

4-2020

A Proposal for the Implementation of Stormwater Art at GVSU

Christa Fernando
Grand Valley State University

Follow this and additional works at: <https://scholarworks.gvsu.edu/honorsprojects>



Part of the [Environmental Studies Commons](#), and the [Landscape Architecture Commons](#)

ScholarWorks Citation

Fernando, Christa, "A Proposal for the Implementation of Stormwater Art at GVSU" (2020). *Honors Projects*. 782.

<https://scholarworks.gvsu.edu/honorsprojects/782>

This Open Access is brought to you for free and open access by the Undergraduate Research and Creative Practice at ScholarWorks@GVSU. It has been accepted for inclusion in Honors Projects by an authorized administrator of ScholarWorks@GVSU. For more information, please contact scholarworks@gvsu.edu.

Christa Fernando

HNR 499

Mentor: Dr. Peter Wampler
Grand Valley State University

April 2020

Abstract

Although there are increasing efforts to improve stormwater management on the campuses of Grand Valley State University as an inhabitant of the Great Lakes region, there remains limited visibility and efforts for public awareness and cooperation with ecological restoration initiatives generally. The goal of this project is to describe the opportunity to implement functional art that promotes public awareness of sustainable water management practices. Methods included research into the public art of GVSU and the necessary methodology for future project execution. Various local contacts are also provided as resources for advice, connections, and funding opportunities. In this report, plans and guidelines for a future initiative to design and install stormwater art in conjunction with previously existing storm water management infrastructures are laid out.

Introduction

Some common sustainable stormwater management infrastructures include rain gardens, bioswales, permeable pavement, and rain barrels. These structures are often used in conjunction with preexisting conventional water management systems such as stormwater drains and downspouts. There is an organic opportunity here to infuse artistic expression into these proliferating utilitarian projects. Stormwater art refers to the embellishment of existing stormwater infrastructure or the redesign of such structures with an artistic purpose. As of now, there are a few examples of stormwater art at various institutions and cities. One example is offered by East Multnomah Soil and Water Conservation District in Oregon (“Stormwater alternatives” n.d.). Instead of making downspouts that inconspicuously direct water straight to drains, they are designed as prominent metal slides with swimming fish art sending water to a rain garden or retention area (see image at right). In a more systematic transformation, consider the city of Malmö in Sweden which harbors the ocean (Mondor n.d.). Creating a theme of continuity between the city and its bay, stormwater art was implemented throughout the city following the movement of stormwater through urban space. Much of the pieces included simply conveyance that was previously hidden underground (see image below).



Stormwater Alternatives by EMSWCD



Celebrating water movement

Public spaces in a commercial area that engage the conveyance system

Stormwater + Art by Christine Mondor (Mondor 2012)

As a constant reminder of our intimate connection to water, this project effectively educated the public on the ubiquity of stormwater infrastructure, especially in urban spaces.

Another systematic stormwater art project was done in the city of Chelsea, MA by the Charles River Watershed Association, the Mystic River Watershed Association, and the Chelsea Collaborative. A comprehensive report of the methods and results is provided in the project Google Folder.

The Rain Project at George Mason University in Virginia created a floating wetland on campus that incorporated functional art and ecological restoration. Although the final product goal was different, the process was nearly identical to what is proposed here. There was interdisciplinary student cooperation as well as community involvement for public education on restorative practices (Ahn 2016). Reference to the methodology in the report by Ahn is highly recommended for those considering the execution of this project.

Methods

The problem of a lack of visibility for sustainable stormwater management practices was discovered through research and meetings with Dr. Peter Wampler of the Geology Department on campus.

Significant consultation and research were performed in order to determine the best methods for future execution. Past projects in other cities and institutions were studied for their methods, materials, scope, and complications. Then, various departments were consulted to gain an interdisciplinary perspective on what implementation would look like. The departments that were consulted include Environmental Studies and Visual and Media Arts. Their feedback was integrated into the report as well as recorded in the Interdisciplinary Feedback and Resources section of Results. Potential funding needs were assessed, and possible sources of funding both internal and external were explored and offered as options in the Budget section.

The design thinking methodology undercurrents the framework of this project and certain aspects are recommended in the various phases such as Stakeholder maps. The compilation of guidelines is given in the Results section as well as provided in the Google Folder (link below).

Results

The results of this project are the guidelines and recommendations as obtained through the research described above. They are organized in four phases following the timeline of implementation. The phases are Premeditation, Development, Implementation, and Closing. This section also includes a brief discussion of budget considerations as well as a summary of the interdisciplinary feedback that was gathered and connections that were made.

Timeline

I. Premeditation

This project is intended to be passed on to a student for a future senior project or other capstone work. It will likely be a more thorough and efficient project if there is a small team of students working together on it. Because of the interdisciplinary nature of the project it would be advantageous of students involved had diverse educational backgrounds such as art, environmental studies, engineering, or geology. Once the project team is decided, it is necessary to make sure that there is a supportive network on campus to help move the project forward. This will include connections to administration, facilities, and mentors that can help guide the project.

There are a number of community organizations that could be supporters or collaborators in this project. These include West Michigan Environmental Action Council (WMEAC) and Lower Grand River Organization of Watersheds (LGROW). These organizations could potentially support expansion of this project to other areas of Grand Rapids. According to design thinking models, a recommended tool for systematically surveying all potential contributors is by creating an Asset Map. Asset mapping identifies the geographical location of various groups that could provide a variety of services to the project. For a more in-depth introduction to asset-based community development, refer to the article by Kretzmann and McKnight (1993). The UCLA Center for Health Policy Research offers concise instructions and guidance for developing an asset map (Carroll et al 2004). A similar tool is the Stakeholder Map, which identifies all those who may be affected by the project and anyone who has a stake in the project. These are groups that may need to be kept up to date or consulted at various frequencies during the project. For example, the Facilities Department at GVSU will be both a vital asset and key stakeholder. Their

approval will be necessary before implementation, and their functions may be affected by the project. Therefore, it will be necessary to be clear about the project as well as receptive to their needs early on. Directions on identifying and organizing stakeholders is provided in the article by MindTools. (Mind Tools Content Team n.d.).

Once general resources are identified, it will be necessary to determine the scope of the project. Dr. Kelly Parker in the Environmental Studies department was consulted on this and he recommended that 1-3 pilot pieces be created first, perhaps close by each other, in order to test out the process. He also noted that this could be faster, and completion could increase excitement for project expansion and mobilize approval and internal funding. This idea was supported by Peter Antor of the Visual and Media Arts department. Starting with a single piece would be logistically simpler as well as provide a clear framework for expansion.

II. Development

In this stage, preparation for installation of the art pieces occurs. A number of viable sites need to be identified and assessed to determine what kind of creative modification could be made. For a pilot piece, it will likely be best to simply add an artistic element to an existing stormwater structure, such as a downspout. However, there is the possibility for creating new stormwater management structures with inherent creative design in the future.

It is recommended that a pilot piece be implemented first before expansion to other parts of campus. After potential sites are identified, designs will need to be developed and potentially prototyped. Through this process, the best location can be decided on based on logistics and available resources. A call for designs may be put out to the student and alumni community for a piece once a location is determined. A selected committee can then choose a winning design for implementation. The final designs will need to be approved by the university administration and facilities. While there is no extensive review process, it will be helpful to have a standing relationship already with both groups.

Finally, before implementation of the project, funding must be acquired. A more thorough discussion of the budget and potential funding sources is located later in this report.

III. Implementation

Once design plans are approved and funds are acquired, building and implementation can proceed. Depending on the nature of the team working on this project, those that do the actual building of the pieces could be students, faculty, or hired professionals. If installation will require any outsourcing or contracting, that must be planned for as well, especially if the equipment will require funds.

IV. Closing

This final stage is primarily a reflective settling of the project. A final report of the project can be completed, especially if pilot pieces were made in the hopes of expanding in the future. Maintenance will need to be acquired according to the life expectancy of the artwork. Past projects at GVSU on public art have found that maintenance even every 5 years must be allocated for (Olson et al 2019).

Creating signs for the pieces would be an effective way to ensure the public understands the purpose of the pieces and stormwater infrastructure. If various pieces are made to relate to each other, signage can assist in continuity.

Budget Considerations

Funds will be necessary for materials for building the pieces. Also, if an artist or steel fabricator is contracted to do any work, payment must be allocated. If a faculty member is building the pieces, reimbursement may be appropriate. Also, if any special equipment is required, that must be determined. Signage, if created, will also require funding.

There are number of internal funding sources that would be appropriate for this project. The Making Waves Initiative, Office of Sustainability, Library Art Archive are all locations that may have funding available.

Henry Matthews was the founding director of GVSU Galleries and Collections which includes all the art on campus. Although recently retired, he has considerable knowledge of internal art

funding sources. Nathan Kemler is the new and current director of Galleries and Collections. Both would be valuable sources of advice for funding and implementation of public art at GV. Neither have been previously contacted regarding this project

Interdisciplinary Feedback and Resources

Faculty members have been contacted to gain insight into this project: Dr. Kelly Parker (Environmental Studies), and Peter Antor (Visual and Media Arts). Below is a summary of their advice and thoughts as well as a short list of other potential faculty and staff resources on campus. Dr. Parker, Peter Antor, and Dr. Peter Wampler (Geology) have agreed to be a point of contact for anyone that seeks to work further on this project.

Dr. Kelly Parker, Environmental Studies

Promoted idea of 1-3 pilot or prototype pieces to build energy. Offered the idea that a smaller but quicker execution could build excitement and potentially mobilize funding for a more systemic expansion.

He encouraged involving public opinion early. Because this project will benefit mostly the campus community, they are a key stakeholder group, and it is important to ensure they are involved in the project. One way to build excitement is to do a call for designs inviting the GVSU community to submit designs for a stormwater art piece at a predetermined location. Another possibility is a vote for designs. He emphasized the importance, however, of the final decision being made by an authoritative decision-making body, such as a committee of a few faculty and staff instead of completely leaving the decision up to the public.

Finally, he noted the importance of considering maintenance. Even a piece that lasts 5 years will become an issue if there is not a plan for maintenance.

Peter Antor, Visual and Media Arts

He mentioned that seniors of this department are participate in a showcase at the end of the year. Students may be willing to participate in this project as a part of this showcase.

GVSU has a well-equipped foundry for casting large structures out of bronze. However, for steel cutting, pieces will need to be contracted out to local fabricators. See Norwood Viviano.

He suggested the idea of a call for designs to collect potential ideas from GVSU students and alumni. The winner would be rewarded a commission and potentially be hired and funded to complete the manufacturing of the piece as well.

Other potential contributors or mentors:

Henry Matthews: former Director of Galleries and Collections; knowledge of internal funding sources

Nathan Kemler: current Director of Galleries and Collections; connections to administration approval process

Alison Christensen: Art Gallery Project Manager; role is to manage campus art projects including building construction

Renee Zettle-Sterling: Assistant Department Chair of Visual and Media Arts; has been notified of this project briefly, 3D art experience, connections to other resources

Norwood Viviano: Associate Professor in Department of Visual and Media Arts and Sculpture Area Coordinator; has experience developing digital designs and contracting work to local manufacturers

Kim Cridler: local artist, Rockford, MI; receives public art commissions, may be able to offer advice or design location ideas. Email: kim@benniecridler.com Website: kimcridler.com/index.php

Discussion and Conclusion

With the proper utilization of network connections within the university, funds for this project may be acquired without requiring considerable time. This would be particularly true if the

project occurs during the Making Waves Initiative year. With the proper mentorship, this could be a fruitful and multidisciplinary project for a few students to take on at GVSU. Because of the various benefits and positive influence of the project, administration support should be easily acquired. These include commitment to stormwater management education, campus/public art, student involvement (especially with a call for designs), and interdisciplinary collaboration.

Once a pilot piece is implemented, a report of this project could be published that reflects the journey as well as the results of the project. Potential platforms include GVSU ScholarWorks, the Making Waves Initiative, or external journals. It is likely that this project could inspire and provide guidance for other cities or institutions in the future. Also, future expansion will be promoted if the pilot process is well-documented. There is also the possibility to involve the city of Grand Rapids or at least organizations involved with the Grand River watershed to create their own initiatives to promote education and awareness through public art.

This project also includes a PowerPoint and executive summary of the research. These along with other helpful documents from similar projects and initiatives can be found in the following Google Folder link:

<https://drive.google.com/drive/folders/14NGo20hZLmr5In02sGu94moEOot70myS?usp=sharing>

References

- Ahn, C. (2016). A creative collaboration between the science of ecosystem restoration and art for sustainable stormwater management on an urban college campus. *Restor Ecol*, 24: 291-297. doi:10.1111/rec.12341
- Carroll AM, Perez M, Toy P. Performing a Community Assessment Curriculum (pp. 2-11). Los Angeles: UCLA Center for Health Policy Research, Health DATA Program, September 2004.
- Kretzmann, J. P., & McKnight, J. L. (1993). *Building communities from the inside out: A path toward finding and mobilizing a community's assets* (pp. 1-11). Evanston, IL: Institute for Policy Research.
- Mind Tools Content Team. (n.d.). Stakeholder analysis: Winning support for your projects. In *MindTools*. Retrieved from http://www.mindtools.com/pages/article/newPPM_07.htm
- Mondor, C. (2012, December 5). Stormwater + art. In *Issuu Inc*. Retrieved from <https://issuu.com/evolveea/docs/stormwater-art>
- Mondor, C. (n.d.). Stormwater and art. In *evolveEA*. Retrieved from <https://evolveea.com/stormwater-art/>
- Olson, Raelee; Hukill, Bri; Vercellino, Sandy; and Garver, Brynne. "Art in the park" (2019). Environmental and Sustainability Studies Undergraduate Projects. 27. https://scholarworks.gvsu.edu/ens_undergrad/27
- Stormwater alternatives (n.d.). In *East Multnomah Soil and Water Conservation District*. Retrieved from <https://emswcd.org/in-your-yard/rain-gardens/rain-garden-galleries/stormwater-alternatives/>