# ISLE'S NEXT GENERATION CAMPUS INITIATIVE



# Grant Proposal University of Colorado

March 1, 2010



# Next Generation Sustainable Land Care Small Scale Grant Proposal for Sustainable CU

Submitted by: ISLE and Philip Johnson, CU Student

## Introduction:

There are numerous sustainable transition models for buildings, transportation, and consumer products, yet outdoor land care management receives little attention. The reality is that land care has large carbon, water, light and noise pollution footprints. Further, on-site emissions from grounds maintenance equipment are categorized as Scope 1. Such emissions are more harmful to humans and wildlife due to direct exposure to pollution. The International Society for Landcare Emissions (ISLE) proposes a Next Generation Land Care project for the University of Colorado at Boulder to assess and measure ecological, human health, and financial impacts of the current land care technology and practices in order to design an action plan for a Next Generation ISLE Campus. Within this project the initial steps of ISLE's Next Generation Campus Initiative Program will be completed (Figure 1). The site specific action plan is based on the results from the TurfView Assessment Report and specifies cost-effective projects and solutions that not only reduce quantified impacts of



land care management but also satisfy ISLE standards. Action plan projects are designed for future implementation within our innovative zone design. ISLE zones are sub-sections of a project site in which noise, particulate dust, carbon dioxide, water use, light pollution, and other air pollutants are reduced through the implementation of ISLE standards and techniques. Zones are effective tools for controlling emissions and implementation of standards in manageable sections while maintaining the aesthetic value of turf and the continued efficiency of maintenance operators. An initial zone design that comes with the action plan is based on the location, type of site use, fiscal and time variables, and desired outcomes. A zone (Figure 2) can have comprehensive specifications or it can have a theme, such as Low Noise, Powered by Renewable Energy, Organic Pesticides and Fertilizer,

or Wildlife and Native Plants Zone. The ISLE Next Generation Land Care project at CU will be carried by a project management team, made entirely of students and the non-profit organization, International Society for Landcare Emissions (ISLE). The overarching goal of this project is to quantify with precision all the inputs and outputs of the the current land care management system and provide an action plan to guide future implementation of sustainable land care practices.



**Figure 2:** An example of an ISLE Zone. Posted signs to inform pedestrians and operators of zone boundaries & education outreach. Equipment outfitted for low noise and air pollution emissions. Equipment operators abide by ISLE best management techniques and standards. No pesticide labeled "Danger" or "Warning" are used. Fertilizer runoff is kept to an absolute minimum with best management practices. Waste reduction strategies implemented.

# Background on ISLE and the Next Generation Campus Initiative:

The International Society for Land Care Emissions (ISLE) is a non-profit organization specializing in transitioning urban outdoor care toward lower noise, emissions, and overall environmental impact alternatives. ISLE's goal is to help organizations adopt "next generation" grounds maintenance strategies to complement indoor greening projects and/or create a cleaner and quieter environment for the community and clients. ISLE's Next Generation Campus Initiative is based on the Next Generation Model, which starts with "what is" and incorporates simple changes to minimize environmental impact immediately with small, easy and inexpensive steps (Transition Level). The (Evolution Level) continues this process, transitioning organizations toward the (Next Generation Level), where significant accomplishment in reducing environmental impact meets with a striving for continual improvement. Within each level (Transition, Evolution, Next Generation), FIVE elements are essential for environmental progress:



- 1. A science-based approach: TurfView software quantifies the current land care footprint.
- 2. Time-sensitive, customized action plan allows changes to be implemented at the appropriate stages.
- 3. Zones allow integrative solutions to be implemented in manageable sections.
- 4. Comprehensive ISLE Standards and informationsharing networks build accountability.
- 5. ISLE Certification recognizes accomplishments and communicates the environmental responsibility of certified members.

ISLE Next Generation Model, Standards and TurfView Assessment Reports have been utilized and adopted by several organizations within the Boulder and Denver community to begin transitioning grounds maintenance to low impact alternatives.

- The Children's Hospital Aurora Campus
- Chautaugua National Historic Landmark
- The Peloton Condominium Community
- Boulder Outlook Hotel.

#### **Detailed budget:**

All project costs are for equipment, tools and services provided by ISLE.\* \*The budget plan presented in this project proposal is specific to the University of Colorado Small Scale Grant Application and may not be used for other purposes.

#### Sustainable Land Care Scan

Inventory of all grounds equipment, systems, and management practices used on the main campus. Including:

- Equipment
- Irrigation
- **Outdoor Lighting**
- Fertilizer, Herbicides, and Pesticides
- Outdoor waste (e.g. grass clippings)

#### TurfView Assessment Report

TurfView reporting software provides a comprehensive inventory of greenhouse gas emissions (reported in CO<sub>2</sub>e units) from outdoor facilities management that incorporates direct emissions from petroleum powered equipment and embedded emissions from water use, fertilizers, yard waste, and outdoor lighting. Other areas of report include ecologic, economic, and human health impacts, such as noise pollution, light pollution, air pollutants (particulate matter, carbon monoxide, volatile organic compounds, and nitrous oxides), and safety of chemical turf applications.

#### Site Specific Action Plan and Campus Zones Layout Design

\$1000 An action plan for the phased implementation, monitoring, and measurement of sustainable land care outcomes. This key deliverable lays out short and long-term projects along a manageable timeline and within specifically designed campus zones.

#### **Student Involvement:**

The student project manager will put together a team of volunteer students that are in charge of communicating with University of Colorado facilities management and ISLE, and will participate in carrying out all aspects of the program. This includes taking inventory of equipment and management practices, project planning, zone design, and implementation. The students are encouraged to conduct a study through the implementation of one zone based on the action plan and zone design provided by ISLE.

#### **Feasibility:**

All aspects of this project are feasible and have been previously demonstrated on other nonacademic campuses within the Denver and Boulder communities. Cooperation by facilities management will be necessary for this program to be carried out in its specified form.

#### **Student Impact:**

Most every student enjoys the outdoor environment of the CU campus. The "zone" implemented by students will be open to view by any other student. ISLE zones are a great visible tool to see eco-stewardship in action and learn about the importance of creating controlled and manageable section during implementation processes. To increase

\$500

\$1000

community awareness about sustainable land care practices and ISLE's Next Generation Campus Initiative, the student project manager will coordinate campus press about CU's transition process toward low social, economic, and ecologic impact land care practices.

### Sustainability:

The ISLE's Next Generation Land Care Project at CU incorporates sustainability within every step. ISLE's TurfView Assessment report provides a measurement of current impact on social, economic, and ecologic spheres, or the three pillars of sustainability. With the results from the assessment report, the projects presented in the action plan, and the future partnership with ISLE, CU will be able to implement sustainable land care practices within manageable sections, or zones.

#### **Innovation:**

If approved by the board, this would be the first University Campus to take part in the ISLE's Next Generation Campus Initiative. With successful implementation of projects recommended by the action plan, CU could be eligible for an innovation award given by AASHE (Association for the Advancement of Sustainability in Higher Education). Further, the results of this project will be utilized by AASHE and ISLE to promote sustainable grounds maintenance and the Next Generation Campus Initiative to other colleges and universities.

#### **Conclusion:**

Next Generation Land Care project for the University of Colorado at Boulder is a groundbreaking project to spark the partnership between ISLE and CU to create aesthetically pleasing natural outdoor environments for students, faculty, and visitors, as well as reduce the impact from land care management practices.

ISLE's College Campus Zone Initiative strives to build relationships with college students and faculty to increase awareness about the impacts of lawn and landscape management. A partnership with colleges and universities not only directly benefits the institution with comprehensive measuring tools and action plans but also becomes a community example for including ISLE recognized landscape management practices into sustainability planning.