding	Yes
White goods (i.e. appliances)	Yes
Laboratory equipment	Yes
Furniture	Yes
Residence hall move-in/move-out waste	Yes
Scrap metal	Yes

	Yes or No
Pallets	Yes
Tires	No
Other (please specify below)	Yes

A brief description of other materials the institution has recycled, composted, donated and/or re-sold:

Textiles, books, polystyrene, office supplies, lab supplies, basketball flooring, exercise equipment and sporting goods, anything with a cord or battery, mattresses, carpet, ink and toner cartridges, other assorted reusable items.

Materials intended for disposal but subsequently recovered and reused on campus, performance year (e.g. materials that are actively diverted from the landfill or incinerator and refurbished/repurposed) :

Does the institution use single stream recycling (a single container for commingled recyclables) to collect standard recyclables (i.e. paper, plastic, glass, metals) in common areas?:
No

Does the institution use dual stream (two separate containers for recyclables, e.g. one for paper and another for plastic, glass, and metals) to collect standard recyclables (i.e. paper, plastic, glass, metals) in common areas?:
No

Does the institution use multi-stream recycling (multiple containers that further separate different types of materials) to collect standard recyclables (i.e. paper, plastic, glass, metals) in common areas?:
Yes

Average contamination rate for the institution's recycling program (percentage, 0-100):
1

A brief description of any recycling quality control mechanisms employed, e.g. efforts to minimize contamination and/or monitor the discard rates of the materials recovery facilities and mills to which materials are diverted:

We sort materials in our own MRF and measure discards/contamination. Regular feedback solicited from brokers and mills.

A brief description of the institution's waste-related behavior change initiatives, e.g. initiatives to shift individual attitudes and practices such as signage and competitions:

Container signs, tabeling events, Recyclemania and a vigorous social media presence with over 20,000 followers across all accounts.

A brief description of the institution's waste audits and other initiatives to assess its materials management efforts and identify areas for improvement:

Bin level audits. Reults are shared via social media. Dumpster audits are done in our MRF and generally include class participation.

A brief description of the institution's procurement policies designed to prevent waste (e.g. by minimizing packaging and purchasing in bulk):

As a best practice, when negotiating an agreement or contract, MSU Purchasing requests that the packaging be made of sustainable materials; recyclable; and reusable.

A brief description of the institution's surplus department or formal office supplies exchange program that facilitates reuse of materials:

Surplus Store open 5 days per week. Budget Booster newsletter sent to campus departments promoting reuse. Vigorous social media presence.

A brief description of the institution's platforms to encourage peer-to-peer exchange and reuse (e.g. of electronics, furnishings, books and other goods):

Internal department mailings managed by specific colleges.

A brief description of the institution's limits on paper and ink consumption (e.g. restricting free printing and/or mandating doubled-sided printing in libraries and computer labs):

MSU does not offer free printing. Standard rates are published and students/staff access printing through the print account. Single sided printing is allowed but is priced significantly higher to deter this form of printing.

https://tech.msu.edu/technology/printing/

. Print profiles of each user provide cumulative impacts of printing, i.e. percent of trees; grams of C02, and hours running a 60 W light bulb as a part of the education component.

A brief description of the institution's initiatives to make materials (e.g. course catalogs, course schedules, and directories) available online by default rather than printing them:

MSU does not print course catalogs. MSU provides online searchable course catalogs, course schedules, course descriptions; degree navigators, reports and additional services as well as information online for the students

A brief description of the institution's program to reduce residence hall move-in/move-out waste:

MSU's move-in/move out program is called Pack-up Pitch in. A description of the program is provided to all incoming residents in their "Move In Guide". A copy of the 2018-Move-In-Guide is included as additional information. For more than 20 years, Pack Up.Pitch In. has aided in the collection of move-in materials such as cardboard, plastic, paper, and glass. For Move-Out in between break and for end of year, residents are notified through psters; postcards, bin signs, through their eco-reps and through their resident assistants. During Move-Out, additional items are collected: non perishable foods are collected at the Service Centers; personal care; household/.electronics; dining hall dishes and clothing/shoes. Usable Furniture is arranged for pickup; household electronics are also collected.

A brief description of the institution's programs or initiatives to recover and reuse other materials intended for disposal:

"Vigorous Surplus program, free pickup, dumpster audits. Waste, recycling and surplus activities are comprehensive and under one budget.

recycle.msu.edu

"

The website URL where information about the programs or initiatives is available:
http://msusurplusstore.com/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

"
msusurplusstore.com
;
recycle.msu.edu
; reg.msu.edu; .

MSU uses actual weights and that we've looked at yard-to-pound conversion factors recommended by the EPA and that when applied in reverse to our data, our recycling rate increases 10%. The number for trash sent to the landfill reported in 2011 was solid. We've decreased that by 20%, which is notable given our growth in FTE'e and square footage. While overall the total of waste has increased, it is a reflection increased accuracy in tracking all materials rather than an actual increase. Pounds of recycling has certainly increased. The number for last year was more accurate due to adding scales to the trucks that collect that material. "

Construction and Demolition Waste Diversion

Score	Responsible Party
	Kris Jolley
0.96 / 1.00	Director
	MSU Recycling and Surplus Store

Criteria

Institution diverts non-hazardous construction and demolition waste from the landfill and/or incinerator.

Soil and organic debris from excavating or clearing the site do not count for this credit.

"---" *indicates that no data was submitted for this field*

Construction and demolition materials recycled, donated, or otherwise recovered during the most recent year for which data is available within the previous three years:
39126 *Tons*

Construction and demolition materials landfilled or incinerated during the most recent year for which data is available within the previous three years:
1723 *Tons*

Percentage of construction and demolition materials diverted from the landfill or incinerator through recycling, donation and/or other forms of recovery:
95.78

A brief description of programs, policies, infrastructure investments, outreach efforts, and/or other factors that contributed to the diversion rate for construction and demolition waste:

MSU Construction Standards require contractors to reuse or recycle 50 percent by weight of total waste generated. See

http://www.eas.msu.edu

web site. LEED Submittal: LEED letter template for Credit 2, signed by Contractor,

tabulating total waste material, quantities and weight (tons) diverted and means by which it is diverted, and statement that requirements for the credit have been met.

Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licenses to accept them. Include manifests, weight tickets, receipts, and invoices."

The website URL where information about the programs or initiatives is available: http://msusurplusstore.com/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

http://www.eas.msu.edu

Hazardous Waste Management

Score	Responsible Party
	Brain Watts
1.00 / 1.00	Service Manager V
	IPF Motor Pool

Criteria

Part 1

Institution has strategies in place to safely dispose of all hazardous, special (e.g. coal ash), universal, and non-regulated chemical waste and seeks to minimize the presence of these materials on campus.

Part 2

Institution has a program in place to recycle, reuse, and/or refurbish electronic waste generated by the institution and/or its students. Institution ensures that the electronic waste is recycled responsibly by using a recycler certified under the e-Stewards[®] and/or Responsible Recycling (R2) standards.

"---" *indicates that no data was submitted for this field*

Does the institution have strategies in place to safely dispose of all hazardous, special

(e.g. coal ash), universal, and non-regulated chemical waste and seek to minimize the presence of these materials on campus?:
Yes

A brief description of steps taken to reduce hazardous, special (e.g. coal ash), universal, and non-regulated chemical waste:

MSU utilizes various economically feasible minimization methods for different waste streams. Activities include: consolidation of smaller wastes into drums to reduce the bulk of materials produced; elementary neutralization of corrosive materials; segregation of non-RCRA materials into separate waste streams; return of discarded commercial chemical products to serviceable use on main campus where use is as originally intended by the manufacturer. These processes are detailed in the Waste Disposal Guide [

https://ehs.msu.edu/policy-guide.html].

For universal waste, the materials are collected and sorted then sent to a recycler. Implementation of the The Energy Transition Plan has provided strategic guidance to reducing wastes requiring disposal.

MSU has strategies, processes, policies and training in place to minimize the presence of these materials on campus. In addition, less consumption is promoted and alternative solutions suggested to reduce the overall use of materials. MSU has eliminated the burning of coal as of 2016; eliminating a number of key wastes such as coal ash.

A brief description of how the institution safely disposes of hazardous, universal, and non-regulated chemical waste:

All hazardous and non-regulated chemical waste produced on campus or on off-site research stations is transported to MSU's regulated Waste Storage Facility in vehicles that are licensed by the Michigan Department of Environmental Quality. All containers of waste are properly labeled by the generator with the identity of the waste- this information is compared with the color and consistency of the waste to ensure label accuracy. trained hazardous waste professionals consolidate compatible wastes into 55-gal drums and the drums are then picked up by qualified vendor at regular intervals.

https://whs.msu.edu/policy_guide.html

A brief description of any significant hazardous material release incidents during the previous three years, including volume, impact and response/remediation:

None

A brief description of any inventory system employed by the institution to facilitate the reuse or redistribution of laboratory chemicals:

Each laboratory on campus is required to keep an up-to-date accurate chemical inventory as a part of managing their laboratory chemicals. It includes the amt.; location; date and responsible person for all acquisitions, syntheses and disposal for the chemicals. Once a lab manager files a form for disposal of chemicals, it is collected by hazardous waste professionals and determined whether it is in a reusable condition. They may then offer the chemicals to other researchers in the same building or store them at the Waste Storage Facility for future reuse before removing them as waste. Researchers are also encouraged through training to purchase smaller quanitities of chemicals when possible to avoid excess waste quantities.he

Does the institution have or participate in a program to responsibly recycle, reuse, and/or refurbish electronic waste generated by the institution?:
Yes

Does the institution have or participate in a program to responsibly recycle, reuse, and/or refurbish electronic waste generated by students?:
Yes

A brief description of the electronic waste recycling program(s), including information about how electronic waste generated by the institution and/or students is recycled:

MSU's sustainable management of electronics waste has several components as illustrated in the infographic uploaded as supplemental materials. the Computer Division of MSU Surplus manages all of the university e-waste. the main goals are diverting waste from landfills & ensuring the security of personal information and data. All electronic waste is processed through the MSU Surplus Store operations. Items that cannot be resold or reused are recycled through a vendor. MSU recycled approximately 260,000 pounds of e-waste in 2016. and over 4,080,138 gigabytes of data cleaned and destroyed. As a new innovation, MSU recognized the need for a Technology Leading Program to reduce the amount of technology purchased for shorter, finite periods of time. University departments can lead items such as desktops, laptops, and iPads for either short term or long term use. It offers university departments these electronics for less than half the price of third party technology leasing programs.

Is the institution's electronic waste recycler certified under the e-Stewards and/or Responsible Recycling (R2) standards?:
Yes

Electronic waste recycled or otherwise diverted from the landfill or incinerator during the most recent year for which data is available during the previous three years:

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Data source(s) and notes about the submission:

Hazardous Waste: Brian Smith [
smithb97@ehs.msu.edu
] Electronic Waste: Tim Heckaman
heckama5@msu.edu

Water

Points Claimed 3.83

Points Available 8.00

This subcategory seeks to recognize institutions that are conserving water, making efforts to protect water quality and treating water as a resource rather than a waste product. Pumping, delivering, and treating water is a major driver of energy consumption, so institutions can help reduce energy use and the greenhouse gas emissions associated with energy generation by conserving water. Likewise, conservation, water recycling and reuse, and effective rainwater management practices are important in maintaining and protecting finite groundwater supplies. Water conservation and effective rainwater and wastewater management also reduce the need for effluent discharge into local surface water supplies, which helps improve the health of local water ecosystems.

From the institution:

A key action that has contributed to the reduction of water and significant costs savings was the installation of a reverse osmosis process for the power plant. The change resulted in a payback of just a few weeks, over $350,000 in savings and reduced the correlated water usage for that process by 10 %. IN addition, the university is working to ensure a balanced and sustainable approach to water consumption on the MSU campus. An interdisciplinary water team works together assessing water use; and efforts to improve the efficiency and reduction of use through conservation efforts. Drip irrigation systems target plant's root systems. Replacement of high-water-use fixtures with more lower-use fixtures MSU also has in place a WellHead Protection Program that is updated regularly; it received an exemplary awarded by the Mi Section of the American Water Works Association.

Credit   **Points**

1.83 / 6.00

This credit is weighted more heavily for institutions located in areas of water stress and scarcity and less heavily for institutions in areas with relative water abundance. The points available for this credit are determined by the level of "Physical Risk QUANTITY" for the institution's main campus,, as indicated by the World Resources Institute's [Aqueduct Water Risk Atlas](#) and detailed in the following table:

[Water Use](#)	Physical Risk QUANTITY	Points Available For Each Part	Total Available Points For This Credit
	Low and Low to Medium Risk	1⅓	4
	Medium to High Risk	1⅔	5
	High and Extremely High Risk	2	6

[Close](#)

[Rainwater Management](#)   2.00 / 2.00

Water Use

Score   **Responsible Party**

1.83 / 6.00

This credit is weighted more heavily for institutions located in areas of water stress and scarcity and less heavily for institutions in areas with relative water abundance. The points available for this credit are determined by the level of "Physical Risk QUANTITY" for the institution's main campus,, as indicated by the World Resources Institute's [Aqueduct Water Risk Atlas](#) and detailed in the following table:

Mike Tracy
Water Systems Engineer
Infrastructure and Planning Facilities

Physical Risk QUANTITY	Points Available For Each Part	Total Available Points For This Credit
Low and Low to Medium Risk	1⅓	4
Medium to High Risk	1⅔	5
High and Extremely High Risk	2	6

[Close](#)

Criteria

Part 1

Institution has reduced its potable water use per weighted campus user compared to a baseline.

Part 2

Institution has reduced its potable water use per gross square foot/metre of floor area compared to a baseline.

Part 3

Institution has reduced its total water use (potable + non-potable) per acre/hectare of vegetated grounds compared to a baseline.

"---" *indicates that no data was submitted for this field*

Level of "Physical Risk QUANTITY" for the institution's main campus as indicated by the World Resources Institute's Aqueduct Water Risk Atlas:
High

Total water use (potable and non-potable combined):

	Performance Year	Baseline Year
Total water use	1349991000 *Gallons*	1512502216 *Gallons*

Potable water use:

	Performance Year	Baseline Year
Potable water use	1277243000.08 *Gallons*	1420254980 *Gallons*

Start and end dates of the performance year and baseline year (or three-year periods):

	Start Date	End Date
Performance Year	July 1, 2017	June 30, 2018
Baseline Year	July 1, 2009	June 30, 2010

A brief description of when and why the water use baseline was adopted:

water use baseline was adopted for 2009-2010 consistent with the energy baselines in alignment with the development of the 2011 energy plan.

Figures needed to determine "Weighted Campus Users":

	Performance Year	Baseline Year
Number of students resident on-site	15429	15305
Number of employees resident on-site	236	0
Number of other individuals resident on-site and/or staffed hospital beds	447	0
Total full-time equivalent student enrollment	45677	45149
Full-time equivalent of employees (staff + faculty)	12063	11061
Full-time equivalent of students enrolled exclusively in distance education	900	0
Weighted campus users	46993.25	45983.75

Potable water use per weighted campus user:

	Performance Year	Baseline Year
Potable water use per weighted campus user	27179.29 *Gallons*	30886.02 *Gallons*

Percentage reduction in potable water use per weighted campus user from baseline: 12.00

Gross floor area of building space:

	Performance Year	Baseline Year
Gross floor area	24233934 *Gross Square Feet*	22803227 *Gross Square Feet*

Potable water use per unit of floor area:

	Performance Year	Baseline Year
Potable water use per unit of floor area	52.70 *Gallons / GSF*	62.28 *Gallons / GSF*

Percentage reduction in potable water use per unit of floor area from baseline:
15.38

Does the institution wish to pursue Part 3 of this credit? (reductions in total water use per acre/hectare of vegetated grounds):
Yes

Area of vegetated grounds:

	Performance Year	Baseline Year
Vegetated grounds	1272.98 *Acres*	2000 *Acres*

Total water use (potable + non-potable) per unit of vegetated grounds:

	Performance Year	Baseline Year
Total water use per unit of vegetated grounds	1060496.63 *Gallons / Acre*	756251.11 *Gallons / Acre*

Percentage reduction in total water use per unit of vegetated grounds from baseline:
0

A brief description of the institution's water-related behavior change initiatives, e.g. initiatives to shift individual attitudes and practices such as signage and competitions:

see 2017 Water Quality Report produced by Infrastructure and Planning. Several pages are devoted to ways that behavior can make a difference in water usage. In addition, Residential and Hospitality Services includes water conservation measures in their education and awareness to new and returning students.

A brief description of the institution's water recovery and reuse initiatives:

The MSU Surplus and Recycling facility includes a rain water collection system that will be utilized for toilets and a recycling bin wash down system once the State of Michigan plumbing inspector has approved the installation.Housing facilities have been in the process of upgrading to real time water meters with data available on the web site

. In addition, the university also has some buildings that contain green roofs and serve as a water recovery measure.

A brief description of the institution's initiatives to replace plumbing fixtures, fittings, appliances, equipment, and systems with water-efficient alternatives (e.g. building retrofits):

As a part of the 10 year building recommissioning program, low water fixtures were incorporated wherever they could be given the architecture of the older buildings. MSU continues to look for opportunities to reduce high water use fixtures and processes.

The website URL where information about the programs or initiatives is available: http://ipf.msu.edu/green/water/conservation.html

Additional documentation to support the submission: op_22 water conservation _ Residential and Hospitality Services.pdf

Data source(s) and notes about the submission:

The water consumption calculation methodology was reviewed and consistent methodology used to calculate baseline year and performance year for total and potable water. Several key building projects have impacted water usage including the opening of the 1855 building and apartment complex, updates to the Breslin Center and the Spartan Stadium.

Rainwater Management

Score	Responsible Party
	Amy Butler
2.00 / 2.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution uses green infrastructure and low impact development (LID) practices to help mitigate stormwater run-off impacts and treat rainwater as a resource rather than as a waste product.

Policies adopted by entities of which the institution is part (e.g. state/provincial government or the university system) may count for this credit as long as the policies apply to and are followed by the institution.

Which of the following best describes the institution's approach to rainwater management?:
Comprehensive policies, plans or guidelines that require LID practices for all new projects

A brief description of the institution's green infrastructure and LID practices:

MSU is a partner in the Great Lakes Regional Committee that is a guiding body of for the region to collaborate on the three identified urbanized watersheds: the Grand River; the Red Cedar River and the Looking Glass River Watersheds. The stomrwater management report details the work of this team and the role that the university serves on this committee. Stormwater is addressed on a regional and watershed basis for the best results in preserving the resources. MSU has produced a Stormwater Management Program (SWMP) and provides biennial NPDES water quality reports. The SWMP addresses both storm water quantity and quality, and includes a Public Education Plan, Illicit Discharge Elimination Plan, Post Construction Stormwater Controls for areas of new development and redevelopment, Construction Site Stormwater Runoff Control and Pollution Prevention, and Good Housekeeping for Municipal Operations. The program is currently being implemented by a team of staff members representing several MSU service units and departments. As part of this effort, Stormwater Design Standards are being followed for all new development projects. The standards focus on LID practices for stormwater management. MSU highlights its green infrastructure also through a walking tour and incorporating the measures as a part of the learning living laboratory.

The storm water management report details the work of this team and the role that the university serves on this committee. Storm water is addressed on a regional and watershed basis for the best results in preserving the resources. MSU has produced a Stormwater Management Program (SWMP) and provides biennial NPDES water quality reports. The SWMP addresses both storm water quantity and quality, and includes a Public Education Plan, Illicit Discharge Elimination Plan, Post Construction Stormwater Controls for areas of new development and redevelopment, Construction Site Stormwater Runoff Control and Pollution Prevention, and Good Housekeeping for Municipal Operations. The program is currently being implemented by a team of staff members representing several MSU service units and departments. As part of this effort, Stormwater Design Standards are being followed for all new development projects. The standards focus on LID practices for storm water management. MSU highlights its green infrastructure also through a walking tour and incorporating the measures as a part of the learning living laboratory.

A copy of the institution's rainwater management policy, plan, and/or guidelines:
op_23 water report compiled.pdf

A brief description of the institution's rainwater management policy, plan, and/or guidelines that supports the responses above:

"MSU STORM WATER MANAGEMENT PROGRAM
The MSU Storm Water Management Program and select appendices are available for download below. If you have questions or comments on MSU's Stormwater Management Plan, please contact Thomas Grover with the Office of Environmental Health and Safety at

grovert@msu.edu

.

MSU Storm Water Management Plan, Revised 2014
MSU Storm Water Permit, 2015

Appendix 1 – GLRC Action Plan with MSU Commitments
Appendix 2 – MSU Storm Water Management Roles and Responsibilities – Revised 2016
Appendix 3 – MSU Regulated Area
Appendix 4 – MSU Discharge Database and Outfall Maps
Appendix 5 – MSU Illicit Discharge SOP
Appendix 6 – MDEQ Post Construction Approval Letter
Appendix 7 – MSU Storm Water Design Standards 2014
Appendix 8 – Campus Watershed Districts
Appendix 9 – MSU Storm Water BMPs Map
Appendix 10 – Storm Water Controls Database
Appendix 11 – SWPPP Transportation Services
Appendix 12 – SWPPP Surplus Store and Recycling
Appendix 13 – MSU SWPPP Golf Course 2014
Appendix 14 – Catch Basin Cleaning Schedule
Appendix 15 – Catch Basin and Separator Cleaning Procedures

http://msu-water.msu.edu/msu-stormwater-management-program/

http://msu-water.msu.edu/what-is-storm-water/managing-storm-water-on-the-msu-campus/

"

http://msu-water.msu.edu/wp-content/uploads/2019/02/2018-GLRC-Annual-Report_Digital_Final-1-31-

19_Compressed.pdf

The website URL where information about the programs or initiatives is available:
http://www.msu-water.msu.edu/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

"
http://ipf.msu.edu/green/water/protection.html
;
http://msu-water.msu.edu/stormwater-walking-tour/
;
http://wwA
walking tour guide of MSU's Sustainable Stormwater Management systems on campus is available at
http://msu-water.msu.edu/stormwater-walking-tour/
.

Also see
http://ipf.msu.edu/green/water/protection.html.w.hrt.msu.edu/greenroof/
; "

Planning & Administration

Coordination & Planning

Points Claimed   5.50
Points Available 8.00

This subcategory seeks to recognize colleges and universities that are institutionalizing sustainability by dedicating resources to sustainability coordination, developing plans to move toward sustainability, and engaging students, staff and faculty in governance. Staff and other resources help an institution organize, implement, and publicize sustainability initiatives. These resources provide the infrastructure that fosters sustainability within an institution. Sustainability planning affords an institution the opportunity to clarify its vision of a sustainable future, establish priorities and help guide budgeting and decision making. Strategic planning and internal stakeholder engagement in governance are important steps in making sustainability a campus priority and may help advocates implement changes to achieve sustainability goals.

From the institution:

MSU has hired a Director of Sustainability and Program Coordinator in the EVP of Administration to provide the overall coordination of sustainability throughout the university and with external partners. This will both expand and heighten the emphasis on Moving Forward with the vision of embedding sustainability into the fabric of the university using the focus of campus, community, curriculum, and culture. MSU also completed their five year review of progress forward on the Energy Transition Plan, producing a corresponding Sustainability Report. It noted many significant accomplishments towards it's sustainable energy goals and identified a forward strategy

for advancing sustainability at the university. http://ipf.msu.edu/_files/pdfs/etp-five-year-review-aug-2017.pdf

Credit	Points
Sustainability Coordination	1.00 / 1.00
Sustainability Planning	2.75 / 4.00
Participatory Governance	1.75 / 3.00

Sustainability Coordination

Score	Responsible Party
1.00 / 1.00	**Amy Butler** Campus Sustainability Director MSU Sustainability

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Criteria

Institution has at least one sustainability committee, office, and/or officer tasked by the administration or governing body to advise on and implement policies and programs related to sustainability on campus. The committee, office, and/or officer focuses on sustainability broadly (i.e. not just one sustainability issue, such as climate change) and covers the entire institution.

An institution that has multiple committees, offices and/or staff with responsibility for subsets of the institution (e.g. schools or departments) may earn points for this credit if it has a mechanism for broad sustainability coordination for the entire campus (e.g. a coordinating committee or the equivalent). A committee, office, and/or officer that focuses on one aspect of sustainability (e.g. an energy efficiency committee) or has jurisdiction over only a part of the institution (e.g. "Academic Affairs Sustainability Taskforce") does not count toward scoring in the absence of institution-wide coordination.

"---" *indicates that no data was submitted for this field*

Does the institution have at least one sustainability committee?:
Yes

The charter or mission statement of the committee(s) or a brief description of each committee's purview and activities:

"Given this report covers the previous three years, the committees that have moved the progress forward are recognized here. In addition, as a part of the ""Moving Forward"" strategy; some membership has changed and representations expanded. The Moving Forward structure is intentionally decentralized, utilizing the advisory committee, the office of sustainability, and then key sustainability relations managers throughout the university. The new overarching advisory group for the university strategy is the Sustainable Systems Steering Group (S3G). It hosts

several cross divisional teams including: energy, mobility, academics, organics, food waste, purchasing, and STARS team. The mission of the S3G is to embed sustainable practices at all levels in the university, focused in the four C's Campus Curriculum, Community, and Culture. The S3G also serves as the university communication body for developing the message, and leading strategic planning in future sustainability goals, and identifying key metrics to monitor progress. At the next tier, sustainability teams are spearheaded by the Sustainability Relationship Manager within their divisions. These individuals are champions within their divisions and work to update divisional policies, train new employees in sustainability, and continuously help their division adapt and grow in this area. The sustainability department under the Infrastructure, Planning and Facilities unit has a full-time sustainability officer who works with the IPF green teams, and with the business leadership to strategically implement their goals. They were successful in collecting and publishing MSU's annual sustainability report, and piloting innovative energy conservation programs such as Green League, the Spartan Treasure Hunt, and the Energy Incentive Program. The sustainability relationship manager in Residential and Hospitality Services is responsible for waste reduction progress in the last three years, attends staff orientation and educations new employees in sustainability, spearheads waste reduction programs such as dining hall composting and Pack-Up Pitch In every semester, assists in conducting sustainability marketing and communications, leads projects with students, and many other duties besides. The Surplus Store and Recycling Center Sustainability Relationship Manager works to educate the entire team at that location on sustainability, as well work through all campus recycling, surplus store resale and production, composting, upcycling, and waste audits and sustainability student education.

The Sustainability Student Group (S2G) is comprised of three student leaders in sustainability on Campus, with two representatives from prominent sustainability Registered Student Organizations and one sustainability employee in the Association Students of MSU (the university's student government). These students meet regularly with MSU sustainability to discuss student projects and needs, and the students submit post-event summaries of sustainability events to the Office of Sustainability to aide in documenting their efforts and progress. These three students speak on behalf of the students, and their valuable and heard voices help MSU Sustainability push forward pressing issues related to students and sustainability forward. "

Members of each committee, including affiliations and role (e.g. staff, student, or faculty):

"Committees include: the Systems Steering Group (S3G) as listed below. The overarching committee is the Sustainable Systems Steering Group (S3G). There are several Members of the previous serving Systems Team for Sustainability that will continue to serve and join the new members of theS3G including Staff, Faculty, and students.
Adam Zwickle, Professor, Criminal Justice, College of Agriculture and Natural Resources
Ben Darling, Land Management
Sherri Jett, IPF Director of Utilities
Carla Iansiti, RHS Sustainability

Diana Twede, Packaging
Diane Barker, RHS Sustainability
Jan Beecher, Institute for Public Utilities
representative Business College
Kris Jolley, Surplus & Recycling
Joan Rose, Professor, College of Agriculture and Natural Resources
Laurie Thorp, RISE/Community Sustainability
representative, Environmental Health & Safety
representative, Student
representative, University Services
Ron Rosenberg, Engineering
Dave Smith, Surplus and Recycling
Ruth Kline -Robach, Institute for Water Research
Satish Joshi, Agriculture, Food and Resource Economics
Stephanie White,Faculty, Community Sustainability
Gabrielle Whopi, Student, ASMSU
Steve Safferman, Biosystems Engineering
Steve Troost, Campus Planning
representative, Supply Chain
representative, Electrical and Computer Engineering
Tom Hult, Eli Broad College of Business
Jim Lucas, undergraduate education
representative 1, Athletics
representative 2, Athletics
Student Sustainability Group (S2G):
Annalisa Rocca,, Student
Holly Pummel, Student
Gabrielle Wihongi, Student

Energy Transition Operations Committee:
Diane Barker, Sustainability Officer, Residential and Hospitality Services
Dave Byelich, Assistant Vice President, Office of Planning and Budgets
Sherri Jett, Director of Utilities, Infrastructure Planning and Facilities
Amy Butler, Director of Sustainability
Ron Flinn, Vice President for Strategic Infrastructure Planning and Facilities,
Infrastructure Planning and Facilities
Mark Haas, Vice President for Finance and Treasurer, Administrative Services
Carla Iansiti, Culinary Services Sustainability Officer, Residential and Hospitality
Services
Barb Kranz, Assistant Director for Facilities Planning and Space Management,
Office of Planning and Budgets
Bill Lakos, Energy Analyst, Infrastructure Planning and Facilities
Bill Latta, Assistant Vice President for Operations, Administrative Services
Bob Nestle, University Engineer, Infrastructure Planning and Facilities
Vince Schimizzi, University Management Analyst, Office of Planning and Budgets
Nate Verhanovitz, Performance Engineer, Infrastructure Planning and Facilities
representative Communications Manager, Infrastructure Planning and Facilities
Mobility Committee Athletics Committee Organics Committee Food Waste
Committee Purchasing Committee "

Does the institution have at least one sustainability office that includes more than 1 full-time equivalent (FTE) employee?:
Yes

A brief description of each sustainability office:

MSU has established a sustainability office in the EVP of Administration to provide the overall coordination of sustainability throughout the university and with external partners. The office is responsible for the strategic application and integration of sustainability across the institution, including divisions and colleges. In the last four years, the office convened a Systems Team for Sustainability - comprised of students, faculty, and staff - with the goal of improving sustainability for energy, water, supply chain (purchasing, waste, recycling, reuse), and food. Numerous research grants for faculty and students were awarded through this committee. An ad hoc Energy Transition Steering Committee was also convened to create a long-range energy plan for the university. The committee completed its activities in April 2012, however responsibility for implementation of the plan continues with an Energy Operations Committee.

Full-time equivalent (FTE) of people employed in the sustainability office(s):
2

Does the institution have at least one sustainability officer?:
Yes

Name and title of each sustainability officer:
Director of Sustainability, Amy A Butler, Office of Sustainability. Chief Sustainability Officer for IPF, Ann Erhardt, Chief Sustainability Officer for RHS, Carla Iansiti, Director of the Surplus Store and Recycling Center, Kris Jolley

Does the institution have a mechanism for broad sustainability coordination for the entire institution (e.g. a campus-wide committee or an officer/office responsible for the entire campus)?:
Yes

A brief description of the activities and substantive accomplishments of the institution-wide coordinating body or officer during the previous three years:

"The Director has established the Sustainable Systems Steering Group (S3G). It is multi functional and represents the various departments and divisions across the university. It has met quarterly, but will be moving to monthly. Meetings conducted center around needs and issues that arise divisionally and universally, and discussion leads to solutions for such issues. Each division has its own unique set of skills to bring to the group, but MSU's strategy long-term for sustainability is demonstrated through it's array of sustainability positions scattered throughout the university. Sustainability is imbedded ubiquitously in the framework of the institution, which creates a decentralized sustainability structure that works independently in each division. The S3G creates the opportunity for those divisions to come together to solve problems and innovate practical and efficient solutions

divisionally and university-wide.
Energy Operations Committee: Using the goals and strategies in the Energy Transition Plan, the Energy Operations Team develops specific recommendations for achieving Energy Transition Plan goals, and presents them to the university's senior leaders and Board of Trustees to approve for implementation. "

Job title of the sustainability officer position:
Campus Sustainability Director

Job description for the sustainability officer position:

Job description for the sustainability officer position:

"The MSU Campus Sustainability director reports to the Associate Vice President for Administrative Services. The Director carries out the following responsibilities:
• Long-term planning and strategic visioning
Facilitates long-term planning and visioning for sustainability goals for the university based on input from strategic internal and external partners, keeping abreast of intrinsic and extrinsic influences that affect sustainability on campus.
• Develop and enhance strategic partnerships
Develops and enhances strategic partnerships on and off campus among researchers, operations staff, students, organizations, businesses, and peer institutions.
• Sustainability Research
Facilitates the Sustainability Systems Group and Registered Student Organizations research and sustainability pilot projects. Works with core operations and academic personnel to prioritize environmental issues, identify research areas, select research proposals, and implement research-based recommendations. The director will also be responsible for tracking the data infrastructure for this process.
• Unit management and planning
Responsible for providing unit level planning for the office including budget, employment needs, and prioritization of projects and initiatives.
• Measuring, reporting, and benchmarking campus sustainability efforts
Collects and analyzes data to measure and report the long term impact of campus sustainability programs and initiatives.
• Secures alternative funding
Works with university partners such as University Advancement, Physical Plant, and academic units; and external partners to identify development and grant opportunities for sustainability"

Job title of the sustainability officer position (2nd position):
Sustainability Officer, Residential and Hospitality Services

Job description for the sustainability officer position (2nd position):

Job description for the sustainability officer position (2nd position):

"RHS Sustainability is committed to connecting sustainability, operations, education and research by continuing to be a living laboratory for faculty, staff and students at MSU. RHS works collaboratively with faculty, staff and students to improve our practices while partnering with research and academic programs. [upload: Teams/worksheets/PA Planning and Administration/PA1/RHS Sustainability Responsibilities and Achievements_FINAL"

Job title of the sustainability officer position (3rd position):
Sustainability Program Coordinator

Job description for the sustainability officer position (3rd position):

Job description for the sustainability officer position (3rd position):

The Sustainability Program Coordinator (Administrative Business Analyst) is a critical team member of the MSU Sustainability Program. Specific job duties and responsibilities include: designs reports, compiles and analyzes information in order to produce metrics to analyze progress in University sustainability programs and practices, assists in the development of reporting; serves as a sustainability program liaison communicating with faculty, staff, and external partners engaged in activities to relative sustainable practices; utilizes various tools for communication and outreach; and other duties as assigned to carry out the mission of Michigan State University.

The website URL where information about the programs or initiatives is available:
https://sustainability.msu.edu/

Additional documentation to support the submission:
PA1_RHS Sustainability Responsibilities & Achievements_FINAL.docx

Data source(s) and notes about the submission:

MSU Sustainability has six positions: Director, Project Coordinator, Communications Manager, two Energy Educators, and Administrative Assistant. We are a department under the unit Infrastructure Planning and Facilities.

Residential and Hospitality Services has its own sustainability office to address specific goals for housing, residence education, and auxiliary facilities. They work closely with MSU Sustainability to ensure that goals are coordinated.

Additional websites for information:

http://sustainability.msu.edu

http://energytransition.msu.edu

Sustainability Planning

Score   **Responsible Party**

         Amy Butler

2.75 / 4.00 Campus Sustainability Director

         MSU Sustainability

Criteria

Institution has published one or more written plans that include measurable sustainability objectives addressing one or more of the following areas:

- Curriculum
- Research
- Campus Engagement
- Public Engagement
- Air & Climate
- Buildings
- Energy
- Food & Dining
- Grounds
- Purchasing
- Transportation
- Waste
- Water
- Diversity & Affordability
- Investment & Finance
- Wellbeing & Work
- Other (e.g. arts and culture or technology)

The criteria may be met by any combination of published plans, for example:

- Strategic plan or equivalent guiding document
- Campus master plan or physical campus plan
- Sustainability plan
- Climate action plan
- Human resources strategic plan
- Diversity plan

For institutions that are a part of a larger system, plans developed at the system level are eligible for this credit.

"---" *indicates that no data was submitted for this field*

Does the institution have a published strategic plan or equivalent guiding document that includes sustainability at a high level? :

Yes

A brief description of how the institution's strategic plan or equivalent guiding document addresses sustainability:

> "MSU's strategic plan, Bolder by Design, is the next evolution of it's previous strategic plan, Boldness by Design. In the plan, we continue the core imperatives - Enhance the Student Experience, Increase Research Opportunities, Expand International Reach, Enhance Community, Economic, and Family Life, and Strengthen Stewardship - and adding a sixth imperative, Foster a Culture of High Performance.
>
> Sustainability is addressed in the Strengthen Stewardship imperative, including specific strategies for fulfillment of the Energy Transition plan, establishing a water conservation strategy, setting more aggressive waste reduction goals and campus engagement.
>
> The Energy Transition Plan (ETP) Reaffirmation of Intent outlines MSU's sustainability goals in relation to campus mobility, renewable energy and greenhouse gas reduction, and campus research integration. The ETP clearly define's MSU's goal to reach 100% renewable energy dependance with no specified date, instead outlining key steps that will take us there. These steps are detailed as objectives: Stakeholder engagement, investment in energy technologies that have a five year (or less) payback, embed sustainability in the campus fabric, and advance sustainability in infrastructure. Please see attached for further details. "

A copy of the strategic plan:
PA2_Fiveyr Rev ETP FINAL.pdf

The website URL where the strategic plan is publicly available:

Does the institution have a published sustainability plan (apart from what is reported above)? :
No

A copy of the sustainability plan:

The website URL where the sustainability plan is publicly available:

Does the institution have a published climate action plan (apart from what is reported above)? :
Yes

A copy of the climate action plan:
PA2_Fiveyr Rev ETP FINAL.pdf

The website URL where the climate action plan is publicly available:

Does the institution have other published plans that address sustainability or include measurable sustainability objectives (e.g. campus master plan, physical campus plan, diversity plan, human resources plan)? :
Yes

A list of other published plans that address sustainability, including public website URLs (if available):

MSU Mobility Plan;http://www.adminsv.msu.edu/mobility/Mobility%20Report%20-%20final2.pdf Energy Transition Plan:

http://ipf.msu.edu/_files/pdfs/energy-transition-plan.pdf

Master Plan:

http://ipf.msu.edu/_files/pdfs/campus-master-plan-2017.pdf

Tree Management Plan: MSU Stormwater Management Plan:

http://msu-water.msu.edu/wp-content/uploads/2015/06/MSU-SWMP-2013-with-2014-Updates_V2.pdf

2017 Sustainability Report:

http://ipf.msu.edu/_files/pdfs/etp-five-year-review-aug-2017.pdf

also Division Strategic Plans (IPF, RHS) and some Colleges and Schools are embedding sustainability as a part of their organization objectives. for example, School of Planning, Design, and Construction just voted to include sustainability as a key part of the school's focus.

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Curriculum?:
No

A list or sample of the measurable sustainability objectives that address Curriculum and the published plans in which each objective is included:

The Graduate School at MSU has developed a strategic plan for 2019-2024. Published in 2018, this plan states its measurable goals during that timeframe for curriculum:

- By 2019, build on our developing network with Wayne State University and seven historically black college and universities (HBCUs) to submit a proposal for the NSF's Alliance of Graduate Education and the Professoriate (AGEP) program.

- Establish five new 3+2 joint bachelors-masters programs between MSU departments and pattern MSIs.

- Conduct a data-based program review every 3-5 years of each graduate program and collaborate with units to develop and support their strategic directions.

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Research?:
No

A list or sample of the measurable sustainability objectives that address Research and the published plans in which each objective is included:

The College of Engineering published a five-year strategic plan in 2016 and committed to several objectives in the area of sustainability within research for the college. These objectives include increasing the number of endowed chairs in the college by at least ten and paired with that increase will be a mentoring program to properly induct new faculty into their positions and integrate them into their departments smoothly. Additionally, the College of Engineering pledges to increase its average research expenditures for tenure-system faculty member to over $400,000annum. The College of Engineering supports sustainability research (see research inventory in AC9), with significant support for autonomous vehicles and sustainability technology.

MSU' s College of Social Science 2017 Strategic Plan identifies Research excellence as a goal area in the plan" "Our scholars engage in sustained research excellence that demonstrates though leadership. We will increase national and international recognition for top-tier and impactful research that addresses societal changes." This commitment also pledges to increase faculty research productivity by 50% and support 3-5 thematic areas of research that advance the College's ability to address societal issues.

MSU's Global Impact initiative (GI2) was launched in 2014, and its published commitment is to hire 100 new research faculty before 2020 with a focus in key areas of research. Many aspects of the target areas interface with sustainability. This initiative has made tremendous progress; MSU has hired over 70 new faculty whose work is in exciting and innovative areas, such as genomics, engineering, nutrition, medicine, and other areas.

https://vp.research.msu.edu/global-impact

The Sustainable Michigan Endowed Project (SMEP) was established by an endowment from the W.K. Kellogg Foundation in 2003 "to serve as a catalyst and convener of interdisciplinary dialogue and research around existing and emerging sustainability topics." In 2016 SMEP began a new effort called the SMEP Scholars Program. The Scholars Program seeks to develop the next generation of sustainability scholars at MSU through an intentional, interdisciplinary community of practice including the Scholars and SMEP Executive Committee faculty members. This program is currently requesting nominations for its' third cohort, 2019-2020. It is a funding opportunity for incoming Ph.D. students at Michigan State University.

The ESPP program provides additional funding support to engage scholars in research related to sustainable issues. Doctoral Recruiting Fellowship. The Environmental Science and Policy Program (ESPP) offers one-year Doctoral Recruiting Fellowships for students who will matriculate during the fall semester. The goal of these fellowships is to attract the strongest possible cohort of students to pursue doctoral education focused on the environment at MSU. Students MUST be nominated by their intended home department. Students may not apply directly for these fellowships but should work with their intended home department to prepare their application materials.

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Campus Engagement?:
No

A list or sample of the measurable sustainability objectives that address Campus Engagement and the published plans in which each objective is included:

MSU's Pack Up. Pitch In. Campaign has been an ongoing move-out landfill diversion initative since 1996. This effort has increased each year, as has its outreach to student and engagement with them. In 2015, the Residence Education and Housing Services (REHS) Marketing and Communication Plan states its goals for the program as the following: Support "Pack Up. Pitch In." campaign communications to residents. Focus times include move in, move out and semester break. Create promotional material for neighborhood engagement events. These efforts increased across campus, and the program recently celebrated 20 years of active engagement on campus. Spring of 2017, the marker for the 20th year of the program, was the most successful move-out collection of surplus clothing, food,

personal care items and household items yet. More than 900 pounds of personal care items and more than 4,000 pounds of nonperishable food were collected.

https://rhs.msu.edu/news/pack-pitch-celebrates-20-years

The ultimate vision for this program and for further engagement on campus for the 2013-2023 period are the following:

Vision: Ensuring MSU's long-term sustainability through innovative and balanced strategies that support: Stewardship, Fiscal responsibility, Partnership

Mission: Dedication to promoting and advancing environmental stewardship throughout RHS and MSU by providing a high level of leadership to meet the environmental stewardship goals of MSU and RHS. 1. Energy conservation strategies 2. Water conservation strategies 3. Food waste strategies 4. Sustainable procurement strategies 5. Connecting sustainability, education and research 6. Materials diversion and reuse 7. Social responsibility. See attached for further information on these goals. These goals are backed by engagement initiatives from the Residential and Hospitality Division (RHS), Such as Clean Plates at State, a weekly waste diversion engagement tool, wherein staff and volunteers attend one lunch and dinner at a campus dining hall and weigh the waste of all patrons who frequent that hall for that meal hour. This engagement has increased awareness of food waste, drawn attention to trayless dining options, and helped to reduce food waste on campus. In fall of 2018, 516,818 lbs. were wasted, compared to 535,072 in fall of 2017. Less food wasted a semester later, along with detailed data on waste throughout halls since 2012 (see attached), demonstrates the effectiveness of engagement throughout campus in sustainability.

MSU's engagement with the campus through its website and social media efforts can be noted through the increase in interaction on such platforms during the Go Green Campaign, which concluded in 2017. This engagement resulted in a 50% outreach increase in 2015, which jumped to a 50.4% increase in engagement in the last three months of the campaign in 2017 (See attached). Such online engagement demonstrates the outreach efforts across campus to interact with its students, staff, and faculty to build a lasting sustainability plan to carry the university forward.

Residence Education and Housing Services (REHS) works to engage the students of MSU on a daily basis, and it is they who have the responsibility of directly engaging students in campus living and dining. The Residence Education and Housing Services 2018-2019 Marketing and Communication Plan outlines the university's goals for such engagement through student interaction and awareness. The Plan outlines objectives in marketing, and these objectives are part of the larger strategy of engaging students across campus:

Goal 1: Increase awareness of our offerings and engagement with students, families, staff and members of the MSU community in order to increase brand loyalty and retention in on-campus housing. This goal increases efficiency of residence hall energy consumption and works to build the culture of the residence halls on campus.

Objectives:

- Secure 95% occupancy at University Village.

- Secure 95% occupancy for family housing, apartments and townhouses at 1855 Place.

- Increase retention rate of rising sophomore students to on-campus housing to for 2019.20.

- Increase retention rate of international students to on-campus housing for 2019-20.

- Establish a baseline for measuring traffic to the new Live On website.

- Establish a baseline for measuring engagement across all social media platforms.

Goal 2: Increase the frequency of messages regarding resources to on-campus residents and families in order to promote the academic success of on-campus residents. This goal aims to provide resources to on-campus residence, including access to affordable food, cultural areas on campus (study areas, the LGBTQ and International Centers), and others across campus.

Objectives:

- Increase ratings for Student Learning and Development in the On-Campus Resident Survey in the following areas by: Feel connected to MSU; Be academically successful

- Increase in ratings regarding academic success between Move-in Survey and On-Campus Resident Survey.

For the full report, please see attached: PA2-Transport, Campus EN, Grounds

The Student Organic Farm (SOF) is actively working to recruit volunteers, and the SOF has collaborated with faculty and student to develop strategies to do so. Among these efforts was a published strategy by one of the farm managers: Marketing and Retention Strategies to Attract and Keep Great Farm Workers.

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Public Engagement?:
Yes

A list or sample of the measurable sustainability objectives that address Public Engagement and the published plans in which each objective is included:

"The Energy Transition Plan was approved by the Michigan State University Board of Trustees in April 2012. The Plan has 3 goals - 1. Improve the Physical Environment; 2. Invest in Sustainable Energy Research and Development; and 3. Become and Educational Leader in Sustainable Energy.
In addition MSU Campus Sustainability focuses on external outreach for overall sustainability in its own strategic plan which includes an annual ""conversation with the President"" event inviting community stakeholders to engage with the

energy/sustainability discussion on campus, sustainability recognition gala for community stakeholders, hosting various nationally coordinated engagement programs such as Power Dialog, etc.

The third goal of the Energy Transition Plan speaks to public engagement specifically. Strategies include: Educate stakeholders about MSU's longstanding commitment to and ongoing research in sustainable energy and Share MSU's energy transition process and lessons learned from it.

The MSU Campus Sustainability's strategic plan addressing public engagement includes the following strategy: Create a toolkit for community partners and peers (case studies, data, how to create Surplus/Recycling/Sustainability Program)"

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Air & Climate?:
Yes

A list or sample of the measurable sustainability objectives that address Air & Climate and the published plans in which each objective is included:

"The Energy Transition Plan was approved by the Michigan State University Board of Trustees in April 2012. The Plan has 3 goals - 1. Improve the Physical Environment; 2. Invest in Sustainable Energy Research and Development; and 3. Become and Educational Leader in Sustainable Energy

Under the goal, Improve the Physical Environment, the campus goals are to reduce greenhouse gas emissions by 30 percent by 2015, 45 percent by 2020, 55 percent by 2025, and 65 percent by 2030. Strategies include energy conservation at the central power plant and in buildings, implementing a smart growth strategy, implementing more aggressive building energy standards, fuel switching, green power purchases, implementing renewable technology, and utilizing carbon offsets."

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Buildings?:
Yes

A list or sample of the measurable sustainability objectives that address Buildings and the published plans in which each objective is included:

"The Energy Transition Plan was approved by the Michigan State University Board of Trustees in April 2012. The Plan has 3 goals - 1. Improve the Physical Environment; 2. Invest in Sustainable Energy Research and Development; and 3. Become and Educational Leader in Sustainable Energy

In addition, MSU has committed to the DOE Better Buildings Challenge which MSU is working toward a 20% reduction in energy demand (EUI) in 20 million square feet of built space by 2020.

http://ipf.msu.edu/green/energy/building-efficiency/better-buildings-challenge.html

Energy policy - The heating, ventilation and cooling (HVAC) systems across campus are scheduled to run at specific times to attain occupant comfort while avoiding waste.

MSU tracks energy consumption in individual buildings. The university is reducing its energy consumption as part of its commitment to the Better Buildings Challenge, which can be read about on the Building efficiency page. The information below tells how the university regulates and monitors power usage.

Specific strategies in the plan related to buildings include: implement a smart growth strategy to minimize the amount of new square footage added to the campus, create a system that connects energy, space costs, and incentives to the end users, and implement more aggressive building energy standards.

See Campus Master Plan

http://ipf.msu.edu/resources/campus-master-plan/index.html

http://ipf.msu.edu/green/energy/consumption.html

"

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Energy?:
Yes

A list or sample of the measurable sustainability objectives that address Energy and the published plans in which each objective is included:

"The Energy Transition Plan was approved by the Michigan State University Board of Trustees in April 2012. The Plan has 3 goals - 1. Improve the Physical Environment; 2. Invest in Sustainable Energy Research and Development; and 3. Become and Educational Leader in Sustainable Energy.

MSU also has a Master Utility Plan for the campus which includes planning for power plant infrastructure, future of energy generation on campus, and meeting demand in a sustainable manner. This is a long range plan.

Under the goal, Improve the Physical Environment, the campus goals are to increase the campus' renewable energy to 15 percent by 2015, 20 percent by 2020, 25 percent by 2025, and 40 percent by 2030. Strategies include energy conservation at the central power plant and in buildings, implementing a smart growth strategy, implementing more aggressive building energy standards, fuel switching, green power purchases, implementing renewable technology, and utilizing carbon offsets."

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Food & Dining?:
Yes

A list or sample of the measurable sustainability objectives that address Food & Dining and the published plans in which each objective is included:

"Residential and Hospitality Services (RHS) includes operations of residence halls, dining facilities, food procurement, hotel, golf course, tennis, entertainment and other auxiliary services. RHS's sustainability visioning statement is, ""Ensuring MSU's long-term sustainability through innovative and balanced strategies that support stewardship, fiscal responsibility and partnership.""

RHS Strategic Plan includes a section on Sustainability and has recently added three imperatives for Residential Education to expand student engagement with sustainability in housing.

RHS lists strategies for energy conservation and water conservation, food wast reduction, sustainable procurement, material diversion, social responsibility, and connecting sustainability education and research.

The following is an excerpt from the RHS Sustainability Plan.

Food Waste Strategies
- Assist with closing the food loop and be cognizant of how food waste ties into energy
- Support efforts to reduce food waste, reduce food cost, review portion control, increase education and other tactics
- Review cost impacts of controlling food waste
- Implement and monitor trayless dining at Shaw and Yakeley; encourage trayless in other venues

Sustainable Procurement Strategies
- Increase local/regional purchasing strategies when fiscally able and available
- Know where our food and other products come from and how they are manufactured
- Track what our vendors do related to sustainability and recognize impacts, track and monitor
- Be knowledgeable of sustainable certifications and standards such as LEED, Forest Stewardship Council, Marine Stewardship, Certified Organic, Energy Star, Water Sense, etc. "

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Grounds?:
Yes

A list or sample of the measurable sustainability objectives that address Grounds and the published plans in which each objective is included:

Campus Master Plan - Land Use, Zoning, and Transportation Sustainability and the Tree Management Plan work interactively together. The Tree Management Plan sets the goals for increasing the percentage of the tree canopy throughout the university. The other key goal that is measured is 100 % of the waste from those trees that are removed are recycled, reused, and repurposed into the MSU Shadows program or utilized through the campus mulching program.

http://ipf.msu.edu/resources/campus-master-plan/index.html

Michigan State University is known for its beautiful campus. It is even one of the aspects touted on the president's website. The Landscape Services department balances the university's operational and aesthetic missions while using environmentally-friendly practices in grounds care and upkeep.

Trees are one of the most valuable natural energy-savers on campus. Shading reduces cooling costs. They act as windbreaks, which reduces heating costs. Trees also reduce heat islands that occur over hard surfaces in urban environments. Since trees are such a valuable resource, MSU takes special means to protect trees in construction areas and tailgate zones. In some instances, trees have been relocated to accommodate for a new building while preserving the tree. A technique called air spading allows the entire root system to be exposed without damage, the correct planting depth and root flare to be identified and the tree to continue to flourish after transplant.

Preventing "cowpaths," protecting trees - Certain areas of the MSU campus are marked with infamous "cowpaths" of pedestrians that choose to take a shorter walk across green space than stick to installed sidewalks. Sidewalk placement follows these natural walking trails when possible. However, in areas with extensive tree root systems that weave underground, concrete cannot be used or the roots would be suffocated. As an alternate solution, rubber sidewalk was installed. The implementation was successful.

Academic mission - In the greenhouse near Bailey Hall, chefs that work for Residential and Hospitality Services grow herbs that are then used directly in campus cooking, reducing the costs and fuel use of transportation and packaging. Students intern within the greenhouse and work with the chef as part of their academic programs.

- Water conservation measurements and tracking of water use per operation

The university is committed to a comprehensive and continuous land use planning process with a framework that guides future decision making. The guiding principles are general principles, land use and facilities, environmental sustainability, open space, parking, circulation, and utility infrastructure. The university utilitizes several key plans that work interactively to preserve the campus for present and future uses. They are the Land Use Master Plan, the Tree Management Plan, the Stormwater Management Plan, the Construction Standards for new builds and major retrofits; and the Manual of Business Processes and outcomes are reported in division reports, I.e. IPF Annual report:

. Campus Beautification Plan:

"

The land use management plan creates the overarching principles:

Arrange campus buildings, open space, circulation and utility systems to:

– establish positive interactions among academic, research, outreach, cultural, and operational activities;

– protect and strengthen the campus as a living-learning resource integral to the University's mission;

– protect and enhance campus beauty;

– enhance environmental stewardship;

– minimize energy impacts and increase/retain energy efficiencies; and

– optimize safety and facilitate risk management.

The Campus Land Use Master Plan carries the campus into the next ten years of its land use cultivation and practices. In its measurable objectives for the campus, the plan states two key strategies for reducing its impact on the Red Cedar River: "First, the removal/relocation of Parking Ramp #2 (Auditorium Road) will convert a sizeable amount of land back to its function as floodplain. Second, the removal and relocation of approximately 1,000 surface parking spaces in the Central Academic District will remove an existing land use that has negative impacts both in terms of storm water quantity and quality." In addition, the plan organizes the campus into logical districts of compatible land uses. Variances would have to be requested to implement uses outside of the zoning. Areas deemed sensitive to development are zoned under the University Zoning Ordinance. Among the metrics measured are - % green space preserved; actual variances requested and/or granted; and the continuation of protection of designated open spaces and % tree canopy.

A key principle is to implement development to encourage social interaction and vitality and to encourage collaboration with interdisciplinary connections. The central park area of campus was fitted with new, bright colored, outdoor furniture to encourage interaction. Then interactions and enjoyment were assessed through an experiential learning opportunity. This Plan is revised and republished every 6 years, and that timeframe is used as a framework in the strategies stated within the plan. The footprint of buildings is maintained for existing, demolition, and proposed building sq. ft. And the percent of utilization.

. An example of how the master plan and construction measures are utilized in new building design is the Eli Broad College of Business sustainable building strategy with their pavillion construction.

https://broad.msu.edu/news/pavilions-sustainable-building-strategy/

. The college partnered with the MSU Shadows Program, which salvages trees that have been removed from campus from storm damage or construction to repurpose the trees, to create commemorative coasters for attendees of the groundbreaking ceremony.

Tree Canopy – Maintaining the tree diversity and woody plant diversity for the campus. As the nation's pioneering Land Grant institution, MSU takes great pride in its landscape cultivation and conservation. The Campus Tree Management Plan states is strategy for holistic tree preservation, removal, and planting across the East Lansing campus. The Tree Plan works to maintain MSU's high standards of a park-like campus and does so with its arborist and IPF teams. MSU's efforts have manifested in the university receiving a Tree Campus USA designation. This means MSU has the required 5 annual standards: 1) A Campus Tree Advisory Committee; 2) A Campus Tree Care Plan; 3) An established Campus Tree Program with Dedicated Annual Expenditures; 4) Arbor Day Observance; and 5) A Service Learning Project. Through these standards, MSU maintains a pristine and well-nurtured campus that is in itself an arboretum. Below are MSU's strategies for maintaining these efforts:

-Maintain maintenance cycle of 5 years for all trees within landscaped areas on campus.

-Develop a tree replacement policy for removals that do not conform to the tree removal guidelines; including but not limited to construction activities and tree ordinance violations.

-Negotiate an event parking plan with the MSU Police Department that protects trees from soil compaction and root injury.

See Attached "PA2-Transport, Campus EN, Grounds" for full report

Stormwater management practices are guided by the stormwater management plan that is implemented in concert with regional partners in a watershed approach. Stormwater management - Several landscaping solutions are used to manage stormwater runoff to naturally cleanse the water and to reduce the risk of flooding. This plan works in conjunction with the master plan and requires that campus land is served to provide future stormwater management to address storm water regulations

MSU's construction standards are the tool that assures new buildings and major retrofits to buildings are done in a sustainable fashion. The standards contain active strategies for campus construction, including timeframe limits to work on campus; the amount of water consumption reduction required; the amount of energy efficiency to be incorporated; how construction waste will be recycled; stormwater management practices; and how trees and woody plants will be protected before, during, and after major construction projects. Contracted work

and construction development are audited carefully by IPF

https://ipf.msu.edu/sites/default/files/2018-08/
CS_TEC_2004_011000_GENERAL_REQUIREMENTS.PDF

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Purchasing?:
Yes

A list or sample of the measurable sustainability objectives that address Purchasing and the published plans in which each objective is included:

MSU is the charter member that worked with the Michigan Food Council and the Food Bank of Michigan to develop the Michigan Good Food Charter. The MSU Center for Regional Food Systems manages the consortium for the Food Charter. There are 6 goals established to advance the vision by 2020. The university has committed to sources 20 % of their food from michigan growers, producers, and processors by 2020. further information on the charter and the consortiuem is

https://canr.msu.edu/michiganfood/

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Taken together, do the plan(s) reported above include measurable sustainability objectives that address Transportation?:
Yes

A list or sample of the measurable sustainability objectives that address Transportation and the published plans in which each objective is included:

Transportation: A list or sample of the measurable sustainability objectives that address transportation and the published plans in which each objective is included. Response reference informal activities, plans, mission/vision statements, etc, rather than measurable objectives from formal, published plans.
MSU's Surplus Store and Recycling Center (SSRC), operated through IPF, is responsible for waste hauling across campus. This solid waste fleet is part of the Recycling Center's Strategic Plan, wherein the SSRC commits to transitioning this fleet to 100% renewable fuels by 2023 (

https://msurecycling.com/strategic-plan/

). This strategy ties into the campus Mobility Action Plan (MAP), which targets transportation across the East Lansing campus. This plan incorporates all aspects of campus mobility, including implementing to increase alternative transportation. The MAP committed to increasing public transportation, specifically the CATA public bus ridership, which has grown by 38 %, with nearly 85 % of students now making decisions of on-campus residence based on available transportation:

Since 2006, MSU's partnership with CATA has involved discussion on incorporating electric busses into the transportation fleet. This idea has become a reality, with MSU's pledge for more electric vehicles on campus and CATA's addition of electric busses to its fleet. In 2016, CATA and MSU introduced seven new hybrid buses to the busses on campus: it has been estimated that these new busses help cut emissions by about 90 percent when compared to traditional models. The IPF campus fleet has pledged to reflect its electric vehicle percentage as above the national average (electric vehicle purchases in the U.S. are below 1%), and through its annual strategic plan it added 28 low-speed electric vehicles to its fleet, and in 2018 it was able to add four full-speed, highway legal vehicles to the 1,500 vehicles on the campus fleet.

Additionally, in 2014 MSU began plans to build a solar carport on campus. This carport plan spanned 5,000 parking spaces on south campus, with a 5% campus electricity contribution rate, and with a completion proposed for the end of the 2017 calendar year. This carport was completed in 2017 and went live in December of that year. In addition to the covered and lit 5,000 parking spaces, paved trails and additional bus stops were planned and added around the lots. These additions contribute to MSU's mobility strategy and help the university to achieve its goals in the last mile traveled. Elaboration on such strategies can be found in the annual IPF reports under the Strategic Planning sections.

In 2011, MSU's IPF Division published a campus plan that laid out plans to expand upon its campus's bike trails and carpooling. Bike trails were planned for installation along the entire Red Cedar River Trail by 2016, and a 3-year pilot car-share program was proposed through a partnership with Zipcar. In 2016, nearly 60% of the MSU River Trail (dedicated bicycle and pedestrian trail) hed been constructed from Harrison Road to Farm Lane, and today more than 68% of campus roads have bike lanes. The campus has six do-it-yourself fix-it stations in the residential neighborhoods and two secure bicycle storage facilities with fix-it stations (Grand River and Communication Arts Garages) and one secure storage facility within the FRIB complex. MSU completed its pilot three-year program with

Zipcar, and a partnership was reached with the company, providing available Zipcars to student and faculty 24/7 on campus (see attached: "pdf Binder-Transport, Campus Eng"). The University has received the Silver Bicycle Friendly University Award from the League of American Bicyclists for its efforts.

Below are plans from the updated 2017 Campus Land Use Master Plan:

The following motorized projects and initiatives are anticipated in the near term (five- to ten-year planning horizon).

-Develop a comprehensive mobility plan that addresses the movement of people to, from, and around campus.

-Extend Wilson Road to Hagadorn Road with the goal of improving safety by reducing traffic within the East Residential District, relocating parking adjacent to Fee Hall, and providing a signalized intersection to aid pedestrians crossing Hagadorn Road.

-Remove Parking Ramp #2 when engineering analysis directs and restore the river floodplain. Address parking replacement consistent with the mobility plan (under development) and planning principles guiding more parking on the campus periphery.

The following non-motorized projects and initiatives are anticipated in the near term (five- to ten-year planning horizon).

Continue to design all roadways as complete streets in accordance with State of Michigan Public Acts 134 and 135 of 2010 wherein all roadways are to be planned and designed to meet the needs of all legal users.

-Continue to meet the needs of persons with disabilities working through the Accessibility Committee that includes IPF, FPSM, RCPD, RHS, and athletics.

-Continue bringing crosswalk pathway ramps up to ADA standards (e.g., maximum slopes, truncated domes).

-Provide infrastructure to support a suite of transportation options that discourage single-occupancy vehicle trips to, from, and around campus (e.g., CATA Clean Commute and Zipcar car-sharing programs) in alignment with the mobility plan.

-Fund and construct the final segments of the MSU River Trail.

-Enhance and expand bicycle parking within the academic and residential districts with a goal to accommodate 30% of the resident population.

https://ipf.msu.edu/sites/default/files/2019-04/Campus%20Land%20Use%20Master%20Plan.pdf

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Waste?:
Yes

A list or sample of the measurable sustainability objectives that address Waste and the published plans in which each objective is included:

Waste: The Response appears to mention measurable objectives but fails to cite the formal plan where they can be found.

The mission of MSU's Recycling Operation is to develop, provide and nurture environmentally, socially and economically sustainable solid waste management

solutions for Michigan State University and the local campus community.
MSU Recycling has implemented a 5 year plan to increase landfill diversion to 70% by 2024.
The Surplus Store and Recycling Center Waste Warrior Plan commits to these numbers through its strategic plan:

https://msurecycling.com/waste-warriors/

and

https://msurecycling.com/strategic-plan/

Current progress is being made in solid waste diversion, as the current milestone for 2014-15 is 63% landfill diversion, with a 60% diversion rate for construction solid waste (

https://ipf.msu.edu/sites/default/files/2018-05/facilities-infrastructure-report-2015-16-compil

ed.pdf

).
Construction waste management through IPF requires each project manager to develop a waste management plan that results in end-of-Project rates for salvage and recycling to be at least 50 or 75% by weight of total waste generated by the work. This commitment is in line with the design plan for IPF building construction; additional sustainability plan requirements for campus construction include: "Select and specify the use of materials with recycled content such that the sum of post-consumer plus one/half of the post-industrial content constitutes at least 20% of the total value of the materials in the project." For further details on the plan, please see links below.

https://ipf.msu.edu/sites/default/files/2019-05/CS_DSG_DESIGN_GUIDELINES_-_GENERAL.pdf

https://ipf.msu.edu/construction/construction-standards/design-guidelines

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Water?:
No

A list or sample of the measurable sustainability objectives that address Water and the published plans in which each objective is included:

The Stormwater Management Plan can be viewed at:

http://msu-water.msu.edu/managing-stormwater-on-the-msu-campus/

http://msu-water.msu.edu/msu-stormwater-management-program/

Wellhead Protection Plan - To protect our groundwater, which is the sole source of drinking water in the Greater Lansing area, MSU has developed a Wellhead Protection Program.http://www.orcbs.msu.edu/environ/programs_guidelines/wellhead/wh_01toc.htm

In addition to providing water for drinking, washing and irrigation needs, MSU takes stewardship a step further by also producing steam in the T.B. Simon Power Plant to make electricity and to heat and cool the campus infrastructure. To learn more about the water plant process, visit the Process page.

Infrastructure Planning and Facilities partners with other MSU organizations to ensure the safest and smartest water use possible. Visit the Protection page to learn about how MSU works to keep water sources clean. Visit the Conservation page to see how campus seeks to reduce water waste.

http://ipf.msu.edu/green/water/conservation.html

Water monitoring is performed regularly. MSU's water meets or exceeds all State of Michigan and EPA standards. Our most recent water quality report details specific information about the water on campus.

http://ipf.msu.edu/green/water/water-quality-report/index.html

MSU Water Quality Report

http://ipf.msu.edu/green/water/water-quality-report/index.html

MSU Sustainability Report

http://sustainability.msu.edu/report/2014

IPF Water Distribution Report

http://ipf.msu.edu/green/water/process.html

MSU has extensive stormwater management plans for its campus and the regional area surrounding it. Strategies and Plans for these management practices are

constantly changing and evolving as MSU expands its infrastructure to accommodate its growing student, staff, and faculty populations. Infrastructure Planning and Facilities is the sole provider for all of campus's water needs. Drawing groundwater from the Saginaw Aquifer, a deep sandstone formation that lies beneath much of central Michigan's Lower Peninsula, the university treats the water to distribute to campus. IPF's water plans incorporate conservation, protection, stormwater run off, quality, distribution, and sustainability of water. MSU's Stormwater Management Plan outlines its strategies for improving stormwater Infrastructure on campus. The Stormwater Committee oversees compliance with MSU's Michigan MS4 General Watershed Permit. The goal of the Municipal Separate Storm Sewer System (MS4) program is to reduce the discharge of pollutants to surface waters of the state. The Stormwater Management Plan encompasses this effort, aligning short and long-term commitments with the goals outlined in the Management Plan. This Plan (linked with the Campus Master Plan) was published in 2012 and stretches to 2020, upon installation of the new filtration plant in that year (see below).

http://msu-water.msu.edu/what-is-storm-water/managing-storm-water-on-the-msu-campus/

Each type of stormwater management practice and each new adjustment or addition on campus has a catered strategic plan that every individual involved in the process must adhere to. All stormwater design on campus must account for 10, 25, and 100 year flood, along with 2 year, 24 hour rainfall events.

file:///C:/Users/spearsm1/Downloads/CS_DSG_DESIGN_GUIDELINES_-_STORMWATER.PDF

MSU is currently working towards improving campus water quality, and this effort began with an infrastructure strategy in 2016. MSU has committed to building a 6 million gallon per day water filter plant (11,500 gross-square-feet) with a 2 million gallon elevated storage, and it has pledged to complete this project by July of 2020. The strategy to improve campus water will result in improvement of certain low levels of contamination found in the 2017 campus water quality study. The project budget consists of $21 million from general funds, including $2.1 million contingency, approved by the Board of Trustees in February of 2018.

https://ipf.msu.edu/sites/default/files/2019-04/MSU_Water_Report_6_26_2018.pdf

Water Consumption: for water rhs plan has some water goals; also we have the water reduction requirements for new buildings and major retrofits per the construction standards.

https://ipf.msu.edu/construction/construction-standards/design-guidelines

arcitechtual design sustainability; buildings leed silver; design requirements; ASHRE 90 is minimum for energy conservation in buildings design. construction waste management requires Develop waste management plan that results in end-of-Project rates for salvage/recycling of 50 (75) percent by weight of total waste generated by the Work.

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Diversity & Affordability?:
Yes

A list or sample of the measurable sustainability objectives that address Diversity & Affordability and the published plans in which each objective is included:

In 2015, MSU's President and its Office of Inclusion and Intercultural Initiatives installed a number of programs, responsive units, and initiatives to increase diversity and affordability at MSU. In 2015, MSU pledged to "[eliminate] barriers that stand in equity's way" at MSU, and by doing so increase graduate rate, diversity of undergraduate, graduate, faculty, and staff at MSU. Several of such efforts were already being worked toward on campus, but in 2015 the University recognized the need increase its efforts, and work to make this pledge a reality began. In 2018, while there is always work to be done and progress to be made, the university can claim progress in all of these areas. Compared to data from 2010, in spring of 2018 the graduation rate increased for most underrepresented groups: "The largest increase is among African American/Black students who saw an 11-percentage point increase. The probation rate for all first-time undergraduate students in the fall 2018 entering cohort is 6.7 percent, which is a decline of 1.8 percentage points from the fall 2010 first-time undergraduate entering cohort." (MSU Diversity and Inclusion Report, 2018).
By 2018, MSU pledged to have a Counseling and Psychiatric Services program available to students 24/7/365, and such a program now exists for call, in-person, and by-texting counseling for students. MSU Pledged to initiate and open an Office of Title IV and Civil Rights by 2018, which opened its doors in the beginning of the 2018 spring semester. Between April of 2018 and December 2018, more than 30,000 students. Faculty, and staff received sexual misconduct prevention training. In 2017 The University pledged to establish a workgroup to target this area and create improvements on campus for the MSU community; this workgroup, since named the Prevention and Outreach Education workgroup, has grown to include a director, associate director and six prevention specialists, each with an area of expertise: "Since its creation, the department has created new opportunities for awareness and dialogue across campus through:
- Expanding faculty and staff training, collaboration and outreach around topics such as understanding the RVSM policy, navigating disclosures and supporting survivors.
- Creating new training to better meet the needs of student-athletes and staff.
- Developing outreach and education for graduate students.
- Updating student orientation materials to place emphasis on self-empowerment, RVSM training requirements and awareness of support services.
- Developing individualized plans to help departments address culture climate issues.
- Enhancing the 'Greeks Take the Lead' fraternity and sorority RVSM prevention

program."

MSU's College of Engineering has included diversity in its strategic plan. Within its plan, Engineering "commits to increasing the percentage of underrepresented minority (URM) and women engineers by five (5) percentage points during the period of this plan [2016-2021]. This will result in an increase of URM students from 8% to 13% and women from 20% to 25%. Particular attention will be paid to increasing URM and women percentage of the graduate student population by 5% as well." For a comprehensive look at further plans and strategies for the College of Engineering, please see attached: " Coll. Engineering 2016-21 Plan"

In regards to relationship violence and bias reporting, in 2016 97% of MSU's student body took online relationship violence and sexual misconduct training. In 2015, MSU hired an outside firm to conduct a report on the university, investigating diversity, bias incident reporting, sexual misconduct and harassment awareness. In 2017 this report was published, which spurred the responses of the university to pledge further support for underrepresented groups through further resources for offices such as the LGBTQ center and the Office of Inclusion and Intercultural Initiatives.

In the fall of 2016, the Residence Education and Housing Services implemented the Residential Learning model within the residence halls. Key learning outcomes have been identified to support our missions of creating an inclusive living environment. Outcomes from this program will include: "By living in our residence halls, Spartans will explore others' identities and by living in our residence halls, Spartans will communicate effectively across difference. By living in our residence halls, Spartans will intervene appropriately in instances of bias and by living in our residence halls, Spartans will create positive social change." In 2016 RHS Employment partnered with the Spartan Project SEARCH, a program that provides Ingham Intermediate School District students with developmental and intellectual disabilities internship opportunities on-campus. It was pledged that ten students would receive support to increase job skills in different areas on campus, and this program has proved successful, with more students supported every year.

In MSU's Infrastructure and Planning Facilities (IPF), the division measures and buildings progress in areas of diversity and affordability by expanding its K-12 Outreach Efforts, its Skilled Trades Apprenticeship Program Development initiative and its Partnership with Women in Skilled Trades Program, which pledged to graduate its first set of women in 2018 (achieving this goal by July of that year).

https://aan.msu.edu/wp-content/uploads/2019/04/Leading-with-Purpose-Courage-and-Vision.pdf

https://ipf.msu.edu/about/news/women-skilled-trades

Additional notes:

https://msutoday.msu.edu/news/2017/msu-report-details-relationship-violence-sexual-misconduct-c

omplaints/

https://msutoday.msu.edu/news/2018/sexual-misconduct-prevention-office-makes-big-impact-in-shor

t-time/

https://msutoday.msu.edu/news/2018/msu-hires-firm-to-help-promptly-investigate-reports-of-sexua

l-assault-harassment/

http://www.inclusion.msu.edu/about/annual-report/2014-15%20Annual%20Diversity%20Report.pdf

http://www.inclusion.msu.edu/about/annual-report/2015-16%20%20Annual%20Diversity%20Report%20Dat

[a.pdf](a.pdf)

http://www.inclusion.msu.edu/about/annual-report/2017-18%20Diversity%20at%20MSU%20Student%20and

%20Workforce%20Report-FINAL-Accessible.pdf

Additionally, MSU takes Affordability seriously. The office of Financial Aid provides many resources to help students plan for their college commitment. The Office of Financial Aid provides access, aid, and advisory services for the MSU Community to facilitate student recruitment, enrollment, and retention at Michigan State University. This is just one piece of the counseling and resources provided.

https://finaid.msu.edu/affordability.asp

Office of Financial Aid measures and assesses student enrollment, retention, academic success, cost of education over lifetime, etc.

Office of the Provost - University Innovation Alliance - a consortium of MSU and ten other major public research institutions, working together to ensure that more low-income and first-generation students are supported in their efforts to earn a college

https://provost.msu.edu/archive/2014/Enhancing-student-success-closing-the-graduation-gap.html

"

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Investment & Finance?:
No

A list or sample of the measurable sustainability objectives that address Investment & Finance and the published plans in which each objective is included:

Unknown

Taken together, do the plan(s) reported above include measurable sustainability objectives that address Wellbeing & Work?:
Yes

A list or sample of the measurable sustainability objectives that address Wellbeing & Work and the published plans in which each objective is included:

"In acheiving a culture of high-performance and excellence, Michigan State University is moving forward with an aggressive plan to create a Healthier Campus. This action report represents an initial effort by an ad hoc task force to sift through the seemingly infinite goals and activities that will move MSU toward this goal and establish a first set of recommended specific actions. The committee acknowledges that this initial prioritization will not create a perfectly Healthy Campus Environment. However, we feel the implementation of these action items will significantly move the needle, a lofty accomplishment in itself.
The Healthy Campus Team began its charge by identifying overarching outcomes to be addressed through implementation of specific activities to move MSU toward becoming a healthier campus for students, faculty and staff. These overarching goals include: (1) Improve health status metrics, (2) Address safety on campus, (3) Create a climate of health engagement/activity, (4) Increase student retention and graduation rates, (5) Incorporate health as a strategic corporate-level goal, (6) Decrease overall healthcare expenditures by MSU, and (7) Address work-life balance.

https://provost.msu.edu/documents/TeamHealthyCampus.pdf

Measuring outcomes of plan: Michigan State University's Board of Trustees has approved a tobacco-free ordinance, a move that will go into effect Aug. 15, 2016

http://tobaccofree.msu.edu

"

Taken together, do the plan(s) reported above include measurable sustainability objectives that address other areas (e.g. arts and culture or technology)?:
No

A list or sample of the measurable sustainability objectives that address other areas and the published plans in which each objective is included:

N/A

Does the institution have a formal statement in support of sustainability endorsed by its governing body (e.g. a mission statement that specifically includes sustainability and is endorsed by the Board of Trustees)? :

The formal statement in support of sustainability:

The institution's definition of sustainability (e.g. as included in a published statement or plan):

Is the institution an endorser or signatory of the following? :

	Yes or No
The Earth Charter	---
The Higher Education Sustainability Initiative (HESI)	---
ISCN-GULF Sustainable Campus Charter	---
Second Nature's Carbon Commitment (formerly known as the ACUPCC), Resilience Commitment, and/or integrated Climate Commitment	---
The Talloires Declaration (TD)	---
UN Global Compact	---
Other multi-dimensional sustainability commitments (please specify below)	---

A brief description of the institution's formal sustainability commitments, including the specific initiatives selected above:

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:
PA2-Transport, Campus EN, Grounds_Qofagsd.pdf

Data source(s) and notes about the submission:

Participatory Governance

Score	Responsible Party
1.75 / 3.00	**Amy Butler** Campus Sustainability Director MSU Sustainability

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Criteria

Part 1

Institution has adopted a framework for engaging internal stakeholders (i.e. students, staff, faculty) in governance. The framework includes:

- Representative bodies through which students, staff and/or faculty can each participate in governance (e.g. student council, staff council, faculty senate);

   And/or

- Elected student, staff and/or faculty representatives on the institution's highest governing body. To count, representatives must be elected by their peers or appointed by a representative student, staff or faculty body or organization.

Part 2

Institution has adopted a framework for engaging external stakeholders (i.e. local community members) in the institution's governance, strategy and operations. The framework includes:

- Written policies and procedures to identify and engage local residents in land use planning, capital investment projects, and other institutional decisions that affect the broader community (e.g. development projects that impact adjacent neighborhoods);

And/or

- Formal participatory or shared governance bodies (e.g. seats on the institution's governing body and/or a formally recognized board, council or committee) through which community members representing the interests of the following stakeholder groups can regularly participate in institutional governance:
  - Local government and/or educational organizations;
  - Private sector organizations; and/or
  - Civil society (e.g. non-governmental organizations and non-profit organizations).

The bodies and mechanisms reported for this credit may be managed by the institution (e.g. formal boards, committees, and councils), by stakeholder groups (e.g. independent committees and organizations that are formally recognized by the institution), or jointly (e.g. union/management structures).

Structures or mechanisms adopted by entities of which the institution is part (e.g. government or university system) may count for this credit as long as they apply and are adhered to by the institution.

"---" *indicates that no data was submitted for this field*

Do the institution's students have a representative body through which they can participate in governance (e.g. a student council)? :
Yes

Do the institution's students have an elected representative on the institution's highest governing body?:
Yes

A brief description of the bodies and mechanisms through which students are engaged in governance, including information to support each affirmative response above:

The MSU Board of Trustees is the highest governing body for the University. The Board of Trustees, elected by the voters of the State and responsible to all of the people of Michigan, exercises the final authority in the government of the University, within the limits fixed by the State Constitution The Board of Trustees is governed by the policies; procedures; and by-laws of the Board.

https://trustees.msu.edu/bylaws/#article7

. Policies 01-01-06 and 01-01-07 govern the faculty and student representation to the Board of Trustees, respectively. The bylaws identify the relationship with the President and with staff. The bylaws refer to the positions as liaisons but require the representatives to be a part of all board activities including; breakfast, pre-meetings, and board meetings. They participate in all board functions. This written requirement establishes the roles that the faculty representatives and the student representatives serve with the board. For further information on both groups, please see below.

Board of Trustees – Student Representation:
There are four student representative positions designated by the bylaws. They are the President of the Council of Graduate Students, the Residence Halls Association President, the President of the Associated Students of MSU (ASMSU), and an At-Large Student Liaison.
Associated Students of MSU (ASMSU) is the student governing body and primary decision-making student body at the university. The General Assembly (the ASMSU legislative body) is made up of elected student representatives from each college, and this body meets twice monthly to pass bills, discuss campus issues, and vote on legislative action. These meetings are open to all members of the public.
"Legislative action from the Assembly on behalf of the undergraduate student body is… carried forward in advocacy to University officials, community leaders, as well as representatives at the State Capitol and Federal level of government."

https://asmsu.msu.edu/divisions/general-assembly/

. The president of ASMSU is elected by the general assembly of ASMSU.
The Council of Graduate Students is the authorized student government on campus representing all graduate/professional students at MSU. Officers are elected by the membership per their constitution.

http://cogs.msu.edu/wp-content/uploads/2017/03/COGS-Constitution.pdf

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Board of Trustees representative.
The Residence Halls Association is the on-campus undergraduate student government RHA is the on-campus undergraduate student government comprised of elected representatives from each hall government, neighborhood caucus, the Council of Racial Ethnic Students (CORES), and the Council of Progressive Students (COPS). RHA brings together student leaders that drive critical dialogue and solutions on a range of campus issues. organization representing the more than 15,000 students who live on campus.

http://rha.msu.edu/about-rha/leadership-board.html

. The Board representatives are elected by the general assembly.

Do the institution's staff members have a representative body through which they can participate in governance (e.g. a staff council)?:
No

Do the institution's non-supervisory staff members have an elected representative on the institution's highest governing body?:
No

A brief description of the bodies and mechanisms through which staff are engaged in governance, including information to support each affirmative response above:

All staff employees at MSU can belong to a union. There are ten different unions total on campus, and if you choose to be a union member you can vote to elect your union representatives and also can run to be a representative.
For more information:

http://www.hr.msu.edu/documents/contracts.htm

No one on the Board of Trustees is allowed to be a paid MSU employee. Board of Trustees – Staff relationships are governed by the by-laws.

Do the institution's teaching and research faculty have a representative body through which they can participate in governance (e.g. a faculty senate)?:
Yes

Do the institution's teaching and research faculty have an elected representative on the institution's highest governing body? :
Yes

A brief description of the bodies and mechanisms through which teaching and research faculty are engaged in governance, including information to support each affirmative response above:

Board of Trustees – Faculty Representation:

https://trustees.msu.edu/meetings/liaisons.html

Five positions are designated as faculty representatives on the Board. Two positions are the Chairperson and Vice Chairperson of the Steering Committee of University Council

https://acadgov.msu.edu/university-council

; one faculty representative from the University Committee on faculty affairs, selected by the committee; and Two additional representatives selected by the Chairperson and Vice Chairperson of the Steering Committee of University Council from the faculty who are members of the Steering Committee of University Council or members of an ad hoc special committee constituted by the Steering Committee of University Council. These individuals should be chosen to provide additional or special insights or counsel to the Board on topics of present interest to the faculty or topics currently being addressed by the Board.

https://acadgov.msu.edu/faculty-senate

Along with other administrative offices, the Office of Academic Governance provides staff support to the the Steering Committee, University Council, Faculty Senate, and the University-Level Standing Committees. The office conducts and

oversees elections for faculty vacancies on Standing Committees, Advisory Consultative Committees, At-Large Faculty Members of the Steering Committee and Other Boards and Committees. See

http://acadgov.msu.edu/

.

Does the institution have written policies and procedures to identify and engage external stakeholders (i.e. local residents) in land use planning, capital investment projects, and other institutional decisions that affect the community?:
No

A copy of the written policies and procedures:

The policies and procedures:

MSU engages the community directly on advisory councils and boards that influence decisions that contribute to or impact the community. Key examples of this are: the MMPC team. The Tree Management Committee and the Stormwater Management Team.

CAMPUS TREE MANAGEMENT PLAN ADMINISTRATION:
Campus Tree Committee:
The MSU Tree Management Committee meets quarterly, providing guidance and input on management plan components, including tree planting, maintenance, and removal procedures. They also provide outreach and education to the community and University
on the value and benefits of campus trees, and help to connect us to the community at large for information exchange, program and service idea sharing, and for
exploring the potential for combined local environmental goals, stewardship policy, etc.

Composition of the MSU Tree Management Committee:
Director of the W.J. Beal Botanic Garden and Campus Arboretum
Campus Arborist
MSU Landscape Architect
Faculty Member (Department of Forestry)
Student Representative
Community Representative

Stormwater Management Plan Committee:
Greater Lansing Regional Committee (GLRC) The Greater Lansing Regional Committee (GLRC) for Stormwater Management is a guiding body comprised of participating communities within the Greater Lansing Region. The committee has been established to guide the implementation of the stormwater programs for the communities within three identified urbanized watersheds: the Grand River, the Red Cedar River and the Looking Glass River watersheds. GLRC Members The participating entities that make up the GLRC are as follows: [Symbol] City of

DeWitt [Symbol] Meridian Charter Township [Symbol] City of East Lansing [Symbol] Oneida Charter Township [Symbol] City of Grand Ledge [Symbol] Michigan State University [Symbol] City of Lansing [Symbol] Lansing Public Schools 2 Amended February 2014 Michigan State University Stormwater Management Program [Symbol] City of Mason [Symbol] Windsor Charter Township [Symbol] Delhi Charter Township [Symbol] Clinton County [Symbol] Delta Charter Township [Symbol] Eaton County [Symbol] DeWitt Charter Township [Symbol] Ingham County [Symbol] Lansing Charter Township Within the GLRC, a number of committees have been established to guide various components of the regional stormwater activities, with others added as needed. MSU plays an active role crafting and implementing GLRC stormwater activities with partnering communities.

. Campus Stormwater Management and MSU Stormwater Committee Stormwater is managed on the MSU campus by a team of faculty, staff and students representing a broad cross-section of the University. Units and Departments that are playing a role in managing stormwater runoff include the Office of Environmental Health and Safety (EHS), IPF Engineering and Architectural Services, IPF Landscape Services, IPF Power and Water, Land Management Office, MSU Athletics, Campus Planning and Administration, Office of Campus Sustainability, Residential and Hospitality Services, Institute of Water Research, MSU Police, Department of Community, Agriculture, Recreation and Resource Studies, Department of Biosystems and Agricultural Engineering, and Department of Horticulture. A summary of roles and responsibilities for campus stormwater management is included as Appendix 2. A Stormwater Committee comprised of a subset of these representatives and chaired by the University Engineer guides the implementation of the SWMP

Mid-Michigan Particle Acceleration Cluster (MMPAC)

In October 2017 the US Dept. of Commerce Economic Development Administration (EDA) awarded Michigan State University Center for Community and Economic Development (CCED) a grant to research and design a strategic plan that will make the industry a cornerstone of the future economic development efforts in the region. In collaboration, the Lansing Economic Area Partnership (LEAP) and the Tri-County Regional Planning Commission (TCRPC) will provide support and serve on the advisory committee for the project. As such, the MSU CCED will be the lead on the study, conducting an in-depth analysis and developing specific guidance for local private sector leaders, economic development professionals, community planners, educators, policy makers and other key stakeholders in the region on actions likely to increase the region's job creation and economic benefits from the unique FRIB investment.

In addition; as plans are developed and submitted for approval by the university governance, the following procedures involve community opportunities for engagement through the Board of Trustees Community Engagement Policy.

https://trustees.msu.edu/meetings/public-participation.html

Land use and university zoning ordinance changes are required to go to the board pursuant to the Campus Master Plan zoning ordinance. Members of the board allocate funds through subcommittees, and members of the board are elected by

the general public of the state of Michigan. In regards to the land use ordinance of MSU: "This ordinance is enacted by the Board of Trustees of Michigan State University pursuant to, and in accordance with, the authority and responsibility of said Board contained in the Constitution of the State of Michigan and Public Acts relating thereto."

https://ipf.msu.edu/construction/campus-master-plan/university-zoning-ordinance

All board meetings are public, and open comment periods are open to the local community at every board meeting. Anyone from the public is allowed to speak on these issues. The Board makes the ultimate decision, but the Board of Trustees is an open body. The bylaws of the Board allow for public testimony and comment on any agenda item, including but not limited to land use planning and investment. Additionally, as a public university, MSU is required to publish all land use plans. Community members are also during the planning process as land use plans are developed; this can occur through sitting on a planning development team, through a public forum, or through other means.

"Meetings of the Board of Trustees are open to the public as provided by law. The Board regards the opportunity for expression of public views on issues before the Board as an important part of its deliberations. To accommodate such expression, the Board reserves a portion of its regular meeting for persons who wish to address the Board. Those wishing to address the Board must submit a Public Speaker Request Form to the Vice President and Secretary to the Board of Trustees in advance of the posted deadline for doing so."

https://trustees.msu.edu/meetings/public-participation.html

https://trustees.msu.edu/policies/Policy-Manual-Updated-2019-04-12.pdf

Committee on Budget and Finance: The responsibilities for the committee consist of managing the university budget, which is publicly funded and supported by the state of Michigan. Specific responsibilities of the committee responsibilities include oversight of the operating and capital budgets of the university, review of policies which have significant financial impact, review of contracts for construction, assurance of debt, management of real estate owned or gifted to the university and any such other matters which the Board finds may have financial or budget implications. The committee also has the roles and responsibilities assigned to it under the Board's Investment Policy 01-07-01 (see link below). The President or the Executive Vice President for Administrative Services may consult with the committee on any matters concerning the administration of the university, including such areas as information technology services, human resources and purchasing and procurement.

Members 2019-2021:
• Melanie Foster, Chair
• Dianne Byrum

- Joel Ferguson
- Dan Kelly

Investment Advisory Subcommittee
The Investment Advisory Subcommittee is a subcommittee of the Committee on Budget and Finance. Membership of the committee will be determined as set forth in the Stipulations for Membership of the Investment Advisory Subcommittee contained in the Stipulations and Supporting Documents section of the Board's Policy Manual. The role and responsibilities of the Investment Advisory Subcommittee are set forth in the Board's Investment Policy 01-07-01 (see link below). Investment at MSU
Members 2019-2021:
- Melanie Foster, Chair
- Dianne Byrum
- Joel Ferguson
- Dan Kelly

Committee on Audit, Risk and Compliance
The committee responsibilities include reviewing the financial reporting processes and audits of financial reporting processes and audits of financial statements, the internal audit program and the review and selection of the independent auditors. The committee provides oversight for university risk management in order to drive accountability across the entire community. The committee may identify threats and risks that need to be subjected to greater scrutiny by appropriate university leaders. The committee will also review reports from the Chief Compliance Officer (COO) and senior leadership regarding priorities, operation and effectiveness of the university's compliance efforts. The chief compliance officer will report on the effectiveness and compliance by the university representatives and employees with both the Code of Conduct and Code of Ethics. The committee will review any violations and failures to comply with federal, state, and local laws, rules and regulations, as well as institutional policies. The committee will oversee compliance with the Board of Trustees Conflict of Interest policy; its role within the university is paramount in keeping MSU accountable with the local and state communities in regards to reporting processes and finance.
Members 2019-2021:
- Dan Kelly, Chair
- Brian Mosallam
- Nancy Schlichting
- Brianna Scott
MSU also hosts the National Charrette Institute and the National Institute for Social Research, which engage the public in open policy forums for research.

https://trustees.msu.edu/policies/Policy-Manual-Updated-2019-04-12.pdf

Does the institution have formal participatory or shared governance bodies through which community members representing the interests of the following stakeholder groups can regularly participate in institutional governance?:

	Yes or No
Local government and/or educational organizations	Yes
Private sector organizations	Yes
Civil society (e.g. NGOs, NPOs)	Yes

A brief description of the bodies and mechanisms through which external stakeholders are engaged in institutional governance (including information about each stakeholder group selected above):

The MSU Board of Trustees consist of eight members who are elected by the voters of the state of Michigan through General Election. This voting system was established in 1908: "In the Constitution of 1908, new sections 7 and 8, relative to the state board of agriculture, had the effect of making the governing body a constitutional board elected by the people instead of a statutory board appointed by the governor." The eight members represent different areas of the state and of Michigan State University. Those on the board who fall within the categories of local government and/or educational organizations, Private sector organizations, and Civil society are listed below, and descriptions of their relationship to those categories are provided.

LOCAL GOVERNMENT AN/OR EDUCATIONAL ORGANIZATIONS:
Melanie Foster was elected to the Board of Trustees in 2004 and again in 2014. Governor John Engler appointed Foster to the MSU Board of Trustees from 1991 to 1992 and to the Central Michigan University Board of Trustees from 1997 to 2004. She is currently chair of the Finance Committee and the Investment Advisory Subcommittee and serves on the board of the MSU Foundation. Foster was raised in the landscape and sod farming business in Flat Rock, Michigan. Foster earned a bachelor's degree in ornamental horticulture from MSU.

PRIVATE SECTOR ORGANIZATIONS:
Joel I. Ferguson was elected to the Board of Trustees in 1986 and has been re-elected three times. Ferguson is the vice chair of Blue Cross Foundation, cofounder of F & S Development Company, and the developer of 14 multi-family residential complexes throughout Michigan. He is the cofounder of Lansing television station WFSL-TV (Channel 47) and the founder of Lansing's WLAJ-TV (Channel 53) television station. He also is the owner and developer of many major office buildings in the Lansing area. One of the original organizers of Capitol National Bank, Ferguson was appointed by President Bill Clinton to the board of directors of the Federal Home Loan Mortgage Corporation (Freddie Mac). A U.S. Marine Corps veteran, Ferguson graduated from MSU in 1965 with a degree in elementary education.

Nancy M. Schlichting retired in 2017 after 14 years as CEO of Henry Ford Health System, based in Detroit. Schlichting has more than 35 years of senior level executive experience in four major health systems and has served on more than 80 corporate and community boards.

CIVIL SOCIETY:
Dianne Byrum was elected to the Board of Trustees in 2008 and again in 2016. Byrum is a partner at Byrum & Fisk Advocacy Communications, a public relations firm she founded in 2006, with offices in East Lansing and Grand Rapids. Before that, she was the Michigan House Democratic Leader, the first woman to lead a

caucus in the state. Byrum was first elected to the Michigan House in 1991, and to the state Senate in 1995, returning to the House in 2002. She served on the Ingham County Board of Commissioners from 1983 to 1990. Byrum has served as codirector of the Michigan Political Leadership Program, an MSU program that trains future public policy leaders. She is a recipient of the Champion of Hope award from the Children's Trust Fund and the Public Official of the Year award from Habitat for Humanity.

Dan Kelly was elected to the Board of Trustees for an eight-year term that began January 1, 2017. Previously, Dan served six years on the Oakland Community College Board of Trustees as both a trustee and the board chair. Additionally, Dan was elected to two, four-year terms on the Independence Township Board of Trustees, where he also served as a member of the Township's Planning Commission. Mr. Kelly is a practicing attorney and member of the Board of Directors of the Troy-based law firm of Giarmarco, Mullins, and Horton, PC, where he serves as chair of the firm's municipal department. With more than 25 years of litigation experience on behalf of municipalities, school districts, and various corporate clients, Dan is frequently asked to speak on the topics of risk management and governmental liability.

As a Financial Advisor and founding partner of Spartan Wealth Management, and by Brian Mosallam's virtue of Mosallam's leadership and philanthropy, he serves on various boards and business organizations, including serving as the co-chair of the Detroit-Wayne County Stadium Authority – the entity that owns Comerica Park and Ford Field.

Brianna T. Scott was elected to the MSU Board of Trustees for an eight-year term that began Jan. 1, 2019. Scott grew up in Muskegon and attended MSU, earning a bachelor's degree in marketing. She earned a law degree from Wayne State University in 2000 and is licensed to practice law in Michigan and New York. Scott was hired as the first African-American assistant prosecutor in Muskegon County. During her final year in the prosecutor's office, she worked on felony criminal sexual conduct and neglect/abuse cases. In 2005, Scott founded the first minority (African-American and female) law firm in Muskegon and now employs a full-time staff of five. Her list of board memberships includes Delta Sigma Theta Sorority, Inc., Access Health, Muskegon Lakeshore Chamber of Commerce, the Boys and Girls Club of the Muskegon Lakeshore and the United Way of the Lakeshore. She is a past president and the first person of color to lead the Muskegon Rotary Club and has acted as chair of its Diversity and Inclusion Committee since 2013.

Kelly Tebay was elected to the Board of Trustees for an eight-year term that began Jan. 1, 2019. Tebay is a director of corporate relations at the United Way for Southeastern Michigan, helping to engage Michiganders with private-sector partners and to raise money in support of social justice and educational work throughout Wayne, Oakland and Macomb counties. She began her career in professional fundraising with work in state government and for a host of state and federal political campaigns. Raised in Shelby Township and Yale, Michigan, Tebay graduated from Yale Public Schools. She enrolled in James Madison College at MSU where she earned a bachelor's degree in international relations with a specialization in Muslim studies. While at MSU, Tebay studied abroad in Egypt, learned Arabic and served as a member of the Madison Academic Diversity Initiative. She went on to earn a master's degree in law enforcement intelligence and analysis with certificates in homeland security and critical thinking, also from MSU.

The website URL where information about the programs or initiatives is available:
https://trustees.msu.edu/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

https://acadgov.msu.edu/sites/default/files/content/Governance%20organization-new_Revised09-05-17.pdf

Diversity & Affordability

Points Claimed 8.71
Points Available 10.00

This subcategory seeks to recognize institutions that are working to advance diversity and affordability on campus. In order to build a sustainable society, diverse groups will need to be able to come together and work collaboratively to address sustainability challenges. Members of racial and ethnic minority groups and immigrant, indigenous and low-income communities tend to suffer disproportionate exposure to environmental problems. This environmental injustice happens as a result of unequal and segregated or isolated communities. To achieve environmental and social justice, society must work to address discrimination and promote equality. The historical legacy and persistence of discrimination based on racial, gender, religious, and other differences makes a proactive approach to promoting a culture of inclusiveness an important component of creating an equitable society. Higher education opens doors to opportunities that can help create a more equitable world, and those doors must be open through affordable programs accessible to all regardless of race, gender, religion, socio-economic status and other differences. In addition, a diverse student body, faculty, and staff provide rich resources for learning and collaboration.

From the institution:

Since 2015, MSU has pushed itself past its own limits to accommodate campus diversity, culture, and employee satisfaction. The university has come to terms with its previous shortcomings, and has risen to the occasion to remedy these. In the last three years, MSU has instituted a new Office for Civil Rights and Title IX, increased its number of counselors twofold, implemented an integrated learning lab on campus, conducted four diversity and inclusion surreys and reports, revamped its employee orientation to cover diversity and inclusion policies more effectively, celebrated 50 successful years of its upward bound program, and was was awarded $4.9 million by the National Science Foundation to support low-income students through scholarships to study STEM and Natural Science at MSU.

Credit	Points
Diversity and Equity Coordination	1.67 / 2.00

[Assessing Diversity and Equity](#)   1.00 / 1.00
[Support for Underrepresented Groups](#) 3.00 / 3.00
[Affordability and Access](#)   3.04 / 4.00

Diversity and Equity Coordination

Score   **Responsible Party**

               Paulette Granberry-Russel
1.67 / 2.00 Director, Inclusion
               Ofc. for Inclusion, Intercultural Initiatives

Criteria

Part 1

Institution has a diversity and equity committee, office and/or officer (or the equivalent) tasked by the administration or governing body to advise on and implement policies, programs, and trainings related to diversity, equity, inclusion and human rights on campus. The committee, office and/or officer may focus on students and/or employees.

Part 2

Institution makes cultural competence trainings and activities available to students, staff, and/or faculty.

The trainings and activities help participants build the awareness, knowledge and skills necessary to work effectively in cross-cultural situations. Trainings and activities that focus exclusively on awareness, knowledge or skills do not count.

"---" *indicates that no data was submitted for this field*

Does the institution have a diversity and equity committee, office, and/or officer tasked to advise on and implement policies, programs, and trainings related to diversity, equity, inclusion and human rights on campus?:
Yes

Does the committee, office and/or officer focus on students, employees, or both?:
Both students and employees

A brief description of the diversity and equity committee, office and/or officer, including purview and activities:

"The Office for Inclusion and Intercultural Initiatives leads and supports efforts to advance a diverse and inclusive campus community, consistent with MSU's core values. The Office's website states its purpose plainly: "" The Office for Inclusion and Intercultural Initiatives serves as a gateway to the many programs and services that promote and support all aspects of diversity and inclusion at MSU."" In addition to providing leadership for university-wide initiatives on inclusive

excellence, the office works with campus and community partners to:
Design and deliver education and training for students, faculty, and staff
Coordinate programs to celebrate the legacy of Martin Luther King Jr. and Cesar E. Chavez
Coordinate grants to promote and enhance diversity and inclusion on campus
Coordinate scholarships for community-involved students
Recognize through awards the efforts of Spartans to support an inclusive campus
Conduct and support research on inclusion-related topics
Monitor faculty and staff recruitment and hiring practices
The Senior Advisor and Director of the Office for Inclusion and Intercultural Initiatives, Paulette Grandberry Russel, strives to create a community on campus that lifts up all individuals and brings the community together. Russell Is a tireless advocate for inclusion and equity, and she works hard to tie the events of the nation and the world into relevance at MSU.
1. MSU opened the Office for Civil Rights and Title IV. The office aims to educate the campus community on discrimination, harassment, and gender-based violence. The office serves as a resource for students to report discrimination, and it office is responsible for conducting investigations of every complaint. Through preventative education, the office will help MSU students and its broader community move forward. The Office of Civil Rights and Title IV desribes it's goal: ""[The Office] is responsible for leadership of MSU's civil rights compliance and efforts to cultivate a campus community that is free of discrimination and harassment."" The vision of the office is to create a ""campus where classrooms, laboratories, and workplaces are free from discrimination, harassment, and all forms of gender-based violence.""

https://civilrights.msu.edu/

2. The Intercultural Education Network (IEN) was created to bring together faculty and staff members whose job responsibilities include designing, coordinating and implementing education and development opportunities relative to diversity and inclusion. The IEN collaboratively examines educational efforts that are intended to support inclusion at MSU and enhance cross-cultural understanding. The expectation of IEN is to enable members to gain awareness of the various educational programming activities offered across the university; evaluate tools designed to measure the effectiveness of intercultural education programs; and to share an understanding of the goals, outcomes and impact of these efforts within the MSU community.

http://ien.inclusion.msu.edu/

3. The Office for Inclusion and Intercultural Initiatives serves as an institutional focal point for promoting inclusion and diversity at Michigan State University. In addition to providing leadership and support for university-wide initiatives on inclusive excellence, a staff of experts work diligently to facilitate and support a campus environment that provides students, faculty, and staff with opportunities for excellence.

http://inclusion.msu.edu

4. The Women's Advisory Committee for Support Staff (WACSS) is an organization that advises the Executive Vice President for Administrative Services about issues that primarily affect women support staff. This group was formerly referred to as WACFO. Committee members represent support staff women from all employee groups across campus and at MSU's off-campus locations in Michigan.

https://adminsv.msu.edu/wacss/

5. MSU's Cultural Engagement Council (CEC), the organizing body behind the Year of Arts and Culture, is composed of leaders of allied cultural units, outreach, and student life. The CEC strives to increase the visibility of campus cultural resources and facilitate expanded MSU cultural engagement among our students and across Michigan, nationally, and internationally. The CEC seeks to build among students and the community a common understanding of the importance of culture through new and innovative partnerships and collaborations; and to enhance teaching and research in all aspects of the study of culture.

http://outreach.msu.edu/people/CEC.aspx

6. Michigan State University's commitment to institutional accessibility and diversity, and to the principle that all people matter, guides ongoing efforts to make the university community one that welcomes the contributions of all its members, including persons with disabilities. The President's Advisory Committee on Disability Issues was established in 1987 to ensure broad institutional input on matters relating to persons with disabilities of all characteristics at MSU. According to its Bylaws the Committee is responsible for advising the President on university policies, programs, and procedures affecting persons with disabilities in the university community.

http://www.inclusion.msu.edu/campus-resources-programs/committee/index.html

Estimated proportion of students that has participated in cultural competence trainings and activities (All, Most, Some, or None):
Most

Estimated proportion of staff (including administrators) that has participated in cultural competence trainings and activities (All, Most, Some, or None):
All

Estimated proportion of faculty that has participated in cultural competence trainings and activities (All, Most, Some, or None):
Some

A brief description of the institution's cultural competence trainings and activities for each of the groups identified above:

"MSU hosts trainings for all staff onboarded at MSU. During the same review period, the declining number of Black/African American tenure system faculty is noted and is an area of concern. New initiatives launched in fall 2016 to support faculty include the efforts of the Academic Advancement Network (

www.aan.msu.edu

) and the Diversity Research Network (

www.inclusion.msu.edu

). Both provide strategic opportunities to thrive in academe, and are intended to increase the retention rate of all faculty, in particular women and faculty of color, at MSU. While those are groups emphasized, MSU's workshops and programs address bias on every level and provide appropriate training on how to overcome and deal with them.
Diversity and Inclusion workshops for faculty, staff, and students:
Introduction to Inclusion: Understanding and identifying stereotyping and labeling; self-identity and understanding.
Introduction to Implicit Bias and Microaggressions: review of implicit bias, interactive workshops, understanding microagressions and how they manifest; learning appropriate reaction.
Building an Inclusive Workplace: offered for all faculty and staff, learning benefits of inclusive workspaces, interacting through team-building and self awareness exercises.
Disrupting Bias in the Academy: Discussion-based session on campus environment and learning how to identify personal biases and how to resolve them.
Racial Literacy: Sessions discussing racial biases, reducing negative stress through engagement/negotiation in racial conflicts.
Preparing for the Next Encounter: Interactive; participants witness or take part in variety of mock encounters, learn how to react and recognize them.
Building an Inclusive Classroom: Learning to create an inclusive classroom by reducing bias, promoting dialogue, and designing curriculum. Reflection-based.
Inclusive Leadership: leadership participation, studying implicit bias, overview of how it influences retention, recruitment, and success of workforce.
Diversifying and Retaining Faculty and Staff: Strategies in retaining diverse faculty/staff and in the search process for new faculty/staff.
Transforming Theatre Ensemble: An interactive theatrical performances on social issues.
E-learning is also provided for all students on the above topics and issues.
The Office for Inclusion and Intercultural Initiatives also hosts two different dialogue series every semester, one for staff and one for students, called MSU Dialogues. Topics are chosen a semester ahead, and the dialogues meet on a regular basis to discuss the topic and work through issues surrounding it. Implicit Bias certifications are also available. All workshops and E-learnings are available for all staff, faculty, and students.
Upon hiring, all MSU employees are required to take a bias and harassment

training module to address the existence of such issues and guide employees in navigating through them with appropriate behavior and responses.

The website URL where information about the programs or initiatives is available: http://www.inclusion.msu.edu/education/diversity-and-inclusion-workshops.html

Additional documentation to support the submission: PA4-2015-16 Annual Diversity Report Data FINAL.pdf

Data source(s) and notes about the submission:

In 2018, MSU opened up a new wing of counseling centers for students. The Hub at MSU also has its own diversity and student support division, and all new employees are presented with health and wellness information during onboarding. Please see the main page of the Office for Inclusion and Intercultural Initiatives for additional information.

Assessing Diversity and Equity

Score   **Responsible Party**
               Paulette Granberry-Russel
1.00 / 1.00 Director, Inclusion
               Ofc. for Inclusion, Intercultural Initiatives

Criteria

Institution has engaged in a structured assessment process during the previous three years to improve diversity, equity, and inclusion on campus. The structured diversity and equity assessment process addresses:

1)   Campus climate by engaging stakeholders to assess the attitudes perceptions and behaviors of faculty, staff, administrators and students, including the experiences of underrepresented groups;

2)   Student outcomes related to diversity, equity and success (e.g. graduation/success and retention rates for underrepresented groups); and/or

3)   Employee outcomes related to diversity and equity (e.g. pay and retention rates for underrepresented groups).

The results of the assessment may be shared with the campus community and/or made publicly available.

An employee satisfaction or engagement survey is not sufficient to meet the campus climate or employee outcome criteria outlined above, but may contribute to the overall structured assessment. Employee satisfaction and engagement surveys are recognized in the *Assessing Employee Satisfaction* credit.

"---" *indicates that no data was submitted for this field*

Has the institution engaged in a structured assessment process during the previous three years to improve diversity, equity and inclusion on campus?:
Yes

A brief description of the assessment process and the framework, scorecard(s) and/or tool(s) used:

"MSU has undertaken a comprehensive and multi-faceted assessment through the Office for Inclusion and Intercultural Initiatives and the Office for Civil Rights and Title IX Education and Compliance. The Office for Inclusion and Intercultural Initiatives produces an annual report on student and workforce diversity data, which can be found at the link below.

http://www.inclusion.msu.edu/about/annual-report/
2016-17%20Diversity%20at%20MSU%20Student%20and

%20Workforce%20Data%20Report_Accessible.pdf

Below is a brief description of each survey of the campus community, conducted as a response to relevant campus cultural concerns about sexual assault, as well as continuous evolving efforts on campus in regards to race, ethnicity, national origin, lanuage, age, disability, sexual orientation, and all other forms in person-to-person differentiation. The surveys described below assess the campus on its stance regarding such issues and the survey results are intended to lead MSU in a more inclusive and responsible direction.
Four campus-wide surveys/reports have been conducted in the last three years.
1. The first was a climate survey for students , published on September 21st, 2015, and was a survey on sexual assault and misconduct. This survey was conducted through a third party, Westat. The survey scorecard and content can be described as follows: Ten sections, A-J, including background (a), perceptions of risk (b), resources (c), harassment (d), stalking (e), sexual violent (g), sexual misconduct prevention training (h), [receptions of responses to reporting (i), and bystander behavior (j). There were a total of 63 questions, and additional survey questions were giving to respondents in a partnered relationship or were victimized. The survey was administered as a web survey.
2. A 2017-2018 joint-report was completed on Michigan State University's policy on relationship violence and sexual misconduct. These reports included focus groups and focused discussions provided by members of the MSU community who voluntarily participated in group discussion sessions in the fall of 2017 and the winter of 2018. The executive summary of this report states the following:
""Although participants throughout the phase 1 and phase 2 reviews offered multiple viewpoints, as we reflect on the entirety of this review, there is one theme relating to MSU's efforts to prevent and respond to sexual misconduct and gender discrimination that resounds from each segment of the MSU community: the MSU community must come together as a single, undivided unit, with a unified message regarding what MSU stands for and how it will live these values.""
3. MSU support staff participated in a work climate survey in June of 2018, conducted internally through the Office for Inclusion and Intercultural Initiatives. 7,000 members of support staff received the survey, and 40% responded. The

survey contained the following sections:
Annual Performance Evaluation/Review
Job Advancement
Diversity, Inclusion, and Relationships
Leadership
Workplace Environment
Sexual Harassment and Sexual Misconduct
Beliefs and Attitudes About MSU
MSU's Culture of High Performance
Satisfaction at MSU
Recruitment and Hiring Process
4. The Office for Inclusion and Intercultural Initiatives holds MSU Dialogues, biweekly discussion groups on challenging topics and brainstorms for solutions. These dialogues survey all participants before and after their experience, which serves to assess those participant's experience in MSU dialogues and their level of learning throughout the process. Dialogues are open to faculty, staff, and students. A pre- and post- summary survey was given to facilitators and participants consisting of 45 questions. The focus groups were based upon a structured guide with goals built in: (1) Increasing personal
awareness about privilege and oppression; (2) Improving intergroup understanding and building relationships across difference; and (3) Exploring ways of working together and strengthen capacity to create social change.
All surveys taken were reviewed and analyzed and some groups sent out post-survey questions as well. All responses were recorded and the data analyzed to discover new and innovative ways MSU could, can, and will change in response to the surveys and the desires of the campus community as a whole. MSU hired new counselors on campus in 2018 as a response to community concerns, and is continuing to create a more robust and inclusive support network.

Does the assessment process address campus climate by engaging stakeholders to assess the attitudes, perceptions and behaviors of faculty, staff, administrators and students, including the experiences of underrepresented groups?:
Yes

Does the assessment process address student outcomes related to diversity, equity and success (e.g. graduation/success and retention rates for underrepresented groups)?:
Yes

Does the assessment process address employee outcomes related to diversity and equity (e.g. pay and retention rates for underrepresented groups)?:
Yes

A brief description of the most recent assessment findings and how the results are used in shaping policy, programs and initiatives:

"1. Based on the results of this and the 2017018 surveys, MSU created the Office for Civil Rights and Title IV in response. MSU Sexual misconduct policy was also updated in 2015 in response to this report. It was found that, of female survivors of non consensual penetration by physical force, 71.9% did not report the incident; the majority of responses stated that those victimized did not consider the incident

serious enough to warrant a report. Other findings include:

13.2% of survey respondents stated they experience non consensual sexual contact involving physical force or incapacitation

Students with disabilities and those identifying as lesbian, gay, bisexual or transgender reported highest incidents or victimization rates among those who responded

79.8% and 71.9% of students are aware of the support and services offered at the Olin Student Health and MSU Counseling Centers, respectively

2. A freshman seminar course was recommended by many focus group participants after the 2017-18 reporting was concluded. During these meetings, a number of key themes were identified from the input we received related to MSU's broader Title IX program:

MSU's Title IX program has gone through a significant evolution in recent years and changes in this area have been positive and welcomed by the campus community; There is a broad sentiment among staff, faculty and the student groups involved in Title IX issues that MSU's Office of Institutional Equity has been infused with a strong team of staff members and a new Title IX Coordinator who actively facilitate community input and participation in the development and improvement of the broader Title IX program; Although there have been substantial changes resulting in an improved Title IX policy and procedures, there is a concern from the faculty, staff and students that skepticism from previous years relating to MSU's Title IX policies and procedures persists and continues to impact the campus community's perception of MSU's Title IX improvement efforts.

3. The work-climate survey done in 2018 for support staff highlighted several areas where MSU is doing well in its workplace climate. Responses positively reviewed work/life balance for employees, supervisor and employee peer respect, and awareness of sexual misconduct or harassment reporting procedures. Areas identified as in need of improvement based on the surveys include: ""establishing fair, clear, and consistently applied procedures for job advancement; engaging staff in the decision-making processes within their units; eliminating sexual misconduct and uncivil behavior; and enacting practices that effectively promote a culture of high performance."" These results are being considered and reviewed, and responses to them are shaped through the Office for Civil Rights and Title IV, as well as managerial and staffing changes.

4. MSU Dialogues provide a space for difficult discussions, and the participants' experiences are logged and assessed. All those involved (participants and facilitators) take a pre- and post-survey, and points from focus groups are also logged. The three main goals for the 2018 Spring MSU Dialogues were successfully met, and 80 individuals participated. There was a 99% level of different for participants between the pre- and post-surveys based on personal awareness, awareness of privilege, openness to learn about oppression, personally recognizing and challenging one's thinking, and belief of exposure to diversity. For more detailed information, please see attached. Moving forward, the Office for Inclusion and Intercultural Initiatives has added a half-time graduate student to the Dialogues leadership team, and two additional units on campus have partnered with the program. Further Dialogues curriculum is based upon feedback from previous sessions, and will be separated into graduate and undergraduate sessions. A new dialogue will be created in partnership wit the Center for Gender in a Global Context, and further partnerships with courses are planned.

Are the results of the most recent structured diversity and equity assessment shared with the campus community?:
Yes

A brief description of how the assessment results are shared with the campus community:

"1. The student climate survey was published through the national survey website, Westat, and was published through Communications and Brand Strategy. The assessment was referenced in the annual diversify report for 2016-2017, and was covered through publications through the campus news MSU Today.

https://cabs.msu.edu/news/key-issues/

2. Phase I and II pf the policy report were published through the Office for Civil Rights and Title IV.

https://civilrights.msu.edu/_assets/documents/

3. Although the work climate survey was not published in its entirety, several key points and results were published through the Office of the Executive Vice President for Administrative Services.

http://adminsv.msu.edu/culture/index.html

4. The Office for Inclusion and Intercultural Initiatives published its results from MSU Dialogues on its main site.

http://www.inclusion.msu.edu/education/intercultural-dialogue1.html

Are the results (or a summary of the results) of the most recent structured diversity and equity assessment publicly posted?:
Yes

The diversity and equity assessment report or summary:
PA5 FINAL.zip

The website URL where the report or summary is publicly posted:

The website URL where information about the programs or initiatives is available:

http://www.inclusion.msu.edu/index.html

Additional documentation to support the submission:

Data source(s) and notes about the submission:

1. The student climate survey was published through the national survey website, Westat, and was published through Communications and Brand Strategy. The assessment was referenced in the annual diversify report for 2016-2017, and was covered through publications through the campus news MSU Today.

https://cabs.msu.edu/news/key-issues/

2. Phase I and II pf the policy report were published through the Office for Civil Rights and Title IV.

https://civilrights.msu.edu/_assets/documents/

3. The full report was not publicly published, but several key points and results were published through the Office of the Executive Vice President for Administrative Services.

http://adminsv.msu.edu/culture/index.html

4. The Office for Inclusion and Intercultural Initiatives published its results from MSU Dialogues on its main site.

http://www.inclusion.msu.edu/education/intercultural-dialogue1.html

Publications in MSU Today concurrent with report announcements can be found below:

msutoday.msu.edu

Support for Underrepresented Groups

Score	Responsible Party
	Paulette Granberry-Russel
3.00 / 3.00	Director, Inclusion
	Ofc. for Inclusion, Intercultural Initiatives

Criteria

Institution has one or more of the following policies, programs or initiatives to support underrepresented groups and foster a more diverse and inclusive campus community:

1)   A publicly posted non-discrimination statement.

2)   A discrimination response protocol or committee (sometimes called a bias response team) to respond to and support those who have experienced or witnessed a bias incident, act of discrimination or hate crime.

3)   Programs specifically designed to recruit students, staff and/or faculty from underrepresented groups.

4)   Mentoring, counseling, peer support, academic support, or other programs to support students, staff and/or faculty from underrepresented groups.

5)   Programs that specifically aim to support and prepare students from underrepresented groups for careers as faculty members (sometimes known as pipeline programs). Such programs could take any of the following forms:

- Teaching fellowships or other programs to support terminal degree students from underrepresented groups in gaining teaching experience. (The terminal degree students may be enrolled at another institution.)
- Financial and/or other support programs to prepare and encourage undergraduate or other non-terminal degree students from underrepresented groups to pursue further education and careers as faculty members.
- Financial, and/or other support programs for doctoral and post-doctoral students from underrepresented groups.

"---" *indicates that no data was submitted for this field*

Does the institution have a publicly posted non-discrimination statement? :
Yes

The non-discrimination statement, including the website URL where the policy is publicly accessible:

"A condensed summary of the Non-Discrimination policy (provided by the Office of Inclusion and Intercultural Initiatives) can be found below.
MSU Anti-Discrimination Policy prohibits acts of discrimination and harassment against any university community member(s) by inappropriately limiting employment opportunities, access to university residential facilities, or participating in educational, athletic, social, cultural, or other university activities on the basis of age, color, gender, gender identity, disability, height, marital status, national origin, political persuasion,
race, religion, sexual orientation, veteran status or weight. Complaints under this policy may be submitted to the Office of Institutional Equity for investigation.

https://oie.msu.edu/nondiscrimination-notice/index.html

The full policy can be found here:
MSU ANTI-DISCRIMINATION POLICY
The following policy was approved by the Board of Trustees on April 9, 1993 and revised on December 5, 2003, April 13, 2007, and October 30, 2015.

Article I. Purpose

Michigan State University's scholarly community-building efforts occur within the context of general societal expectations, as embodied in the law. The University, consistent with its policies and governing law, promotes institutional diversity and pluralism through mechanisms such as affirmative action, within an over-arching strategy promoting equitable access to opportunity. The University's commitment to non-discrimination is the foundation for such efforts.

Article II. Applicability

This policy states expectations for institutional and individual conduct. It applies to all University community members, including faculty, staff, students, registered student organizations, student governing bodies, and the University's administrative units, and to the University's contractors in the execution of their University contracts or engagements1, with respect to the following:

All educational, employment, cultural, and social activities occurring on the University campus;

University-sponsored programs and activities occurring off-campus, including but not limited to cooperative extension, intercollegiate athletics, lifelong education, and any regularly scheduled classes;

University housing; and

Programs and activities sponsored by student governing bodies, including their constituent groups, and by registered student organizations.

Article III. Prohibited Discrimination

Unlawful acts of discrimination or harassment are prohibited.

In addition, the University community holds itself to certain standards of conduct more stringent than those mandated by law. Thus, even if not illegal, acts are prohibited under this policy if they 2 :

Discriminate against any University community member(s) through inappropriate limitation3 of employment opportunity4 , access to University residential facilities, or participation in education, athletic, social, cultural, or other University activities on the basis of age, color, gender, gender identity5 , disability status, height, marital status, national origin, political persuasion, race, religion, sexual orientation, veteran status, or weight; or

Harass any University community member(s) on the basis of age, color, gender, gender identity, disability status, height, marital status, national origin, political persuasion, race, religion, sexual orientation, veteran status, or weight.

These prohibitions shall not be construed in a manner that abridges University community members' right of free expression or other civil rights.

Article IV. Informal Resolution

Informal resolution of disputes, through consultation provided by offices serving the University, is encouraged. Informal resolution is typically used when a claimant asks to participate in an informal resolution, requests anonymity, does not consent to participation in an investigation, or the alleged conduct, even if it does not rise to the level of a policy violation, suggests the need for remedial, educational, or preventive action. Participation in informal resolution is voluntary, and either party may terminate the informal resolution process at any time. If a party terminates attempts at informal resolution, or the parties are unable to resolve the matter informally, a formal review of the complaint will begin7.

Article V. Complaints and Investigations

Complaints under this Policy are processed and investigated by the Office of Institutional Equity (OIE) pursuant to the OIE Complaint Procedures. Allegations involving gender discrimination, including sexual and gender-based harassment, assault, and violence, are processed and investigated pursuant to the Relationship

Violence & Sexual Misconduct (RVSM) Policy.

The University investigates complaints involving conduct occurring at the locations, programs, and activities listed in Article II above. The University also investigates complaints of conduct occurring off-campus, even if not occurring in the context of a University program or activity, if the alleged conduct creates or contributes to a hostile environment on campus.

Article VI. Violations of the Policy

Violations of the policy may result in disciplinary action pursuant to the applicable student conduct or employee disciplinary process. Discipline may include, but is not limited to, suspension or dismissal for students or employees.

Article VII. History

This Policy was approved by the Board of Trustee on April 9, 1993 and revised on December 5, 2003, April 13, 2007, and October 30, 2015.

This document is currently pending approval from the U.S. Department of Education, Office for Civil Rights.

Footnotes:

1. This policy does not apply to the conduct of a contractor's internal affairs, nor does it apply to the conduct of contractual engagements to which the University is not a party.

2. This Anti-Discrimination Policy User's Manual, University ordinances, and written policies provide guidance on the conduct prohibited by Article III of this Policy.

3. Limitations are inappropriate if they are not directly related to a legitimate University purpose. The Anti-Discrimination Policy User's Manual provides additional guidance on inappropriate limitation as defined by this Policy.

4. For purpose of this Policy, "employment opportunity" is defined as job access and placement, retention, promotion, professional development, and salary.

5 For the purposes of this Policy, the reference to "gender identity" shall be interpreted to include protection against gender stereotyping based on a person's gender expression. In other words, gender stereotyping is impermissible discrimination or harassment based on a failure to conform to stereotypical gender norms.

6. Consultation with one or more of the following may be useful:

the chairperson, director, or dean of the relevant unit, supervisory support personnel, the Title IX Coordinator or Deputy Title IX Coordinator for Investigations, the ADA Coordinator, the Office for Inclusion and Intercultural Initiatives, the University Ombudsperson, the Faculty Grievance Official, REHS staff, faculty or staff academic advisers, and the MSU Counseling Center.

7. The availability and appropriateness of informal resolution involving claims of gender discrimination, including sexual and gender-based harassment, assault, and violence, is governed by the Relationship Violence & Sexual Misconduct (RVSM) Policy.

https://www.hr.msu.edu/policies-procedures/university-wide/ADP_policy.html

Does the institution have a discrimination response protocol or committee (sometimes called a bias response team) to respond to and support those who have experienced or witnessed a bias incident, act of discrimination or hate crime?:

Yes

A brief description of the institution's discrimination response protocol or team (including examples of actions taken during the previous three years):

MSU has extensive resources for witnesses and victims of bias, survivors of rape, violence, sexual assault and other incidents. Direct offices and resources available to the MSU community (including staff, faculty, students, and non-members of MSU) to support all of the above include the following:
Employee Assistance Program; LBGT Resource Center; Office for Inclusion and Intercultural Initiatives (I3); Office for International Students and Scholars (OISS); Office of Cultural and Academic Transitions (OCAT); Resource Center for Persons with Disabilities (RCPD); Student Parent Resource Center; Student Veterans Resource Center; WorkLife Office; the Office of Institutional Equity; Counseling and Psychiatric Services; the Office for Civil Rights and Title IV Education and Compliance; Office of Prevention, Outreach, and Education; MSU Sexual Assault Program; End Rape at MSU; MSU Safe Place; MSU Police Department; the Center for Trauma-Informed Investigative Excellence; Office of the University Ombudsperson; and others (please see attached visual).
"Accessed from the SAP's website, staff and volunteers provide crisis intervention to help clients process emotions and thoughts during a crisis, identify their natural supports, and locate resources and options from 10 a.m. to 10 p.m."
Rape, sexual assault, and violence incident support:
"MSU's Sexual Assault Program provides immediate crisis intervention and advocacy services to individuals impacted by rape or sexual violence. Crisis Intervention & Advocacy Services available include: a 24-hour hotline, 10am-10pm crisis chat, institutional and legal advocacy. These services are available to survivors of sexual assault and their non-offending significant others. [..] Individual Therapy & Support Groups: The MSU Sexual Assault Program provides free and confidential individual counseling and support groups to MSU students who are survivors of adult sexual assault or childhood sexual abuse. [They] offer a variety of groups for all gender identities."
The two hotlines referenced above are: the MSU Sexual Assault Program 24-hour Hotline, which is free and confidential, and provides immediate crisis intervention and advocacy services to women and men who have experience rape or sexual assault, as well as confidential referrals to community resources for individuals not affiliated with MSU. The second hotline is the End Violence Encounters hotline, a confidential community-based program providing supportive services to survivors of domestic abuse and sexual violence. The MSU Sexual Assault Program added a Canine Advocate to support sexual assault survivors during police interviews and court proceedings. The dog is on campus every weekday and is available for emotional support and animal comfort on Campus.
General bias incident support: A mobile phone application is available for all MSU students to access instant-messaging counseling and phone conversations 24/7. Additionally, a Crisis Chat is available through the MSU Sexual Assault Program Website:

endrape.msu.edu

The local East Lansing Sparrow Hospital provides free medical examinations for victims of violence and sexual assault.

https://oie.msu.edu/resources/adp-resources.html

Residential and Hospitality Services has a graduate assistant for diversity and inclusion, and from 2015-2016, RHS offered a series of Healing Spaces/Community Dialogues "to help facilitate students processing the events of campus and society. These events were hosted in the evening in residence halls and brought in campus partners such as the Black Student Alliance and the Alliance of Queer and Ally Students to educate staff and faculty.
All undergraduate living spaces on campus have Intercultural Aides; student staff members who work in the residence halls with undergraduates to help the students with the transition into university life. These aides also serve as support networks for students, and " Along with other residence life staff like Resident Mentors and MRULE student leaders, Aides plan engaging and informative activities that bring individuals as well as groups of students from diverse racial, ethnic, international, and domestic backgrounds together to engage, explore, and learn about issues of academic transitions, culture, social class, geography, religion, race, gender, and ethnicity. "

http://ocat.msu.edu/student-organizations/intercultural-aides/

Additionally, students who live on campus have the opportunity to lean on their Residential Intercultural Aides, who facilitate difficult conversations between groups of residents and host supportive dialogues for students on campus. Discussion topics include: Educational inequity, Racial identity, Mass incarceration, Native indigenous peoples, Stigmas of mental health, and other conversations:

http://mrule.msu.edu/the-vision/our-impact

https://caps.msu.edu/

https://msu.edu/ourcommitment/our-actions/responding-to-assault.html

https://msu.edu/ourcommitment/resources/

Bias reporting for on-campus residents:

https://liveon.msu.edu/ReportingBias

Does the institution have programs specifically designed to recruit students from underrepresented groups?:
Yes

Does the institution have programs specifically designed to recruit staff from underrepresented groups?:
Yes

Does the institution have programs specifically designed to recruit faculty from underrepresented groups?:
Yes

A brief description of the institution's programs to recruit students, staff and/or faculty from underrepresented groups:

Students: MSU's SEARCH program for pre-college students and graduating students recruit high schools students with mental or physical disabilities, teach such individuals valuable skills, and help such individuals get hired into the work force after completion of the program: "Spartan Project SEARCH brings a successful international program for young adults with developmental disabilities to the campus of Michigan State University, one of 12 program sites starting in Michigan. Participants will experience classroom and on-the-job learning in a variety of settings, with leadership and expertise from researchers in the MSU College of Education."

https://spartanprojectsearch.msu.edu/

The Alliances for Graduate Education and the Professoriate (AGEP) is a National Science Foundation program at MSU, which works to support the recruitment, retention, and graduation of underrepresented individuals in doctoral programs for engineering, math, and natural and social sciences. The AGEP holds a community meeting every semester, open to its members as well as the greater MSU community, including graduate school faculty and staff. The AGEP provides supplemental funding for graduate students by matching the hiring of GAs; every GA that is hired is matched by another hire from an underrepresented group.

https://grad.msu.edu/agep/supplementalfunding

https://www.nsf.gov/pubs/2016/nsf16125/nsf16125.jsp

The School of Planning, Design, and Construction (SPDC) offers specific scholarship awards to students from underrepresented groups, including women and also provides Summer Research Opportunities to recruit and encourage students to pursue graduate studies. The SPDC also hosts Academic Achievement Graduate Assistantships to recruit diverse students and students from underrepresented groups for graduate studies, " attracting a cohort of diverse students who have traditionally not participated in graduate programs in their units" attracting a cohort of diverse students who have traditionally not participated in graduate programs in their units.

The College of Engineering is part of the Michigan Louis Stokes Alliance for Minority Participation (MI-LSAMP). This program works to recruit minority students in the Science, Technology, Engineering, and Mathematics fields. This chapter is part of the broader Michigan community (in which other Michigan Public Universities are members). The program works to recruit undergrad students into the STEM graduate programs. MI-LSAMP also hosts pre-undergraduate summer events to allow graduating high school students the opportunity to attend STEM classes and gain interest in the STEM fields and MSU educational opportunities:

https://www.egr.msu.edu/dpo/programs/mi-lsamp/mi-lsamp-events

The Broad College of Business has a Senior Advisor to the Dean for Diversity and Inclusion and Faculty Excellence Advocate, whose responsibilities include recruiting women and individuals from underrepresented groups. The College has several multicultural and diversity coordinators who are also responsible both for recruitment of students from underrepresented groups and in charge of ensuring those students are sufficiently cultural supported while at MSU. The Broad Native American Business Institute has a Summer Outreach Program, in which mentors work with 9th-12th Grade Indigenous Youth from across Michigan, US, and Canada. Students. "Participants work with MSU admissions officers, college counselors, tribal community leaders and corporate representatives in a seven-day "business boot-camp" that prepares students for the college application process and exposes them to numerous academic and professional opportunities." The Business College also hosts the Summer Business Institute Bridge Program for recruiting incoming freshman into the college of business.

https://broad.msu.edu/undergraduate/opportunities/mbp/#native-american-business-institute

Staff: MSU's staff recruitment policy and practices are as follows: "The Office for Inclusion and Intercultural Initiatives monitors certain vacant support staff positions as they are filled. The office reviews positions IF placement goals exist for women, minorities, or both; AND the hiring recommendation does not address the placement goal; UNLESS collective bargaining agreement provisions require hiring based on seniority and the most senior internal candidate is selected to fill the position."

Every year, MSU sends representatives to the Minority Access National Conference, wherein representatives can learn how to recruit, retain, and support faculty and staff from underrepresented groups. The conference allows MSU representatives to take this knowledge back to the university Office of Inclusion

and Intercultural Initiatives (OIII) to apply to the University's overall recruitment efforts.

http://www.minorityaccess.org/

The College of Veterinary Medicine implemented a Diversity and Inclusion Strategy in 2016, with specific stages to retain, recruit, support, and mentor students from underrepresented groups. The stage four of the strategy is to "Target specific units at CVM to support in their efforts to attract, recruit, and retain underrepresented minorities (URMs)." Vet Med does this through inter-departmental communication and networking, and all hiring officers from different departments within the College are required to share hiring information, tactics, and information on potential hires "to attract, recruit and retain students, interns, residents, faculty and staff who are representative of the diverse population of our state, region, and country while weaving diversity throughout the curriculum and embracing differences as part of the CVM culture."

https://cvm.msu.edu/strategicthinking/strategic-plan/strategic-plan/office-of-diversity-and-inc

lusion

The College of Agriculture and Natural Resources (CANR) Office for Diversity, Equity and Inclusion has specific programs that work to recruit its staff and faculty from underrepresented groups. The office provides services for all its hiring committees and managers, including requesting diversity statements and rubrics for committees to evaluate diversity-related competencies of candidates, as well as provide research support for outreach to underrepresented groups.

https://www.canr.msu.edu/diversity/faculty-staff/

Faculty: The OIII requires all colleges to provide evidence in its recruitment practices of a diverse pool of candidates, and all departments are not permitted to conduct interviews until the OIII has approved the applicant pool. Every MSU search committee is expected to have a representative responsible for ensuring the diversity of the applicant pool. "The unit should be prepared to provide a description of efforts made to increase the diversity of the applicant pool."

http://inclusion.msu.edu/hiring-recruitment/academic-hiring.html

Please see above for information on CANR efforts in faculty recruitment.
The Eli Broad College of Business hosts the Building an Inclusive Environment program, wherein visiting professionals as well as MSU faculty researchers work with visiting representatives from businesses and the college administration and recruitment teams to work on diversity recruitment strategies. The program sold

out for each session and additional sessions were added on to accommodate the demand for the workshops.

https://broad.msu.edu/news/broad-college-hosts-inclusiveness-program-for-community-leaders/

The Senior Advisor to The Dean for Diversity And Inclusion in the Business College is tasked with the prime objective to "Increase the recruitment and hiring of under-represented minorities and women on the faculty of the Eli Broad College of Business of Michigan State University."

https://broad.msu.edu/profile/ander130/

MSU hosts the Global Impact Initiative, wherein the Board of Trustees has set $17.5 million for the recruitment of 100 new faculty members from diverse groups to confront three prominent areas of research: rapidly growing populations, aging populations, and climate change and global warming. These 100 new faculty members will apply their diverse background knowledge on research in these areas, and pave the way to "recruit new researchers from all over the world to focus on the most challenging problems facing human civilization."

https://research.msu.edu/hsu-msus-challenge-is-to-invest-in-research-with-greatest-impact/

https://vp.research.msu.edu/

Does the institution have mentoring, counseling, peer support, academic support, or other programs to support students from underrepresented groups on campus?:
Yes

Does the institution have mentoring, counseling, peer support or other programs to support staff from underrepresented groups on campus?:
Yes

Does the institution have mentoring, counseling, peer support or other programs to support faculty from underrepresented groups on campus?:
Yes

A brief description of the institution's programs to support students, staff and/or faculty from underrepresented groups:

Students: The Office of Inclusion and Intercultural Initiatives has educational partners across the university who serve as experts in different areas of diversity and as advocates on campus for underrepresented groups. These affiliates are faculty and staff whose role is to provide a listening ear, answer questions, and refer students to proper resources on campus for further support.

http://www.inclusion.msu.edu/education/education-partners.html

MSU has a Veterans Resource Center, which hosts annual Veterans Week events and ongoing activities for veterans and their families, as well as studying and social spaces for veterans. Space for meetings, studying, and socializing. The Center additionally provides: VA benefits and health information; Financial aid application support; Transition services; Career development; Employment/internship opportunities; Referrals to many other programs and services both on and off campus:

http://veterans.msu.edu/

The Alliances for Graduate Education and the Professoriate hosts Learning Community Meetings for graduate students that provide them with scholarship opportunities as well as social support, public forums on relevant issues graduate students face, and an annual fall conference to provide graduate students with networking, research, and interfacing opportunities.

https://grad.msu.edu/agep

The College of Engineering is part of the Michigan Louis Stokes Alliance for Minority Participation (MI-LSAMP). This program works to support minority students in the Science, Technology, Engineering, and Mathematics fields. This program creates academic opportunities for minority students on campus through campus and regional networking events, and also hosts an acclimation program for first year students at the University.

https://www.egr.msu.edu/dpo/programs/mi-lsamp/program-summary

The College of Engineering hosts the Engineering and Science Success Academy, "a four-week, residential, academic intensive program designed to acclimate incoming freshmen with both the academic and environmental aspects to post-secondary education." The College also hosts the Showcase of Stars breakfast, where students can network with diverse groups and businesses, and the college is also home to many faculty advisors for multicultural and diversity student groups.
The College of Agriculture and Natural Resources (CANR) has several recruitment organizations and national organization chapter affiliations for recruitment of underrepresented groups. CANR hosts the Open Doors retreat, which brings

together participants from diverse backgrounds to network and learn about creating "inclusive organizations. The workshop addresses personal and professional change as part of an understanding differences initiative of multicultural organizational development." CANR also hosts Minorities in Agriculture, Natural Resources and Related Sciences, which is a national organization that began at MSU thirty years ago. The program provides networking and career opportunities and "professional development for underrepresented undergraduates, graduate students, and professionals in CANR fields." The Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) at MSU supports existing students at MSU and helps to further those students in their careers "to attain advanced degrees, careers, and positions of leadership in science." Information on these groups and other initiatives in CANR can be found here:

https://www.canr.msu.edu/diversity/recruitment-support-advocacy/

The Department of Psychology's Diversity Committee hosts ongoing events to promote inclusion on campus and support its students. These activities include presentations, diversity walks, group readings, group discussions, facilitated dialogues, forums and more.

https://psychology.msu.edu/programs/clinical/diversity-opportunities

During the 2016-2017 academic year, MSU hosted Project 60/50, which was a year-long inclusion event meant to increase commitment, leadership, and participation of the entire campus community in inclusion, diversity initiatives, social equity, and further topics. This year-long initiative gathered together students from all walks of life, celebrated all groups of people (with special emphasis on underrepresented groups), and facilitated conversations to create dialogue about differences.

http://project6050.msu.edu/index.html

The College of Veterinary Medicine hosts an MSU Chapter of the Veterinarians as One Inclusive Community for Empowerment (VOICE); this group plans and throws inclusive events for the college, creates networking opportunities, and supports its students through study and listening sessions.

https://cvm.msu.edu/about/diversity/voice

The College of Arts and Letters has the ongoing "Culture of Care" initiative, in which the college Dean hosts dialogues and publishes open letters on diversity issues. Culture of Care within the college works "to sustain inclusive practices as part of the core work of the College across all areas of endeavor, including teaching, scholarship, service, governance, leadership, professional development, and administration." Culture of care instituted a residential aide system in their dorms for student support and also hosts consortiums and implements ongoing

initiatives to support its students from underrepresented groups.

http://www.cal.msu.edu/about/culture-of-care

The college of Communication, Arts and Sciences has hosted a number of programs to support underrepresented groups on campus, including listening sessions, a publication on 100 questions answered around diversity and inclusion, a Dean's blog, inclusiveness committees, and ongoing events.

https://comartsci.msu.edu/listens

The Eli Broad College of Business hosts several multicultural initiatives to provide additional support for its business students. This includes the Multicultural Business Programs hosted by the Assistant Dean and the Multicultural Business Program Tutorial Program.
Please see attached for further listings of support initiatives.
Staff: MSU hosts the "Womxn of Color Initiatives," which bring various women of color speakers to campus on an annual basis to inspire and support women on campus. In addition to this, the initiative hosts ongoing events to bring together women of color on campus and support intellectuals, academics, staff members, and others across campus in MSU's staff and faculty.

http://wocimsu.yomairaf.msu.domains/

The College of Arts and Letters has the Culture of Care Indicatives; aimed to create an inclusive environment and lift up those from underrepresented groups, the initiatives "work to sustain inclusive practices as part of the core work of the College across all areas of endeavor, including teaching, scholarship, service, governance, leadership, professional development, and administration."

http://www.cal.msu.edu/about/culture-of-care

RHS: HR also recruited for on-call positions at both
Peckham and the Michigan National Guard.
The College of Agriculture and Natural Resources (CANR) Office of Diversity, Equity, and Inclusion has a multitude of resources for its staff and faculty, including events, dialogues, forums, mentoring, and other initiatives. Partnerships, chapters, and organizations the office hosts to support underrepresented groups include: Minority Access Incorporated, the National Organization of Gay and Lesbian Scientists and Technical Professionals, Black Doctoral Network, Society for Advancement of Chicanos/Hispanics and Native Americans in Science, National Black Farmers Association, and the Association of 1890 Research Directors Research Symposium:

https://www.canr.msu.edu/diversity/faculty-staff/

Infrastructure and Planning Facilities (IPF) partnered with the WIST (Women in Skilled Trades) mentorship group to better the lives of women through skilled trades at MSU. The focus is to provide women exposure to skilled trades through Women Build Days and by providing, at no cost to the participant, a certified apprenticeship readiness program. IPF allowed WIST to utilize needed space for teaching and learning activities lead by IPF volunteers. Six women graduated from this program in July of 2018. Additionally, a formal rounding process was initiated in IPF in 2018. Each of the Executive Leaders (ELT) schedules themselves to meet with three employees per week. The rounding session is an inclusivity touchpoint to make sure leaders are listening to employee feedback and getting a pulse on the culture and work environment. These rounding sessions spread across all employee classifications. An Employee Buddy System was formed in IPF in 2017 for new employees. New Employees can voluntarily be partnered with a Buddy. An IPF Buddy is an employee from a different department whose goal is to make the new employees feel welcomed and valued. These Buddies meet monthly and allow the new employee access to a person who can help them navigate the IPF and University.

https://ipf.msu.edu/about/news/women-skilled-trades

Faculty: The Office of Inclusion and Intercultural Initiatives hosts the Diversity Research Network, which is a support resource for faculty on campus. The program grew out of a research grant which called for further support of underrepresented groups in higher education faculty. The work of this groups includes academic support through providing research and grant opportunities, input and collaborative research opportunities. Faculty are further supported through mentoring activities (including shadowing programs) throughout the university. The DRN also provide opportunities for students to engage with faculty from underrepresented groups through student mentoring and training, as well as scholarship communities and activities. Further information on the program can be found here:

http://www.inclusion.msu.edu/research-grants/drn/drn-history.html

MSU also has a cultural hub called the Council for Racial and Ethnic Students (CORES), which provides support and mentoring for diverse groups of students, including those from underrepresented groups as well as international students. Representatives from CORES also sit on the student governing body at MSU to give voice to students from underrepresented groups.

http://ocat.msu.edu/student-organizations/council-of-racial-ethnic-students-cores/

Please see above for information on CANR's efforts in diversity for faculty.
The Women's Networking Association is open to Faculty, students and staff across MSU and provides support for all women in higher education. The Association

hosts events, forums, and networking for women, among other opportunities. They also host an annual forum for women across the university.

https://worklife.msu.edu/relocation-community/campus-connections/womens-networking-association

https://worklife.msu.edu/relocation-community/campus-connections/academic-womens-forum

Does the institution have training and development programs, teaching fellowships and/or other programs that specifically aim to support and prepare students from underrepresented groups for careers as faculty members?:
Yes

A brief description of the institution's programs to support and prepare students from underrepresented groups for careers as faculty members:

The Eli Broad College of Business Multicultural Business Program staff have worked with, supported, and promoted students to pursue careers in higher education as administrators and faculty (Senior Director of the Multicultural Program). The College of Business has a Senior Advisor to the Dean for Diversity and Inclusion and Faculty Excellence Advocate, and part of his responsibilities include mentoring doctoral students of color, including mentoring students in the business college for faculty positions post-graduation (See attached).
"The Future Academic Scholars in Teaching (FAST) Fellowship Program works to support diverse groups of students in preparation for higher education teaching positions after the student's graduate from MSU: "The primary goals of the FAST Fellowship Program are to provide opportunities for a diverse group of graduate students to have mentored teaching experiences and to gain familiarity with materials on teaching and assessment techniques." This program is supported through MSU's partnership with the Center for the Integration of Research, Teaching, and Learning (CIRTL), a national organization committed to providing opportunities and support for diverse learners in the STEM fields to reach faculty positions across the nation. MSU is heavily involved in both programs, which operate separately (FAST is an internal program, while CIRTL is a partnership with 41 other research-intensive universities), but support diverse groups of students at MSU to further their work in academics in preparation for faculty positions across the nation.

https://grad.msu.edu/fast

https://www.cirtl.net/about

MSU's Office of Doctoral Affairs also provides a multitude of resources for all its students. A full set of resources for Post Docs is listed here.

https://grad.msu.edu/pda/professional-development

.
The MSU Graduate School also offers resources to students who specifically seek to pursue a career in postsecondary education. While the resources are generalized for all MSU students, several focused areas of the office provide resources for underrepresented students, such as nontraditional students and LBQTG students. All resources are available to all MSU students.

https://grad.msu.edu/teaching

Part of the MSU Graduate School and the Career Services Network, PhD Career Services provides a variety of online resources, as well as workshops and one-on-one advising, to support the many paths graduate students and postdocs choose to pursue, including careers in universities, government, industry, and non-profits. The Graduate School website contains sections on career exploration, as well as career resources for international students and LGBTQ students, and information for employers and MSU PhD alumni: grad.msu.edu/PhDCareers.
The LBGTQ Resource Center has a doctoral and graduate division which focuses on supporting LGBTQ students in careers after graduation:

https://grad.msu.edu/phdcareers/lgbtq

Does the institution produce a publicly accessible inventory of gender-neutral bathrooms on campus?:
Yes

Does the institution offer housing options to accommodate the special needs of transgender and transitioning students?:
Yes

The website URL where information about the programs or initiatives is available:
https://oie.msu.edu/resources/lgbtq.html

Additional documentation to support the submission:
PA6_Underrep Groups FINAL.xlsx

Data source(s) and notes about the submission:

http://www.inclusion.msu.edu/hiring-recruitment/index.html

https://cabs.msu.edu/_files/documents/key-issues/anti-harassment-statement.pdf

https://liveon.msu.edu/housingoptions

http://lbgtrc.msu.edu/trans-msu/unisex-and-accessible-bathroom-facilties-at-msu/

Affordability and Access

Score	Responsible Party
	Mara Spears
3.04 / 4.00	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Part 1

Institution has policies and programs in place to make it accessible and affordable to low-income students and/or to support non-traditional students. Such policies and programs may include, but are not limited to, the following:

- Policies and programs to minimize the cost of attendance for low-income students
- Programs to equip the institution's faculty and staff to better serve students from low-income backgrounds
- Programs to guide and prepare students and families from low-income backgrounds for higher education (e.g. U.S. federal TRIO programs)
- Scholarships provided specifically for low-income students
- Targeted outreach to recruit students from low-income backgrounds
- Scholarships provided specifically for part-time students
- An on-site child care facility, a partnership with a local facility, and/or subsidies or financial support to help meet the child care needs of students

Part 2

Institution documents its accessibility and affordability to low-income students as demonstrated by one or more of the following indicators:

1. The percentage of entering students that are low-income (e.g., the percentage of students receiving Pell Grant funds as reported in the U.S. IPEDS Student Financial Aid component or the percentage of students receiving the Canada Student Grant for Students from Low-Income Families)
2. The graduation/success rate for low-income students
3. On average, the percentage of need met for students who were awarded any need-based aid (e.g. as reported to the U.S. Common Data Set initiative, item H2)

4. The percentage of students graduating without interest-bearing student loan debt or for whom no out-of-pocket tuition is required (i.e. the percentage of graduates who have not taken out interest-bearing loans)

Does the institution have policies and programs to make it accessible and affordable to low-income students?:
Yes

A brief description of any policies and programs to minimize the cost of attendance for low-income students:

"MSU TRIO Student Support Services provides resources and preparation for students with low-income backgrounds, first generation students, and students with disabilities. Support for students through TRIO SSS occurs within and outside the classroom.

http://trio.oss.msu.edu/

The Spartan Advantage Program aides needy students in reducing their loan debt. The program description is quoted with the following: ""Eligible students receive sufficient grants, scholarships, and work study funds to cover the cost of tuition and fees, room and board, and books.""

https://finaid.msu.edu/spad.asp

The Office of Financial Aid offers degrees of monetary support for students who apply for financial aid.

https://finaid.msu.edu/contact.asp

A brief description of any programs to equip the institution's faculty and staff to better serve students from low-income backgrounds:

"The Office of Faculty and Organizational Development (F&OD) supports MSU faculty, academic staff and administrators in their ongoing quest for excellence in teaching, research, outreach, and leadership. To accomplish this goal, FOD offers a broad range of seminars and programs, services, and resources in two programmatic strands:
Faculty and Instructional Development
Organizational and Leadership Development

http://ien.inclusion.msu.edu/members/Office-Faculty-and-Organizational-Development-FOD

https://www.hr.msu.edu/professional-development/faculty-academic-staff/

"

A brief description of the institution's programs to guide and prepare students and families from low-income backgrounds for higher education:

"MSU TRIO Student Support Services Offers students:
Academic Tutoring
Individualized Counseling
Peer Mentorship
Academic Skills Workshop
Course & Major Selection Assistance
Academic Support for Special Populations
Financial & Economic Literacy Education
FAFSA and Scholarship Search Application Assistance
Graduate & Professional Program Application Assistance
Employment and Professional Development Opportunities
The MSU Student Parent Resource Center provides a variety of financial options, resources, and scholarships for student-parents, students with families, and nontraditional students:

http://studentparents.msu.edu/scholarships/scholarships-overview/

MSU Offers a guide to students with families:

http://com.msu.edu/Students/Academic_Career_Guidance/Students%20with%20Families%20MSUCOM%20Guid

e.pdf

"

A brief description of the institution's scholarships for low-income students:

"Educational assistance is available to students in many forms, including:
* Student loans
* Parent loans
* Scholarships and grants

* Student employment, work-study
* Education savings plans
* Tax credits
* Tuition reduction plans
* Veterans' benefits
* Fellowships
* Assistanceships
* Tuition reimbursement
Assistance might be awarded by the federal or state government, the university or private sources such as employers and community
organizations.

A brief description of the institution's targeted outreach to recruit students from low-income backgrounds:

"MSU was awarded $4.9 million by the National Science Foundation to support low-income students through scholarships to study STEM and Natural Science at MSU:

https://msutoday.msu.edu/news/2018/msu-to-use-49m-nsf-grant-for-low-income-students-studying-na

tural-science/

A brief description of the institution's other policies or programs to make the institution accessible and affordable to low-income students:

"MSU was awarded $4.9 million by the National Science Foundation to support low-income students through scholarships to study STEM and Natural Science at MSU:

https://msutoday.msu.edu/news/2018/msu-to-use-49m-nsf-grant-for-low-income-students-studying-na

tural-science/

"

Does the institution have policies and programs to support non-traditional students?: Yes

A brief description of the institution's scholarships provided specifically for part-time students:

"The MSU Student Parent Resource Center provides a variety of financial options, resources, and scholarships for student-parents, students with families, and nontraditional students:

http://studentparents.msu.edu/scholarships/scholarships-overview/

http://studentparents.msu.edu/non-traditional-students/

A brief description of the institution's on-site child care facility, partnership with a local facility, and/or subsidies or financial support to help meet the child care needs of students:

"MSU has many partnerships with child-care facilities. Local partnerships exist, but so do state and regional partnerships, as MSU understands the outreach of the university extends further than East Lansing and parents may be traveling from a long way off. MSU also provides resources for nanny services and seniors care. MSU also hosts a College Caregivers program, and student parents kind find care, look at student profiles, and search by college:

http://studentparents.msu.edu/family-resources/finding-child-care/

MSU also hosts scholarship programs for student parents, including the Christine S. Carter fund, the Council of Graduate Students Childcare Support Award, and the Student Parents on a Mission Scholarship.

http://studentparents.msu.edu/scholarships/scholarships-overview/

"

A brief description of the institution's other policies and programs to support non-traditional students:

"MSU offers specific scholarships and financial aid for student parents and students with children:

https://finaid.msu.edu/stuwithkids.asp

MSU also has a support group for students with children: Student Parents on a Mission

https://msu.edu/~studentp/

"

Does the institution wish to pursue Part 2 of this credit (tracking accessibility and affordability)? (If data is not available, select 'No'):
Yes

The percentage of entering students that are low-income (0-100):
19

The graduation/success rate for low-income students (0-100):
71

On average, the percentage of need that was met for students who were awarded any need-based aid (e.g. as reported to the U.S. Common Data Set initiative, item H2) (0-100):
53.83

The percentage of students graduating with no interest-bearing student loan debt or for whom no out-of-pocket tuition is required (i.e. the percentage of graduates who have not taken out interest-bearing loans) (0-100):
60

Estimated percentage of students that participate in or directly benefit from the institution's policies and programs to support low-income and non-traditional students (0-100):
58.80

The website URL where information about the programs or initiatives is available:
https://finaid.msu.edu/default.asp

Additional documentation to support the submission:
PA7 FINAL.pdf

Data source(s) and notes about the submission:

Addition information can found on the annual diversity report:
http://www.inclusion.msu.edu/about/annual-report/
2016-17%20Diversity%20at%20MSU%20Student%20and
%20Workforce%20Data%20Report_Accessible.pdf

https://opb.msu.edu/functions/institution/cds-2017-2018.pdf

Investment & Finance

Points Claimed 0.00
Points Available 7.00

This subcategory seeks to recognize institutions that make investment decisions that promote sustainability. Collectively, colleges and universities invest hundreds of billions of dollars. Like other decisions that institutions make, these investments have impacts that are both local and global in scope. Institutions with transparent and democratic investment processes promote accountability and engagement by the campus and community. By using the tools of sustainable investing, institutions can improve the long-term health of their endowments, encourage better corporate behavior, support innovation in sustainable products and services, support sustainability in their community, and help build a more just and sustainable financial system.

Throughout this subcategory, the term "sustainable investment" is inclusive of socially responsible, environmentally responsible, ethical, impact, and mission-related investment.

From the institution:

MSU named its first Chief Investment Officer to oversee all of the university's lng-term investments. The CIO has hired 2 investment officers as well. Having a CIO has allowed MSU to grow internal talent and capabilities to identify new investment opportunities There is also an Investment Advisory Subcommittee established by the Board of Trustees.The Board of Trustees added three External members to the Committee.

Credit	Points
Committee on Investor Responsibility	0.00 / 2.00
Sustainable Investment	0.00 / 4.00
Investment Disclosure	0.00 / 1.00

Committee on Investor Responsibility

Score	Responsible Party
	Amy Butler
0.00 / 2.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution has a formally established and active committee on investor responsibility (CIR) or equivalent body that makes recommendations to fund decision-makers on socially and environmentally responsible investment opportunities across asset classes, including proxy voting (if the institution engages in proxy voting). The body has multi-

stakeholder representation, which means its membership includes faculty, staff, and/or students (and may also include alumni, trustees, and/or other parties).

Institutions for which investments are handled by the university system and/or a separate foundation of the institution should report on the investment policies and activities of those entities.

A general committee that oversees the institution's investments does not count for this credit unless social and environmental responsibility is an explicit part of its mission and/or a regular part of its agenda.

This credit recognizes committees that that regularly make recommendations to fund decision-makers on the institution's external investments. Committees that only have within their purview green revolving loan funds or similar initiatives to fund campus infrastructure improvements and sustainability committees that occasionally make recommendations to fund decision-makers do not count. Student-managed sustainable investment funds, green fees and revolving funds, and sustainable microfinance initiatives are covered in the *Student Life* credit in Campus Engagement.

This credit was marked as **Not Pursuing** so Reporting Fields will not be displayed.

Sustainable Investment

Score	Responsible Party
	Nancy Carter
0.00 / 4.00	Associate Director
	Investment & Financial Management

Criteria

There are two possible approaches to this credit; institutions may pursue one or both. Institutions for which investments are handled by the university system, a separate foundation of the institution and/or a management company contracted by the institution should report on the combined activities of those entities.

Option 1: Positive Sustainability Investment

Institution invests in one or more of the following:

- Sustainable industries (e.g. renewable energy or sustainable forestry). This may include any investment directly in an entire industry sector as well as holdings of companies whose entire business is sustainable (e.g. a manufacturer of wind turbines).
- Businesses *selected for* exemplary sustainability performance (e.g. using criteria specified in a sustainable investment policy). This includes investments made, at least in part, because of a company's social or environmental performance. Existing stock in a company that happens to have socially or environmentally responsible practices should not be included unless the investment decision was based, at least in part, on the company's sustainability performance.

- Sustainability investment funds (e.g. a renewable energy or impact investment fund). This may include any fund with a mission of investing in a sustainable sector or industry (or multiple sectors), as well as any fund that is focused on purchasing bonds with sustainable goals.
- Community development financial institutions(CDFI) or the equivalent (including funds that invest primarily in CDFIs or the equivalent).
- Socially responsible mutual funds with positive screens (or the equivalent). Investment in a socially responsible fund with only negative screens (i.e. one that excludes egregious offenders or certain industries, such as tobacco or weapons manufacturing) does not count for Option 1.
- Green revolving loan funds that are funded from the endowment

Option 2: Investor Engagement

Institution has policies and/or practices that meet one or more of the following criteria:

- Has a publicly available sustainable investment policy (e.g. to consider the social and/or environmental impacts of investment decisions in addition to financial considerations)
- Uses its sustainable investment policy to select and guide investment managers
- Has engaged in proxy voting to promote sustainability, either by its CIR or other committee or through the use of guidelines, during the previous three years
- Has filed or co-filed one or more shareholder resolutions that address sustainability or submitted one or more letters about social or environmental responsibility to a company in which it holds investments, during the previous three years
- Has a publicly available investment policy with negative screens, for example to prohibit investment in an industry (e.g. tobacco or weapons manufacturing) or participate in a divestment effort (e.g. targeting fossil fuel production or human rights violations)
- Engages in policy advocacy by participating in investor networks (e.g. Principles for Responsible Investment, Investor Network on Climate Risk, Interfaith Center on Corporate Responsibility) and/or engages in inter-organizational collaborations to share best practices

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This credit was marked as **Not Pursuing** so Reporting Fields will not be displayed.

Investment Disclosure

Score	Responsible Party
0.00 / 1.00	**Amy Butler** Campus Sustainability Director MSU Sustainability

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Criteria

Institution makes a snapshot of its investment holdings available to the public, including the amount invested in each fund and/or company and proxy voting records. The snapshot of holdings is updated at least once per year.

Institutions for which investments are handled by the university system, a separate foundation of the institution and/or a management company contracted by the institution should report on the combined activities of those entities.

This credit was marked as **Not Pursuing** so Reporting Fields will not be displayed.

Wellbeing & Work

Points Claimed 4.59
Points Available 7.00

This subcategory seeks to recognize institutions that have incorporated sustainability into their human resources programs and policies. An institution's people define its character and capacity to perform; and so, an institution's achievements can only be as strong as its community. An institution can bolster the strength of its community by offering benefits, wages, and other assistance that serve to respectfully and ethically compensate workers and by acting to protect and positively affect the health, safety and wellbeing of the campus community.

From the institution:

Since 2015, MSU has pushed itself past its own limits to accommodate campus diversity, culture, and employee satisfaction. The university has come to terms with its previous shortcomings, and has risen to the occasion to remedy these.Health and employee compensation has not been ignored; in fact, the university's Health4U program is thriving and engaging staff on campus across disciplines every year.

Credit	Points
Employee Compensation	2.10 / 3.00
Assessing Employee Satisfaction	1.00 / 1.00
Wellness Program	1.00 / 1.00
Workplace Health and Safety	0.49 / 2.00

Employee Compensation

Score	Responsible Party
	Renee Rivard
2.10 / 3.00	Director of Benefits and Compensation
	Human Resources

Criteria

Part 1

More than 75 percent of the institution's employees receive a living wage (benefits excluded).

Include all regular full-time, regular part-time, and temporary (or non-regular) employees (staff and faculty). Institutions may choose to include or omit student workers.

Part 2

Institution is able to verify that more than 75 percent of the employees of contractors that work on-site as part of regular and ongoing campus operations receive a living wage (benefits excluded).

Part 2 is only applicable to institutions that have one or more significant on-site contractors, which may include (but are not limited to) regular providers of dining/catering, cleaning/janitorial, maintenance, groundskeeping, transportation, and retail services (e.g. book and supply stores).

Part 3

Total compensation provided to the institution's lowest paid regular (i.e. permanent) employee or pay grade meets or exceeds the local living wage.

Include regular part-time and full-time workers. Newly hired, entry-level employees may be excluded from Part 3 during the first six months of employment. Institutions may choose to include or omit student workers.

To determine the local living wage::

- U.S. institutions must use the [Living Wage Calculator](#) hosted by the Massachusetts Institute of Technology to look up the living wage for "2 [working] Adults, 2 Children" for the community in which the main campus is located.
- Canadian institutions must use [Living Wage Canada](#)'s standards (if a living wage has been calculated for the community in which the main campus is located) or else the appropriate after tax [Low Income Cut-Off](#) (LICO) for a family of four (expressed as an hourly wage),
- Institutions located outside the U.S. and Canada must use local equivalents of the above standards if available or else the local poverty indicator for a family of four (expressed as an hourly wage).

For further guidance, see *F. Measurement*.

"---" *indicates that no data was submitted for this field*

The local living wage (based on a family of four and expressed as an hourly wage):
15.56 *US/Canadian $*

Percentage of all employees (regular full-time, regular part-time, and temporary workers) that receive a living wage (benefits excluded):

100

Does the institution have employees of contractors that work on-site as part of regular and ongoing campus operations?:
No

Percentage of employees of contractors that work on-site as part of regular and ongoing campus operations that the institution has verified as receiving a living wage (benefits excluded) (0-100; enter '0' if unknown):
0

The total compensation provided to the institution's lowest paid regular (i.e., permanent) employee or pay grade meets or exceeds what percentage of the living wage?:
125 percent

A brief description of the minimum total compensation provided to the institution's lowest paid employee or pay grade, including any in-kind benefits included as part of the total compensation figure :

Eligible faculty and staff are covered under one of eleven different collective bargaining units. However, under Michigan's Right to Work law that was effective March 2013, employees are no longer required to belong to a union. Information on MSU collective bargaining unit contracts:

http://www.hr.msu.edu/documents/contracts.htm

. While the details of compensation are subject to the specific union contracts - all positions are provided the following: Benefits Enrollment/Changes
COBRA
Dental
Flexible Spending Accounts
Health Care
Leave Programs
Life/Accident Insurance
Life Event Changes
Long Term Disability
Other Eligible Individual (OEI)
Prescription Drug Plan
Retirement
Summaries & Brochures
Voluntary Benefits
Workers' Compensation   https://www.hr.msu.edu/benefits/documents/
Benefits_Summary.pdf

Has the institution made a formal commitment to pay a living wage?:
Yes

A copy or brief description of the institution's written policy stating its commitment to a living wage:

Commitment to providing a living wage is required through the state of Michigan.

Information on MSU collective bargaining unit contracts:

http://www.hr.msu.edu/documents/contracts.htm

Has the institution made a formal commitment to provide a living wage to its student employees and/or graduate teaching/research assistants (e.g. by adopting a student bill-of-rights)?:
Yes

A brief description of the institution's commitment to a student living wage:

Student employees are also paid above minimum wage.

https://www.michigan.gov/lara/0,4601,7-154-59886-486303--,00.html

The website URL where information about the programs or initiatives is available:
https://www.hr.msu.edu/benefits/documents/Benefits_Summary.pdf

Additional documentation to support the submission:
pa_11 Benefits_Summary 2018.pdf

Data source(s) and notes about the submission:

https://www.michigan.gov/lara/0,4601,7-154-59886-453913--,00.html

Assessing Employee Satisfaction

Score	Responsible Party
	Amy Butler
1.00 / 1.00	Campus Sustainability Director
	MSU Sustainability

Criteria

Institution conducts a survey or other evaluation that allows for anonymous feedback to measure employee satisfaction and engagement. The survey or equivalent may be

conducted institution-wide or may be done by individual departments or divisions. The evaluation addresses (but is not limited to) the following areas:

- Job satisfaction
- Learning and advancement opportunities
- Work culture and work/life balance

The institution has a mechanism in place to address issues raised by the evaluation.

"---" *indicates that no data was submitted for this field*

Has the institution conducted a survey or other evaluation that allows for anonymous feedback to measure employee satisfaction and engagement during the previous three years?:
Yes

Percentage of employees (staff and faculty) assessed, directly or by representative sample (0-100):
100

A brief description of the institution's methodology for evaluating employee satisfaction and engagement:

Among the imperatives that focus the efforts of Michigan State University, the sixth imperative, Advancing a Culture of High Performance, is central to the Bolder by Design strategic frame work. This imperative is overarching and by definition embraces the core values of the university: quality, inclusion, and connectivity which in turn, are essential elements of the university's culture. Work environment surveys have been completed recently for faculty and a campus climate survey for students. A similar survey has not been completed for support staff. To better understand the work environment from the perspective of support staff and themes that may be common across all members of the university community as well as those that are experienced differently, a support staff work environment survey is proposed. The purpose of a work environment survey would include:

• Better understanding of the work environment and how it is experienced by support staff.
• Identifying factors that that can inform improved recruiting, hiring, on-boarding and retention of staff.
• Obtaining data that helps to identify barriers that inhibit a fully inclusive and diverse work force.
o This would inform efforts that could lead to reduction and removal of the barriers
• Comparing data with faculty and student surveys and conducting cross-group comparisons to identify common themes and important differences.
• Developing actionable data that can lead to interventions, programs, and potential changes to policies and procedures toward improving the university's work environment.

There are a number of dimensions that contribute to a high performance culture in organizations. A primary component is the work environment (or work climate) in which the members of the organization experience its culture. For the staff

survey, the office for Inclusion and Intercultural Initiatives contracted with Michigan State University's Office for Survey Research (OSR) to conduct a University-wide support staff satisfaction survey. The data collection instrument used was designed by an interdepartmental committee organized by the Office for Inclusion and Intercultural Initiatives. The survey was designed to evaluate specific aspects of the workplace environment. The areas addressed were as follows:
• Annual Performance Evaluation / Review
• Job Advancement
• Diversity and Inclusion at MSU
• Conditions and Relationships within Unit
• Leadership
• Workplace Environment
• Sexual Harassment and Sexual Misconduct
• Beliefs and Attitudes about MSU
• MSU's Culture of High Performance
• Satisfaction at MSU
• Recruitment and Hiring ProcessCurrent support staff as of 2/27/2017 were included, but excluded temporary and on-call employees. The survey had a 38.4 percent response rate. The results were then compiled and presented to the university leadership for follow up action. In addition, specific work divisions offer annual employee satisfaction surveys to guide their staff development; strategic planning; and training opportunities. For example, Infrastructure and Planning Facilities and Residential Hospitality Services conduct surveys annually. University Services has also conducted a recent survey. Academic units also will. conduct employee surveys, ie. College of Veterinary Medicine. The technology that is used by the university is Qualtrics. In addition, the Institute of Public Policy and Social Research has an Office of Survey Research that provides the support for developing, administering, and analyzing the results of internal surveys.

A brief description of the mechanism(s) by which the institution addresses issues raised by the evaluation (including examples from the previous three years):

Each respondent was directly responded to and referenced where on the website that information would be posted. The website highlights the survey findings as well as identifies many of the initiatives launched to support a Culture of High Performance. Additional courses and online education opportunities on topics were also offered.

The website URL where information about the programs or initiatives is available:
https://adminsv.msu.edu/culture/index.html

Additional documentation to support the submission:
pa_12 surveys compiled.pdf

Wellness Program

Score   **Responsible Party**
              Mara Spears
1.00 / 1.00 Sustainability Program Coordinator
              Office of the EVP for Administration

Criteria

Institution has a wellness and/or employee assistance program that makes available counseling, referral, and wellbeing services to all students, staff, and/or faculty members.

"---" *indicates that no data was submitted for this field*

Does the institution have a wellness program that makes counseling, referral, and wellbeing services available to all students?:
Yes

Does the institution have a wellness and/or employee assistance program that makes counseling, referral, and wellbeing services available to all staff?:
Yes

Does the institution have a wellness and/or employee assistance program that makes counseling, referral, and wellbeing services available to all faculty?:
Yes

A brief description of the institution's wellness and/or employee assistance program(s), including information to support each affirmative response above :

In addition to the Olin Health Center located on campus (for students, faculty and staff use), each of the five student neighborhoods have a health and wellness center located in their engagement center. See

http://neighborhoods.msu.edu/

The MSU Health4U program/services are focused on health for staff, faculty, and MSU employees. Health4U focus on: emotional wellness, health consumerism/self-care education, movement/fitness, nutrition, and tobacco cessation. More information is available at:

http://health4u.msu.edu/about

MSU also has an extensive employee assistance program. See

http://eap.msu.edu/

The website URL where information about the programs or initiatives is available: http://studentaffairs.msu.edu/health-wellness-safety/index.html

Additional documentation to support the submission:

Data source(s) and notes about the submission:

See the links below for more options for student, staff, and faculty health and wellness, including movement, counseling, and psychiatric services:

http://studentaffairs.msu.edu/health-wellness-safety/index.html

https://olin.msu.edu/default.htm

https://caps.msu.edu/

Workplace Health and Safety

Score	Responsible Party
	Kevin Eisenbeis
0.49 / 2.00	Director, Environmental Health & Safety
	Environmental Health & Safety

Criteria

Part 1

Institution has reduced its total number of recordable workplace injuries and occupational disease cases per full-time equivalent (FTE) employee compared to a baseline.

Part 2

Institution has fewer than 6 recordable workplace injuries and occupational disease cases annually per 100 full-time equivalent (FTE) employees.

This credit includes employees of contractors working on-site for whom the institution is liable for workplace safety, for example workers for whom the institution is mandated to report injuries and disease cases by a health and safety authority such as the U.S. Occupational Health and Safety Administration (OSHA) or the Canadian Center for Occupational Health and Safety (CCOHS). Injuries and disease cases include OSHA/ CCOHS-recordable fatal and non-fatal injuries (or the equivalent) arising out of or in the course of work and cases of diseases arising from a work-related injury or the work situation or activity (e.g. exposure to harmful chemicals, stress, ergonomic issues). See *F. Measurement*, below, for further guidance on reporting injuries and disease cases.

Please enter data in the table below:

	Performance Year	Baseline Year
Number of recordable workplace injuries and occupational disease cases	474	509
Full-time equivalent of employees	12063	11061
Number of injuries and cases per FTE employee	0.04	0.05

Start and end dates of the performance year and baseline year (or three-year periods):

	Start Date	End Date
Performance Year	July 1, 2017	June 30, 2018
Baseline Year	July 1, 2009	June 30, 2010

A brief description of when and why the workplace health and safety baseline was adopted (e.g. in sustainability plans and policies or in the context of other reporting obligations):

> The baseline performance year was adopted consistent with all the credits; July 1, 2009 - June 30, 2010. the period was the launch of the Energy Transition Plan development and shortly after the first filing with STARS.

Percentage reduction in workplace injuries and occupational disease cases per FTE employee from baseline:
14.61

Number of workplace injuries and occupational disease cases per 100 FTE employees, performance year:
3.93

A brief description of the institution's workplace health and safety initiatives, including how workers are engaged in monitoring and advising on health and safety programs:

> MSU Occupational Health provides medical assessment, monitoring, intervention, and evaluation to MSU employees related to their occupational risks. The office shares responsibility for the health and safety of the MSU community with the Office of Environmental Health and Safety (EHS) .A long-term EHS goal is to divide campus into ""neighborhoods,"" each with designated EHS staff assigned. EHS already sees the benefits of dedicated safety staff assigned to Veterinary Medical Center, Cyclotron/FRIB, Radiology, Grand Rapids Research Center, IACMI, IPF, and RHS. A full-time, comprehensive, hands-on safety approach, facilitiating communications between EHS and campus units, is the most effective strategy to

foster a culture of safety at Michigan State University.Additional Specialized Safety Coverage

EHS's animal handler safety officer handles occupational safety and compliance (campus-wide) for employees handling animals

Infrastructure Planning and Facilities has designated safety resources for IPF employees campus-wide

Residential and Hospitality Services has designated safety resources for RHS employees campus-wide. A new training compliance system supports learning that reduces risks to health, safety, security, and legal liability as well as encouraging best practices in research, operations, and outreach.The new Learning Management System: Ability training system has replaced Saba effective Dec. 3, 2018.

About Weekly Manager Emails. We recommend the 2 min. new user video before you start. Follow with the manager page, if appropriate.Visit the EHS website to learn about their many training programs.

https://ehs.msu.edu/training

.   a full list of available training is located at:

https://ehs.msu.edu/training/course-list.html

. IN addition, specialty courses are offered at times given the diverse types of work that occur within the campus; i.e.

https://ehs.msu.edu/news/2018-09-24-wps-training.html

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The website URL where information about the programs or initiatives is available:
https://ehs.msu.edu/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

https://occhealth.msu.edu/

Innovation & Leadership

Exemplary Practice

Points Claimed 1.50
Points Available 1.50

Exemplary practice credits recognize specific initiatives that demonstrate sustainability leadership. Exemplary practices include:

- Emerging best practices that are not otherwise recognized in STARS (e.g. seeking independent review of STARS data prior to submission).
- Initiatives and outcomes that are a step beyond what is recognized in a standard credit (e.g. achieving third party certification for a program or exceeding the highest criterion of an existing credit).
- Exemplary initiatives and outcomes that are only relevant to a minority of institution types or regions (e.g. participation in green hospital networks).
- Exemplary practice credits may be claimed in multiple submissions as long as the criteria are being met at the time of submission.

A catalog of currently available exemplary practice credits is [available on the STARS website](#).

Credit	Points
[Grounds Certification](#)	0.50 / 0.50
[Bicycle Friendly University](#)	0.50 / 0.50
[Pre-Submission Review](#)	0.50 / 0.50

Grounds Certification

Score	Responsible Party
0.50 / 0.50	**Amy Butler** Campus Sustainability Director MSU Sustainability

Criteria

Institution owns and/or manages land that is currently certified under one or more of the following
programs:

- Audubon Cooperative Sanctuary Program (ACSP) or ACSP for Golf
- Bee Campus USA
- Forest Stewardship Council (FSC) Forest Management standard
- National Wildlife Federation's Certified Wildlife Habitat Program
- An Organic standard or Participatory Guarantee System (PGS) endorsed by IFOAM
- SalmonSafe
- Sustainable Sites Initiative (SITES)
- Tree Campus USA (Arbor Day Foundation)
- An equivalent program approved by AASHE (email stars@aashe.org to inquire about program equivalence)

"---" *indicates that no data was submitted for this field*

Does the institution own and/or manage land that is currently certified under the following programs? (at least one positive response required):

	Yes or No
Audubon Cooperative Sanctuary Program (ACSP) or ACSP for Golf	No
Forest Stewardship Council (FSC) Forest Management standard	No
National Wildlife Federation's Certified Wildlife Habitat Program	No
An IFOAM-endorsed organic standard or Participatory Guarantee System (PGS)	No
Salmon-Safe	No
Sustainable Sites Initiative (SITES)	No
Tree Campus USA (Arbor Day Foundation)	Yes
Bee Campus USA	No
An equivalent program approved by AASHE	No

A brief description of institution owned and/or managed land that is currently third party certified under one or more of the programs listed above, including the year each certification was achieved and/or renewed:

The main campus of MSU became certified as Tree Campus USA by the Arbor Day Foundation in 2017. In addition to this certification; MSU has launched a unique program that commemorates and reuses this wood from felled trees into furniture and art, called the MSU Shadows Program. https://www.crainsdetroit.com/article/20160811/NEWS01/160819973/michigan-state-university-effort-turns-felled-trees-into-furniture. The program is called ""MSU Shadows,"" a nod to the name of the school's alma mater. The Department of Forestry, the W.J. Beal Botanical Garden and Campus Arboretum, Landscape Services and several Michigan artists are involved. They hope to use it as a model for other communities.http://btn.com/2016/11/12/michigan-states-trees-cast-mighty-shadows-btn-livebig/. The program also supports ongoing research using the campus as a living laboratory - "Many of the trees that are growing here on the MSU campus actually pre-date the campus," says Telewski, who is also a professor of plant biology. "We have found trees that are potentially over 350 years old."

Telewski notes that the trees of Michigan State represent more than a beautiful landscape; campus plant life is an important teaching and research tool for the college. In 2013 alone, over $10,000,000 in research, ranging from how insects utilize the flora to creating root rot resistant Cherry trees, utilized the trees and plants found on campus.

https://msushadows.com/

The website URL where information about the programs or initiatives is available:
https://msushadows.com/

Additional documentation to support the submission:

Bicycle Friendly University

Score	Responsible Party
	Tim Potter
0.50 / 0.50	Manager, Bike Service Center
	IPF Sustainability, Recycling & Surplus

Criteria

Institution is currently recognized by one of the following:

- League of American Bicyclists as a Bicycle Friendly University (Silver level or higher)
- Mouvement Velosympathique (Quebec) at Argent level or higher
- An equivalent third party certification program approved by AASHE (email stars@aashe.org to enquire about program equivalence)

"---" *indicates that no data was submitted for this field*

What is the institution's current bicycle friendly award level? :
Silver

A brief description of the institution's bicycle program, including the year the award was achieved and/or renewed:

"MSU moved from a bronze to a silver level in November 2015. Bicycle Friendly university by the League of American Bicyclists. MSU bike program has a sustainable transportation Bikes Service Center; do-it-yourself bike repair and air stations and two secure bike garages on campus. It has also launched a Bike share program through the Associated Students of Michigan State University. Short term bicycle parking is provided for occupied buildings. Long term storage, up to 365 days is available with permit. Long term facilities are located at two locations. It is a fenced-in space o ground level providing protection from theft and vandalism on all sides and shelter from the elements. Permits can be picked up at the MSU Bikes

Service Center which is located near the center of campus. In addition, MSU offers an opportunity for students to learn how to repair or maintain their bikes, skateboard or rollerblades for free? They can learn to work on their own bike in our fully-equipped workshop, the first bike repair workshop on campus for MSU Bikes. You'll learn how to repair your bike from our experienced staff, who work for MSU. The Brake Room is also a place to just come and hangout with other people who share a passion for sustainable non-motorized transportation! Twelve of the 21 residence halls on campus have indoor secured bike rooms, with most halls having them on each floor. MSU's newest on -campus apartments also have indoor bike storage facilities in each unit. Shower facilities and lockers are available at the 3 intramural location son campus that are open to faculty, staff, and students.

The website URL where information about the programs or initiatives is available:
https://msutoday.msu.edu/news/2015/msu-recognized-for-bike-friendly-campus-by-the-league-of-ame
rican-bicyclists/

Additional documentation to support the submission:

Data source(s) and notes about the submission:

https://msubikes.wordpress.com/msu-bac/

http://ipf.msu.edu/news/features/bike-friendly-university-silver-award.html

Pre-Submission Review

Score	Responsible Party
	Mara Spears
0.50 / 0.50	Sustainability Program Coordinator
	Office of the EVP for Administration

Criteria

Institution has had a finalized version of its current STARS submission reviewed using the STARS Review Template and has addressed any inconsistencies identified by the reviewer(s) prior to submission. Institutions may opt for one of two approaches:

1. Independent review. Independent reviews are conducted by individuals who are affiliated with other organizations (e.g., a peer institution, third-party contractor, or AASHE).

2. Internal review. Internal reviews are conducted by employees and/or students who are affiliated with the organization for which a report is being submitted, and are not directly involved in the data collection process for the credits they review. At

minimum, two institutional contacts must be involved in an internal review process: an independent reviewer and another individual (who may or may not be directly involved in data collection) to address the review results.

The reviewer(s) must:

1. Review all credits that the institution is pursuing, checking that:

   - All required reporting fields, attachments, inventories, and URLs are included and consistent with credit criteria and timeframes.

   - Reported figures are consistent across credits (e.g., between the Institutional Characteristics section and specific credits that require similar figures) and that any inconsistencies are explained.

3. Document the review and revision process and outcomes using the [STARS Review Template](#).

4. Provide affirmation that the submission has been reviewed in full and that any identified inconsistencies have been addressed.

The STARS Liaison or other primary contact(s) for the institution must:

1. Address any inconsistencies identified during the review prior to submission.

2. Upload a completed [STARS Review Template](#) to document how reviewer comments and identified issues have been addressed.

3. Upload a statement of affirmation from each reviewer.

"---" *indicates that no data was submitted for this field*

The name, title, and organizational affiliation of each reviewer:

Dayne Walling, Independent 3rd party reviewer, 21st Century Performance LLC . Sally Gatlin, Operations Coordinator, MSU Residential Hospitality Services.

A brief description of the review process:

Reviewers received the STARS technical manual, as well as the 2016 report as an introduction to the STARS Process. A simple checklist was made of all credits in addition to the templates used for credit review (provided by AASHE) to track progress of review for all parties. Early versions of credits were reviewed and discussed in-person, at which point the authors of the credits took feedback and revised their credit response. Further work on credit review was then done in the pre-submission review templates. The review process consisted of the internal and independent reviewers:
- Reading the content of each credit and reviewing the narrative for completeness
- Reviewing credits for clarity
- Affirming credit alignment with the technical guidance

All comments were recorded on the review sheet, and several review meetings were held to go over comments of all credits in the weeks leading up to the submission. Any questions brought up by reviewers were clarified with data providers, and responses were edited accordingly. No credits were submitted without approval from both reviewers. Additionally, the final versions of each credit were reviewed with the Vice Presidents of each work division before submission via the STARS Reporting Tool.

Which of the following describes the review process?:
Both internal and independent reviewers

Affirmation from the reviewer that the submission has been reviewed in full and that any identified inconsistencies have been addressed:
EXEMP PRACT-Affirm of Review-DW-FINAL.docx

Copy of the completed STARS Review Template:
IN18_Pre-Submission Rev Independent (DW).xlsx

Affirmation from an additional reviewer that the submission has been reviewed in full and that any identified inconsistencies have been addressed:
EXEMP PRACT-Affirm of Review-SG-FINAL (1).docx

Copy of the completed STARS Review Template for the 2nd reviewer:
IN18_Pre-Submission Rev Internal (SG)_je4au68.xlsx

Affirmation from a 3rd reviewer that the submission has been reviewed in full and that any identified inconsistencies have been addressed:

Copy of the completed STARS Review Template for the 3rd reviewer:

Affirmation from a 4th reviewer that the submission has been reviewed in full and that any identified inconsistencies have been addressed:

Copy of the completed STARS Review Template for the 4th reviewer:

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:

Innovation

Points Claimed 3.00
Points Available 3.00

These credits recognize institutions that are seeking innovative solutions to sustainability challenges and demonstrating sustainability leadership in ways that are not otherwise captured by STARS.

Credit	Points
Innovation A	1.00 / 1.00
Innovation B	1.00 / 1.00
Innovation C	1.00 / 1.00

Innovation A

Score	Responsible Party
1.00 / 1.00	**Jeff Grabill** Associate Provost for Teaching, Learning, and Technology Teaching, Learning, and Technology

Criteria

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3)   The innovative practice, policy, program, or outcome must be ongoing or have occurred within the three years prior to the anticipated date of submission.

4)   The innovative practice or program has to be something that the institution has already implemented; planned activities do not count.

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7)   Multiple activities or practices whose sum is innovative can be considered for an innovation credit as long as those activities or practices are related. Listing a series of unrelated accomplishments or events under a single innovation credit is not accepted.

8)   While the practices that led to receiving an award may be appropriate for an innovation credit, winning awards and/or high sustainability rankings in other

assessments is not, in and of itself, grounds for an innovation credit. When the innovation is part of a partnership, the summary provided must clearly describe the institution's role in the innovation.

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To help verify that the policy, practice, program, or outcome that the institution is claiming for an innovation credit is truly innovative, the institution may submit a letter of affirmation from an individual with relevant expertise in the associated content area or a press release or publication featuring the innovation.

"---" *indicates that no data was submitted for this field*

Name or title of the innovative policy, practice, program, or outcome:
Science Gallery

A brief description of the innovative policy, practice, program, or outcome that outlines how credit criteria are met and any positive measurable outcomes associated with the innovation:

> The science gallery is an award-winning global traveling network that partners with Universities to bring an infusion of science and art together to young people. Science Gallery focuses on finding wicked problems and exploring unique ways for citizens to intersect with the environment to solve them. Science Gallery Lab partnered with the MSU Hub for Innovation in Learning and Technology and the city of Detroit to create their first gallery in the United States. The gallery engaged academics and students at MSU through collaboration at all levels of the university. Student, staff, and faculty had the opportunity to submit different types of interactive works to have on display at the gallery; this provides a new avenue for researchers to engage the public. Students help run the gallery by becoming trained mentors in the stories, themes, and science content of the exhibits. They are there to create an active dialogue with the community members who attend. Student from the MSU School of Planning, Design, and Construction who were enrolled in the course PDC 491 worked on a project called DesignThink associated with Science Gallery. The students were mostly Landscape Architecture and Environmental Design Students. DesignThink had two parts; first they chose a park, plaza or land parcel in Downtown or Midtown Detroit and envisioned the property with the tools of landscape architects and urban designers, and second, they worked for the Michigan Department of Natural Resources and Belle Isle, as part of the MSU Student Parks Project, and envisioned a cultural area at the park with a focus on the horse stables and formal gardens to meet their aesthetic, functional and environmental needs. The learning outcomes for this course are categorized into four categories: Live, Learn, Work, and Play. For Live, analyze the existing social and natural networks of Downtown, Midtown, and nearby neighborhoods. Learn, blend skills across the team to compose a visual story and create a learning environment in which all involved are co-learners. Work, create a

plan for sustainable site development, and communicate design through graphic mediums. Play, communicate seamlessly across professional, national, age and gender barriers and demonstrate understanding of the needs of Detroit's businesses and governmental bodies in their designs. The partnership created a pop-up gallery that explored the different interpretations of survival and success in an exhibition called Hustle. Science Gallery was free to all those who attended and if the exhibition you were there to see requires traveling to another building the transportation was provided at no cost. Science gallery's goal is to spark an enthusiasm within the young Detroit community members in science, technology, engineering, art, and math. Through vast outreach the exhibition attracted more than 10,000 community members with a wide variety of demographics. Hustle explored survival and success through multi-media exhibits that focused on social equity, economic disparity, and economic and social justice. The works that are featured in the exhibits came from artists and researchers around the global, from San Francisco, California to Budapest, Hungary. Some exhibits, such as Ecomimesis, explored the evolutionary relationship between humans and non-human species, by looking at how plants have been able to adapt and thrive in highly challenging environments. Another exhibit, Power Plants: Industry 4.0 for Trees, investigated how global warming is rapidly changing our planet. The artist wanted people to broaden their outlook to see how ecology could play a part in global capitalism. Another artist explored the dependence humans have on fossil fuels through his art work called Super Major, which detailed how many humans have a frighteningly dependent relationship with material objects through our relationship with fossil fuels. In the exhibit Love Motel for Insects: Science Gallery Lab Detroit Variation, insects were explored as having a major role in our food systems, and the exhibit discussed why we should treat them as "superheroes". In addition to the exhibits, there were workshops and speakers that focused on different topics, such as a short film on gentrification, mental health, and success, a workshop on what technologies, products, and systems in the future will be like, and a session on colony collapse disorder with founders of SW Beetroit. Science Gallery's next exhibition in Detroit is going to be called Depth and will explore water, taking place in the summer of 2019.

Which of the following impact areas does the innovation most closely relate to? (select up to three):
Public Engagement
Diversity & Affordability
Arts & Culture

A letter of affirmation from an individual with relevant expertise or a press release or publication featuring the innovation :
IN-A_SciGallary LetterAffirm-FINAL.PNG

The website URL where information about the innovation is available :
https://hub.msu.edu/science-gallery/

Additional documentation to support the submission:
IN-A_SciGallary-Report FINAL.pdf

Data source(s) and notes about the submission:

https://hub.msu.edu/science-gallery/

https://www.sciencegallery.org/network

https://detroit.sciencegallery.com/hustle

Innovation B

Score	Responsible Party
1.00 / 1.00	**Amy Butler** Campus Sustainability Director MSU Sustainability

Criteria

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Name or title of the innovative policy, practice, program, or outcome:
Solar Car Port

A brief description of the innovative policy, practice, program, or outcome that outlines how credit criteria are met and any positive measurable outcomes associated with the innovation:

> The solar voltaic array broke ground in March, 2017, went online in December of 2017, and the first set of data reported from the Solar Carport project was reported for February 2018. The carport covers 5,000 parking spaces over five commuter parking spots and is designed to produce a combined total of 13.4 MW DC peak power, 10.5 MW AC peak power and a total estimated 15,000 MWh/year of solar energy. The energy produced is equivalent to powering 1,800 Michigan homes. The energy represents approximately 18% of MSU Peak power demand and 5% of the University's total energy demand. The array was built through a 25-year Power Purchase Agreement with Inovateus, a solar-based company based in Indiana, and Alterra (now a subsidiary of Innergex Renewable Energy Inc.). The carport can accommodate vehicles up to the height of 13 ft, making it perfect for football tailgates while also creating ease of access for snow plowing and snow removal. These building choices create a completely one-of-a-kind space for the community to gather and enjoy games, stay dry, and benefit from parking spaces available under the array (this way, MSU avoided land use tradeoffs). The implementation of the array moved MSU up in the EPA's list of on-site green power partners to number 20, and provides the state and country with a working case study on solar power as an addition to micro-grid power.
> The MSU Solar Carport is the largest non-utility Carport Solar Array in North America. The unique Power Purchase Agreement puts MSU in the position of immense cost-savings, as the companies who own the array will provide all maintenance, and MSU purchases 100% of the electricity generated at the agree-upon fixed price for 25 years. This groundbreaking partnership demonstrates MSU's leadership role in financial research and exploration, and the array itself provides many opportunities for research across the university, region, and country. The project's size, functionality, and scope paired with MSU's position as a leading research institution makes it an ideal research space to study solar innovations, especially in relation to a microgrid. The Carport is a public research and educational facility, and can serve as a public learning and training platform. The

university brings a multitude of various tours through the array, and continuous research and case studies can be conducted on site.

The array was specifically designed as covered well-lit parking structures located on the exterior areas of campus and connected to multiple modes of transportation to reach central campus. The carports are a key component of the MSU Campus Mobility Plan as well as Energy Plan. They are a demonstration of "last mile traveled" for commuters and offer a creative space for community engagement and for the local community attedning functions in the area.This provides a partial solution to MSU's long-standing issue of traffic congestion at the center of campus. With the Solar Carport, commuters (students, faculty, staff, and guests) can park their vehicles and utilize the connected walking and bike paths or take the bus from the location. These actions also align with the goals of turning parking spaces into an energy-generating transportation hub for the last mile traveled at MSU.

Which of the following impact areas does the innovation most closely relate to? (select up to three):
Research
Energy
Transportation

A letter of affirmation from an individual with relevant expertise or a press release or publication featuring the innovation :
IN_3 solar carport awards press releases.pdf

The website URL where information about the programs or initiatives is available:
http://ipf.msu.edu/green/practices/solar-carport-initiative.html

Additional documentation to support the submission:
IN-B_ MSU Solar Array Release FINAL.docx

Data source(s) and notes about the submission:

The solar carport has won the Michigan Energy Innovator's Project of the Year Award, the recipient of the Onsite Renewable Energy award for "The Largest Carport Solar Array in North America" at the Smart Energy Decisions Innovation Summit, and the EPA Green Power Leadership Award.

Innovation C

Score	Responsible Party
	Adam Lawver
1.00 / 1.00	Director of Campus Services
	Infrastructure and Planning Facilities

Criteria

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Name or title of the innovative policy, practice, program, or outcome:
Mobile Action Plan

A brief description of the innovative policy, practice, program, or outcome that outlines how credit criteria are met and any positive measurable outcomes associated with the innovation:

A key sustainability challenge of the 5200 acre Michigan State University campus, is the operation and maintenance of its total environment including both the built environment and the legacy parklike environment (including the diverse variety of trees, over 35,000 plants, many which are a part of research and education, and protected spaces.) Proper management and protection of the green aspects contributes directly to its biodiversity and helps to manage the impacts on water usage and water quality. The Landscape Department of the Infrastructure, Planning, and Facilities division is responsible for managing the environment for the health of the environment; impact on education and research; and overall sustainable development of the university experience. Their responsibilities also include managing the infrastructure that supports the university including the roads, sidewalks, and means of transportation throughout the university.

The overall mission of this innovation, the mobile action plan (MAP), was to provide: a sustainable university campus environment in financially responsible ways while empowering and engaging staff in a culture of sustainability and innovation. The MAP combines key strategies that directly relate to the four pillars of MSU's Sustainability Moving Forward Strategy – Campus, Community, Curriculum, and Culture. More specifically, the MAP utilizes technology, training, and innovation to optimize the maintenance and operations in socially, environmentally, and economically efficient means to achieve the mission on the university – advancing knowledge and transforming lives (curriculum). To do so in a financially responsible way involves empowering the people that perform the work and creating a culture that is open to innovations to capture new technologies and measures to expand the management and preservation of our natural resources and environment. (culture and community).

To accomplish these goals, the Infrastructure, Planning, and Facilities (IPF) Landscape Team at MSU is approaching a fundamental shift in its approach to building, grounds, and infrastructure maintenance of the physical environment to sustainably meet the mission of education, research, and outreach. IPF's experienced team of 1,500+ professionals keep MSU running 24/7/365, delivering an immense menu of services to build and maintain the University assets for long term sustainability. As higher education continues to face financial turbulence, IPF's competitive advantage is to operate with evidence-based decisions, a culture of high performance built upon the collective talent, experience and intuition of our workforce through leveraging accessible data for informed decision making. In 2016, IPF's annual strategic planning identified three opportunities to leverage strategy with technology, to drive sustainable disruption in operations through digital transformation:

1. Provide employees with unprecedented access to information integral to daily decision-making.
2. Deploy mobile platforms, applications, and an interconnected environment to advance service excellence.
3. Create a more robust knowledge management system to modernize business processes.

Subsequently, IPF has been recognized for this transformation of operations as a leader in higher education facilities organizations; it has deployed over 1,200 mobile devices, empowering the front-line workforce with access to information. The six-part action plan has spanned and the results to date are transforming how the facilities organization manages work resulting in cost and labor savings while enhancing communications and engagement with the customers as well as

empowering the employees. Over (80) business process changes have occurred to date and an initial $1.2 million investment is forecasting a $763,000 cost avoidance within the first year of implementation.

MSU has identified pitfalls that reduce the ability to optimally maintain and enhance the campus environment: lack of planning, absence of the correct tools, materials, and knowledge to perform the tasks, and lack of communication. The MAP has reduced these pitfalls, eliminated waste-in-process and improved the value IPF provides to campus partners through timely responsiveness and enhanced environmental protection. With the university being designated by the Arbor Day Foundation as a Tree Campus U.S.A, the MAP has contributed directly to maintaining this designation by reducing the cost of maintaining the tree inventory by $100,000 annually in trimming and care and increasing the number of trees attended to as a part of its campus tree-care plan. See video

https://youtu.be/I0qHD4daTuM

The MAP has also enhanced coordination between the various units [Landscape Services; Custodial Services; Surplus Store & Recycling; and Residential Education and Housing Services] involved with waste and recycling material collection. This improved coordination resulted in a reduction of collection expenses by $150,000 in two years while increasing collection by 35% during the same time period, thereby increasing the amount of materials that could be processed through the MSU Materials Recovery Facility. The cost savings in waste and recycling material recovery are based upon leveraging technology to provide a field solution at the point of decision making so the workforce could access the information critical to optimizing their daily routine.

Using GIS, 450, waste and recycling material recovery receptacles were mapped on campus to enable the change of frequency of service on those containers tracked on the mobile devices. The default frequency was weekly, but if receptacles weren't full, employees could change the frequency. Then, using a dashboard, the receptables showed up on a campus map when their frequency interval came up. Over 150 receptacles had frequencies of every two months, so those were removed from the inventory, eliminating the labor, equipment, drive time, to service those receptacles.

The next phase of the MAP Transformation and one of its most impressive aspects has been the incorporation of the campus as a living laboratory with academic experiential learning. The initial student capstone engineering teams have engaged to develop new ways to manage wastes and communicate with the MAP. One designed a trash can capacity sensor which measures the amount of materials in a receptacle and triggers an alert through the GIS system when it reaches 75 % full. The second engineering group will be manufacturing and installing sensors and metrics of impact will be measured as they are deployed.

Fiscally, MAP has incorporated cost efficiencies through increasing workforce communication through voice, text and data usage by 300% Although the metrics have not yet been calculated, a compelling aspect of this savings is the reduction in time spent running back and forth to warehouses and buildings, thereby saving vehicle miles traveled, fuel, and reducing the congestion of traffic on campus during the busiest times of the day.

Additionally, the MAP was used in conjunction with the GIS and the Landscape Management Plan in estimating the new capital projects, including sustainability

features, in design. This combination of technology paired with a systematic approach to landscape maintenance and improvement has resulted in improved coordination and collaboration with the Residential Education and Housing Services. See video: https:///youtu.be/bPCOBZRstLU.

Overall the MAP has spurred over 80 business process changes and has resulted in a $763,000 cost avoidance within the first year of implementation. The plan is transforming how IPF manages work, communicates with the customer and engages its employees. Other institutions have taken note of IPF's winning formula. IPF staff have presented to over 20 universities since 2016, when the mobile device pilot was launched in Landscape Services. IPF is also scheduled to present at the International Society of College and University Planning Conference in the summer of 2019.

Dan Bollman, Senior Vice President of IPF describes the cultural significance of the MAP program to the organizational operations: "Implementation of our mobile strategy across IPF has been truly transformation in how our employees pursue their work. Communications have increased, our responsiveness to issues is faster, and most importantly I've noticed a great deal of satisfaction among employees who have gained greater control over their daily work activities. I believe MAP is leading the way for the entire university in being able to identify, deploy, and realize benefits in both productivity and employee engagement using these technology tools. In addition, they have had the opportunity to interface directly with our students in helping to design further innovations and solutions." See video:

https://youtu.be/j8nu8fEetDw

Which of the following impact areas does the innovation most closely relate to? (select up to three):
Grounds
Waste
Coordination & Planning

A letter of affirmation from an individual with relevant expertise or a press release or publication featuring the innovation :
INC-Mobile Action Press Release.pdf

The website URL where information about the programs or initiatives is available:

Additional documentation to support the submission:
INC_Mobile Action Plan (1).docx

Data source(s) and notes about the submission:

The MAP launched in 2016. With its modular framework, enhancements can continue to be developed and added into the program. The program itself embraces technology with employee innovation and culture to embrace a more sustainable means of preserving and maintaining the campus environment while contributing to the mission of the university.