ecoSmart

design software

Environmentally Conscious • Economically Sound • Science-Based

A PRECISION LANDSCAPE EVALUATION & DESIGN TOOL

ecoSmart is a Web-based software program designed to evaluate the trade-offs between different landscape practices on residential parcels. The program estimates the impacts of strategic tree placement, stormwater runoff management, and fire prevention practices. Users work in a computer-simulation environment to test various landscape alternatives to arrive at environmentally and economically sound solutions.

DECISIONS

fire

- Add, remove, grow, or move trees.
- Raise crowns to eliminate lower branches.
- Assess likelihood of house catching fire.

energy

- Add, remove, grow, or move trees.
- Estimate how different types of trees in different locations influence energy use for heating and cooling.

water

- Add cisterns, swales, infiltration basins, efficient irrigation, dry wells, or low water-use trees.
- Evaluate the effect these solutions have on rainfall interception, runoff, and landscape water use.

OPERATION

- Quickly display buildings and landscape features on graphical user interface.
- Configure the building lot, building footprint, orientation, construction materials, windows, hardscape, trees (size and species), and shrubs.
- Simulate different scenarios for up to 40 years into the future.
- Simulate individual rainfall or fire events.

FUTURE

This tool is designed so that future work can incorporate other criteria and indicators of sustainable urban landscapes, such as removal of air pollutants, carbon credits, and recycling green waste.

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