Designing Landscapes with Sustainability in Mind

By Tamra Lehuta, PLA
Sr. Landscape Architect
PLACE Landscape Architecture
tlehuta@place-la.com
(509) 438-6228
About our firm

PLACE Landscape Architecture
• Spokane, WA (HQ)
• Tri-Cities
• Four landscape architects, licensed in Washington, Oregon, Idaho, Montana, Texas, New Mexico, and coming soon Hawaii!
• Three landscape architects in training (LAIT)
• Representative Projects
  • Avista Parking Structure
  • Ronald McDonald House Campus Expansion
  • Endris Professional Campus
  • Northwest Farm Credit HQ Campus Renovation
  • Schweitzer Engineering Laboratories PCB Facility
  • Naches Valley Elementary School
  • Kennewick Housing Authority
Learning Objectives

1. What is sustainability, and what are the (3) “P”s of sustainability?

2. How Landscape Architects apply sustainability to all projects, and how teaming with Landscape Architects benefit your projects?

3. How can sourcing materials locally contribute to a sustainable design?

4. How can advancements in technology be utilized within the landscape to create more pedestrian friendly and sustainable spaces?

5. How can irrigation design by a qualified professional play a significant role in water savings, and what are some critical items to be aware of?
What is sustainability?

- Broad term that means different things to different people. What does it mean to you and how is it applied?
- Oxford dictionary: avoidance of the depletion of natural resources in order to maintain an ecological balance.
- Today’s focus upon:
  - Explore three core principals (the three “P”s):
    - Planet (Environmental)
    - People (Social)
    - Profit (Economic)
  - Landscape Architects accomplish this through a strong partnership with the entire design team. It is important that design is done in close coordination with the Civil Design Team.
Landscape Architects (LAs)

1. What is Landscape Architecture to you?

2. When do you add an LA to your design team?

3. LAs are more than a source of planting and irrigation plans or for a LEED project.

4. LAs have been educated and tested to include sustainability techniques and partner with all members of the design team...especially Civil Engineers!

5. LAs make your project more desirable and marketable.
Planet
The Environment Around Us
Planet

• Sourcing materials locally.
• Consider all benefits and impacts for plants, water, air and animal. For every project!
  • Right plant in the right place (Native or Adaptive).
  • Water Needs (Desert / Xeriscape / Drip Irrigation).
  • Solar Energy (Placement of Trees and Berms).
  • Lawns increase water consumption and maintenance.
  • Browsing / Fire Resistant (wildlife habitat).
  • Heat Islands (Roof tops gardens, permeable hardscapes and improve infiltration).
• Partner with Landscape Architects for enhancing.
  • Storm Water (reuse, collect and retention / bio-infiltration per Eastern Washington Storm Water Management Manual).
  • Sewage or Pollution Treatment (use of vegetation to filter).
  • Infrastructure (ADA, pedestrian, bicycle, vehicle, mass transit, autonomous, EV).
  • Grading (Feature integrations, Green Walls, Vegetative slope stabilization).
Materials and Methods

• Tree planting vaults by CITYGREEN
• Stabilized Surface
  • Turf Pavers by “Turf Stone” UNILOCK, MUTAL MATERIALS etc.
  • Permeable Pavers UNILOCK, MUTAL MATERIALS etc.
• MSE Flex Walls  www.flexmse.com
• Profile Products Proganics
  www.profileproducts.com
Example Projects

- 1st Avenue Mixed use Tower
- Private Residences
Designing for People

• Going beyond Landscape Permit Plans for code compliance.

• Consider all benefits that impact diversity, sustainability, function and aesthetics for all designs.
  • **Connection to nature** (natures AC or HVAC green space and trees to recycle CO2 and produce Oxygen or water reduce temperatures) for **comfort and health**.
  • **Site Lighting** (low voltage, solar and dark sky compliant design) for **comfort and safety**.
  • **Site Furniture** (chairs, tables, etc. from recycled materials) for **comfort and social interaction**.
  • **Infrastructure for non-conflicting interaction of transportation types**.
  • **Utilize stormwater treatment within the landscape to create a cooling effect, enhance aesthetics, and provide additional filtration**.
  • **Infrastructure improvements reduce energy consumption and carbon footprint** by encouraging use of mass transit or non-combustible fuels.
  • **Grading to create natural feature for a human experience**. EX. amphitheaters for social events, greenspace for outdoor flex or multi-use space, drainways to water plants & cool site).
Incorporating Technology to Save Energy

- Fill Sensor Trash Receptacles by SITESCAPES
- Solar Bollards by FORM + SURFACES
- Solar Bench, Bus Shelters with solar or greenroofs by MMCITE
Projects

- Spokane City Hall Plaza
- Brick West Brewing
- Residential Community Park
Profit
Economic Considerations
Profit

- Consider best practices for budget conscious design in all projects.
  - Wait for survey and any necessary background files before beginning work.
  - Incorporate construction administration services into scope of work to limit re-work by contractor and ensure work in field matches plans and complies with bid documents.
  - Many sustainability techniques may not have an additional cost, will pay for themselves over time, or even save money.

- **Efficiency.**
  - Knowledge and expertise leads to less revisions and less energy consumption.
  - Do it right the first time.
  - Make your project more desirable and more marketable.
  - Prioritize local resources to reduce transportation (carbon footprint) costs.
  - Provide for the right size plants and zoned water needs to maximize water efficiency and reduce maintenance in the future.
Water Saving Solutions

• Dynamic schedule
• Water Management
• Centralus by HUNTER
Conclusions

1. PLANET: Incorporate sustainability into every design.
2. PEOPLE: Collaborating during the initial design process leads to better projects.
3. PROFIT: Incorporate good design and construction practices to keep sustainability cost effective.
Thank you!

Tamra Lehuta, PLA
Sr. Landscape Architect
PLACE Landscape Architecture
tlehuta@place-la.com
(509) 438-6228