



**BEESON'S**  
McHenry County  
Nursery, Inc.

# Nursery News

June 2008 - Research & Development

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## STREET SMART™ TREES for Extreme Landscapes

### The Urban Environment

Nature is hard on plants. With extreme fluctuations in temperature, wind, and moisture, plants are constantly acclimating. When trees are transplanted into the urban landscape it creates a whole new set of challenges. There are few harsher environments than the urban landscape for trees, and only the toughest- those with Street Smarts- will survive and thrive.

The Urban Landscape is made of concentrations of people, man made materials, heat, and pollutants. Habitats for plants include streets, schoolyards, heavily trafficked parks, riverbanks, cemeteries, vacant lots, parking lots, utility rights of way, and adjacent woodlands.

The urban ecosystem is made up of plants, animals, microorganisms, people, vehicles, streets, sidewalks, buildings, utilities and pollution. Everything competes for the same space and resources. There can also be a different microenvironment on every street.



### Benefits of Urban Green Spaces

Trees and Green Areas...

- Provide beauty while releasing oxygen and absorbing CO2 and other air pollutants.
- Decrease storm runoff, increase soil moisture and can help recharge aquifers.
- Help decrease energy use by providing temperature control by converting sunlight to energy instead of heat, cooling the air by transpiration, and providing shade and insulation for buildings.
- Have been linked to a relaxation response in people, helping to create safer and healthier communities.
- Are a good investment, increasing property value, and increasing pedestrian traffic in retail sites.

### Designing the Urban Landscape

In extreme landscaping situations, site conditions are put first and personal preference second. The concern in plant selection for these sites is finding the right mix of toughness and aesthetics. It can be difficult to give the proper follow-up care to an urban planting. The plants must be adaptable and tolerate extremes of climate, soils, injury, and space restrictions.

Despite the long list of difficulties, there are many Street Smart Trees that will do well and you can get texture, form, and color to create visual appeal.

**Note:** Planting a locally grown tree increases the chance of survival. Also a nursery's irrigation practices will affect the tree. The more supplemental water supplied, the less likely it is to be adapted to dry conditions. Always make sure transplants have adequate water, especially the first two years.

### Growing Street Smart Trees at McHenry County Nursery

Trees that will thrive in an urban environment require conditioning when young, and still only the best will survive. Our nursery growing systems produce trees with the root system and cell structure that can survive harsh urban conditions. (Remember- Plants that are too pampered in their growing site will require pampering in the landscape.)

- Correct Planting Depth
- Root pruning
- Heavy clay loam soils
- Proper digging and handling
- Monitoring for diseases and pests (*treated in the least toxic manner*)
- Natural watering with backup drip irrigation for drought
- Balanced inputs to maintain a natural vigor of the plants
- Soil pH and nutrient monitoring to determine adequate nutrient availability
- Northern winters and summers in open fields

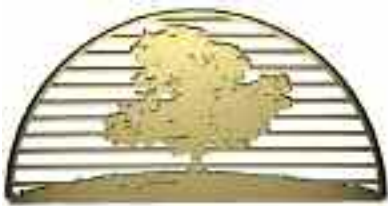


Provenance of plants in urban situations is another growing concern. Losses can be minimized if plants have the advantage of greater capacity to tolerate conditions similar to the weather environment from which they originated.

Inquiries or more information is available by contacting **McHenry County Nursery Green Tech** Mary McClelland  
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## STREET SMART™ TREES for Extreme Landscapes

### Street Smart Trees for Difficult Urban Conditions

#### CLIMATE

**Microclimates:** created by reflected heat, frost pockets, wind or large bodies of water

- [Heat Tolerant Trees](#)
- [Wind/Exposure Tolerant Trees](#)

**Light:** Buildings affect sunlight patterns

- [Trees for full sun](#)
- [Trees for partial shade](#)
- [Shade tolerant Trees](#)

**Water:** Soil Moisture, Rainfall and Irrigation

- [Trees for consistently wet sites](#)
- [Trees for consistently dry sites](#)



#### CONTAMINATION

**Salt spray:** From nearby roadways or sidewalks

- [Salt spray tolerant trees](#)

**Soil and air pollution:**

- [Pollution tolerant trees](#)

#### INJURY

**Physical injury:** from vandalism, dogs, cars, lawnmowers, or bikes

- Mulching around trees lessens the chance for mower or trimmer damage. (This also means fewer weeds and less weedkillers.)



**Pest/disease:** Monocultures of overused trees can contribute to devastating pest or disease outbreaks

- Diversity - Ideally, there should be no more than 5% of any one species and not more than 10% of one Genus.

#### SITE RESTRICTIONS

**Limited space above:** overhead wires, buildings and structures, heat vents, signs, and emergency access lanes

- [Low growing trees for under utility lines](#)

Utilities spend millions of dollars every year pruning or removing trees that are too close to power lines. Severe pruning then creates unnatural and unsightly looking trees.

**Property Lines:** trees don't understand property boundaries

- [Low- maintenance trees stay in a compact form](#)

**Limited space below:** from utilities or structures

- Trees with smaller root volumes (trees with expansive roots have adapted to dry areas) Adequate water will need to be maintained.

#### SOIL

**Alkalinity:** High pH from nearby pavement, masonry & foundations that contain limestone

- [Alkaline tolerant plants.](#)

**Salt:** Sodium leached from concrete

- [Soil salt tolerant trees](#)

**Drainage:** Sandy or gravelly soils, clayey soils, or compaction from construction and traffic.

- [Trees that tolerate compaction](#) (naturally occur in areas of low soil oxygen such as swamps and flood plains)
- [Trees that tolerate clay soils](#)
- [Trees that tolerate poor/gravelly soil](#)



#### Did You Know...

- The average urban tree lives about 7 years
- Suburban trees live about 30 years
- Natural growing trees can live 100's of years

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