

Iowa CONSERVATION Showcase

Des Moines' Greenwood Elementary Installs Rain Garden

For years, storm water runoff from Des Moines' Greenwood Elementary parking lot washed away students' playtime fun. Neighbor and avid gardener Jan Berg Kruse felt something finally must be done.

"I began to see the soil erosion around the school, and the mulch and river rock from the play areas was washing onto the grass playfield," said Berg, who lives across the street from the school, west of downtown Des Moines. "There are 450 students at Greenwood and a limited site for the playground; we need to improve what we have so there is a place to play during recess."

"I can't imagine being that age and having indoor recess several times a week!" she said.

The nearby Tonawanda Drive Ravine has also been damaged by the extra flow of runoff. Along with pollution problems due to runoff from area streets and parking lots, the ravine has continued to cut wider and deeper into the landscape.



Greenwood Elementary 4th grader Rhot Billio (left) helps Jan Berg Kruse plant one of 1,900 native flowers and plants in a rain garden north of the school.

followed a lead from her friend, Teresa Jenson, to find a fix to the problems, by calling NRCS Urban Conservationist Wayne Petersen. For local assistance and support, Petersen encouraged Berg to contact Polk County District Conservationist Paul Miller.

"Paul was a big help. He came out to the area and recommended a large rain garden be installed on the north side of the school to catch rainwater as it runs down off the parking lot," said Berg. "The concept of what the rain garden could do was not new to me. However, I had not actually been involved in creating a rain garden before."

Rain gardens are depressed areas landscaped with perennial flowers and

Berg, a commercial real estate broker,

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native vegetation that soak up rainwater. Strategically placed, they capture rainwater from impervious surfaces such as roofs, streets, and parking lots. Rain gardens allow water to filter into the ground, rather than run off into storm drains and other water sources.



Polk County District Conservationist Paul Miller shows 3rd grader Marolin Chayee the proper way to plant flowers in a rain garden.

“As we infiltrate more rainwater into the soil through practices such as rain gardens, we reduce the amount of water running off into our urban streams,” said Miller. “This will reduce stream channel and bank erosion and flooding, and improve the quality of the water.”

Berg was able to obtain support and funding for the rain garden from Des Moines Public Schools, Polk Soil and Water Conservation District (SWCD), USDA Natural Resources Conservation Service (NRCS), Iowa Heartland Resource Conservation and Development (RC&D), Trees Forever, and the Salisbury Oaks Neighborhood Association.

The 20 foot by 90 foot rain garden area was excavated in November of 2004, and soils were amended with sand and a compost mixture to enhance water infiltration.

This past May, Greenwood Elementary students and a few parents joined Berg and

Miller to plant more than 1,900 native plants and flowers in the rain garden.

“It was special to hear the children talk with each other and to their parents about being able to take part in planting a rain garden,” said Berg. “This project has truly made a difference in the amount of erosion that is taking place at Greenwood Elementary. The children can relate to this concept since they have watched the erosion problems worsen with each rain.”

Berg said installing the rain garden has given the children at Greenwood a chance to take ownership and to apply their education. “They felt like they had a hand in preventing further erosion and damage to their playground,” she said. “It was funny, though. Several children got the rain garden confused and referred to the project as their ‘rain forest’!”



More than 1,900 native plants and flowers were planted by students and volunteers.

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With rain garden construction complete, talks of installing a pervious paving surface, such as porous asphalt, on the current Greenwood Elementary hard-surface playground are in the works.

“We are continuing to seek partners and funding sources to construct additional storm water management and infiltration practices at Greenwood and in the Salisbury Oaks watershed,” said Miller. “There are many places within the watershed that can infiltrate water, which will help improve and stabilize the ravine that has been threatening Tonawanda Drive.”

To have a successful demonstration project, Miller said it takes local people such as Berg, who are enthusiastic and want to improve their neighborhood. “Jan made my job easier by coordinating meetings with the partners, seeking funding sources, and arranging volunteers for the rain garden planting,” he said. “This project would not have happened without Jan’s involvement.”

*Jason Johnson, Iowa NRCS
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