

COLORADO STORMWATER CENTER RAIN GARDEN PILOT PROGRAM

ADAMS, ARAPAHOE, DENVER, LARIMER, AND WELD COUNTY

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PROJECT OVERVIEW

The Colorado Stormwater Center provides bilingual education on stormwater management, rainwater harvesting, and is implementing the pilot Residential Rain Garden Demonstration project under the One Water Solutions Institute. As a small team we created outreach materials to spread in the various counties we had partnered with, created a bilingual homeowner garden maintenance and plant guide, evaluated sites from homeowner applications, co-taught classes online and in person about rain gardens, and installed rain gardens start to finish.

With an emphasis on language justice, the Colorado Stormwater Center is disseminating accessible information about water conservation and providing educational resources for people to install rain gardens and rain barrels in their homes and communities. Colorado has complex water laws, recently passed bills finally allow rainwater harvesting (maximum 110 gallons). This is a great effort to empower individuals in the community to conserve and protect water as climate change progresses. Taking applications from Wellington, Denver, Centennial, Loveland, Fort Collins, Windsor, Longmont, and Greeley- of over 300 applications overall 19 sites were chosen based on the eligibility of their site and responses to application questions. The gardens are installed completely free of charge to the homeowner and are a 50ft² or 100ft² design determined by the rainwater catchment area of the roof and variations for level of sun exposure. The gardens serve as a habitat for native pollinators, birds, and insects while adding aesthetic value to the home. Additionally, they can be powerful tools to fix flooding issues on a property and turn people's perception of rainwater from a nuisance to a resource.

INTERNSHIP OUTCOMES

I pioneered the Homeowner Packet, which includes resources on the plant material in their garden, a guide to maintenance and common pests, as well as what to expect of the garden in winter. This guide was translated into Spanish and sent to the residents in their chosen language to inform them about the garden they received. Though the most tangible aspect of this internship was the gardens themselves, I honed many of my media management skills and organization. I used Google Suite and Microsoft Suite as well as Adobe, Canva, and Beautiful.ai - an alternative to PowerPoint presentations. I gained more leadership experience specifically relating to horticulture and landscaping by leading teams and volunteers at garden installations and co-teaching the Certified Rain Garden Installer Course. During rain garden installations, networking with municipal employees, people in the water field, and peer volunteers allowed me to make meaningful connections I plan to follow up with regularly. Over the course of installing 19 gardens, I feel I could confidently assess, calculate depth and dimensions, then install a rain garden at any suitable site. Every site has its own unique challenges, no two rain gardens are the same, making it a complex, organic process requiring a high degree of problem solving. I learned to interpret a landscape design into the real world, meeting the needs of the site. Sourcing plants for the gardens was one of our biggest limiting factors, however sourcing plants and materials for installation has become a familiar task for me.

This internship allowed me to learn a different way of landscaping that is vastly more sustainable, permanent, and water wise. I learned practical skills in drip irrigation, downspout modification, care and maintenance of native plants, principles of stormwater management, and rainwater harvesting. I plan to expand this internship into a plan for growing native Colorado plants in a greenhouse environment to meet the plant material demands of the project and potentially others. The lack of availability of native plants was a subject I hope to make a focus of a future career.

INSTALLATION IMAGES



PRACTICAL APPLICATION AND UNEXPECTED JOYS

Unexpectedly, building in the drip irrigation system has been my favorite part of the rain garden installation process. The irrigation system is vital to plant establishment in the new garden, greatly reducing losses in plant material. Even though it is temporary, the process of creating the system is very fun for me, including dealing with the trouble shooting on each site. I found it very rewarding to talk to the homeowners about their new garden and share their enthusiasm about the many virtues of rain gardens. I cultivated many problem solving experience at installations to meet the needs of the site and produce professional, functional gardens. Each garden is unique and is not applicable using a plug and play system, requiring troubleshooting, modifications on site, erosion protection, water flow tests, and plant spacing. Many homes already had landscape designs evident in the front yards, requiring an eye for design to integrate the rain garden into the landscape while ensuring it would be connected to a downspout and far enough from the foundation of the home to ensure there is no foundation damage. I now notice downspouts everywhere and think about potential garden placement at each. It was amazing to be a part of this pilot project- we streamlined our process and have shown a proof of concept that has led to the City of Greeley as well as Denver to adopt larger scale rain garden projects. Language justice and outreach for a project like this is a long, community-based process. The success of this project will be in the continued discussion with neighbors about rain gardens and the resources to reach everyone that is interested.



NEXT STEPS

Continuing my degree plan towards graduating with a Bachelors in Environmental Horticulture with a minor in Ethnic Studies. I plan to find as many intersectional opportunities as possible that marry the theory and concepts I learn in Ethnic Studies to horticulture/the green industry. I believe it is vital to take the history of oppressed groups in mind in the gathering of knowledge as well as ensuring their inclusion in the upper echelons of the green industry. I plan to work with my mentor on potential future projects such as greenhouse growing of native plants for the Colorado Stormwater Center. This project was a good marriage of Ethnic Studies and horticulture which made me feel like I was doing meaningful, transformative work. Native plants are making a comeback in the green industry, and I hope to contribute to the rise of this practice as a career. Consumers are moving towards lawn replacement due to the high cost of turf maintenance. I would like to see an abundance of native plant/xeric/pollinator friendly landscaping options and resources readily available in multiple languages.