The Evolution of the Consulting Arborist into a Design Professional
What We Will Discuss

• 40 years of change in our industry

• Who are Consulting Arborists and Design Professionals

• Engaging in the Design Process

• Case Studies
Who is a Consulting Arborist?

A consulting arborist is the authoritative expert on trees and brings an objective, comprehensive viewpoint to their clients – ensuring the safety, health and preservation of trees.

The Clients of the consulting arborist include:

- Property Owners
- Municipalities
- Contractors
- Attorneys
- Insurance Professionals
- Landscape Architects
- Developers
- Engineers
- Other Arborists
What Services could a Consulting Arborist Provide?

- Contract Preparation and Supervision
- Diagnosis of Tree and Landscape Problems
- Expert Witness and Litigation
- Forensic Investigations
- Tree Risk Assessments and Surveys
- Insect Disease Identification and Management
- Municipal Ordinance Development
- Plant Healthcare Programs
- Training and Education
- Tree, Landscape, and Nursery Appraisals
- Tree Management for Arboreta, Golf Courses, and Nurseries
- Tree Plant Inventories
- Tree Planting Programs
- Tree Protection for Construction Projects
SITES v2
Rating System
For Sustainable Land Design and Development

http://www.sustainablesites.org/
LIVING BUILDING CHALLENGE℠ 4.0
A Visionary Path to a Regenerative Future
JUNE 2019

https://www2.living-future.org/
Climate Positive Design Challenge.
i-TREE Design

design.itreetools.org

Web application
(any web browser)

Homeowner / Parcel level tool.

Easy to use.

Urban stormwater runoff (or “non-point source pollution”) washes chemicals (oil, gasoline, salts, etc.) and litter from surfaces such as roadways and parking lots into streams, wetlands, rivers, and oceans. The more impervious the surface (e.g., concrete, asphalt, rooftops), the more quickly pollutants are washed into our community waterways. Drinking water, aquatic life, and the health of our entire ecosystem can be adversely affected by this process.

Trees act as mini-reservoirs, controlling runoff at the source. Trees reduce runoff by:

- Intercepting and holding rain on leaves, branches, and bark
- Increasing infiltration and storage of rainwater through the tree’s root system
- Reducing soil erosion by slowing rainfall before it strikes the soil
Urban green infrastructure

- Urban agriculture
- Green walls
- Urban woodlands
- Suburban street trees
- City street trees
- Green roofs
- Sensitive urban design
- Parks, gardens & golf courses
The Atlanta BeltLine will require SITES certification for future parks

Currently, Atlanta BeltLine sustainability guidelines require compliance with the SITES Rating System, ensuring that the Atlanta BeltLine corridor will be built using best practices in green design and construction.

Jasmine Day, 12 Jul 2018
Austin will require all future Parks and Recreation projects to achieve SITES certification

By Hannah Su • July 27, 2022 • News, ProfessionalPractice, Southwest, Sustainability
Rhode Island Amends its Green Buildings Act

The legislation expands the requirement that public projects meet a LEED, LEED for Neighborhood Development and/or SITES certification to include public buildings, public structures and public real property of cities and local governments. The original law applied to state projects, state agencies and “political subdivisions thereof.”
Who will take care of our urban forests?

- Civil Engineer? Urban Planners? Watershed? Landscape Architects? Director of the Arborist Division?
- Trees as Green Infrastructure
- Climate Change will drive species selection
- Future ordinance writers making it mandatory for a consulting arborist to be part of the design team
- Sadly, arborists are not recognized as professionals
- No Credential available that specifically addresses Arboriculture with Site Design in mind
54.2 Design phase

54.2.1 An inventory of trees and other resources should be specified and conducted, if this was not completed in the planning phase. Information from the inventory should be used to develop a tree protection plan.

54.2.2 Inventory specifications should include:
- Area to be inventoried:
- Resources to be inventoried (e.g., trees, shrubs, soil):
- Minimum size tree to include (e.g., trunk diameter or height):
- Data to be collected (see 52.4.3):
- If a tree risk assessment will be completed, the methodology shall be specified:
- Time frame for data collection:
- Type of report to be provided (e.g., oral, written, map, plan):
- Due date of report and:
- To whom the report should be submitted.

54.2.3 Tree inventory data should include:
- Identification/tag number:
- Location (map reference or coordinates):
- Species:
- Size (e.g., trunk diameter, crown spread):
- Condition (i.e., health, structure, form):
- Status as defined by applicable regulations (e.g., heritage, historic); and,
- Additional factors as specified.

54.2.4 Tree protection report should include:
- Objectives:
- Tree inventory data:
- Suitability for preservation:
- Estimation of the construction impacts to tree:
- Recommended action for each tree (retained, transplanted or removed):
- Required mitigation for trees to be removed (if appropriate):

Figure 54.2 Adapted with permission from Best Management Practices, Managing Trees During Construction. 2008, Fite, Kelby and Smiley, E. Thomas. Copyright 2008, International Society of Arboriculture, Champaign, IL.

ANSI A300 (Part 5)-2019 Management of Trees and Shrubs During Site Planning, Site Development, and Construction

- Recommendations for care of retained trees (e.g., pruning to provide clearance for construction, pruning to improve structure, root pruning, work procedures):
- Procedures for protecting trees, other plants and soil areas (e.g., tree protection zone [TPZ] locations):
- Irrigation recommendations for retained trees during all phases:
- Identification of the appropriate times to implement tree protection procedures:
- Consequences for non-compliance: and,
- Additional items as specified.

54.2.5 The tree protection plan should be developed from the tree-protection report.

54.2.6 When a tree protection plan sheet is required or desired, it should be developed from the tree protection report.

54.2.7 When appropriate, design changes or alternative building methods should be recommended to avoid root loss and/or soil compaction. (e.g., pervious/permeable surface materials that do not rely on excessive excavation to install a sub base treatment).
Elements of Project Evolution

• Concept

• Request for Proposal (RFP)

• Schematic Design (30%)

• Design & Development (60%-90%)

• Construction Documents (100%)
REQUEST FOR QUALIFICATIONS

PROFESSIONAL DESIGN AND CONSULTING SERVICES

FOR

ATLANTA BELTLINE WESTSIDE TRAIL EXTENSION

STATEMENTS OF QUALIFICATIONS DUE: Monday, September 9, 2019, 3:00 PM, EST

Envelope(s) shall be sealed and marked with Project Title and Firm Identified
3. PROJECT TEAM

Include an organizational chart and task matrix detailing the division of responsibilities. Provide a professional resume for the key personnel, including key personnel of any joint venture member, or major sub-consultants proposed to be assigned to the Project. Describe their unique qualifications and relevant experience on similar or related projects. Describe key personnel’s proposed roles and responsibilities on this Project. Resumes should be included in the Attachments/Supporting Materials section of the response. Submittals must identify a proposed Project Manager who will be responsible for the day-to-day management of Project tasks and would be the primary point of contact with your firm. Describe the Project Manager’s experience with similar projects and with managing and leading interdisciplinary teams. List other projects to which the proposed Project Manager is currently assigned.

4. TEAM EXPERIENCE

Submit minimum of five examples of projects that are reflective of the subject of this Project, including references. For each example, identify the type of project, size, budget, Respondent’s role, client name and contact information, and indicate what role (if any) the proposed Project Manager or other team members had on the related project. When submitting projects for which an individual firm worked in an auxiliary capacity or in a joint venture or partnership, please include the name of the lead firm. Please remember that any extensive descriptions of vaguely related projects are discouraged and could negatively impact the overall outcome of the evaluation.
Project: Experience

Jekyll Island Beach Village Renovation, Jekyll Island, Georgia

On this project Mr. Dachet provided consulting services related to plan review, interfaced with the Design and the Ownership Teams to implement design changes as needed to protect valuable Live Oak tree resources within the limits of disturbance. Produced and implemented a comprehensive tree conservation program with an innovative fine system to discourage needless tree damage. He also supervised the demolition of existing structures adjacent to all protected trees. 34 Live Oak trees ranging in size from 11” in diameter to 31” in diameter were relocated under the oversight of the project arborist. There was a 100% survival rate of the relocated trees. This $30.2 million project was completed in the spring of 2012. Cliff Gavron, with the Jekyll Island Authority and Director of Landscape and Planning, 381 Riverview Drive, Jekyll Island, GA 31527, 912-635-4099, cgavron@jekyllisland.com was my primary project contact. The unique nature of this project was recognized by the Georgia Urban Forestry Council and received its 2013 Excellence in Urban Arboriculture Award and received the Urban Ag Council’s 2013 Green Star Award.

Original plan showing 40” Live Oak tree at bottom of Roundabout, high likelihood of dying within 3 years in this scenario.
SECTION 6 - EVALUATION CRITERIA

Each submittal shall be evaluated on the following criteria weighting and maximum points as follows:

Evaluations of the responsive submitted SOQs
Firm Description 10 Points
Project Team 20 Points
Team Experience 20 Points
50 Points

Evaluation of Short-Listed Firms Only
Project Understanding/Proposal 35 Points
Interview/Presentation 15 Points
50 Points

An evaluation committee convened by ABI will evaluate the submittals. At the discretion of ABI, follow-up interviews may be conducted before a final selection is made. The interview will focus on the proposal presentation, interpersonal skills, ability to organize data, and design vision.
We Need a **Non-Traditional**

**Approach**

to

**Site Design!**
SITES GUIDING PRINCIPLES

These principles informed the development of specific and measurable criteria for site sustainability, and can also be applied to the land design and development process.

Do no harm.
Make no changes to the site that will degrade the surrounding environment. Promote sustainable design projects on sites where previous disturbance or development presents an opportunity to regenerate ecosystem services through sustainable design.

Apply the precautionary principle.
Be cautious in making decisions that could threaten human and environmental health. Some actions can cause irreversible damage. Examine a full range of alternatives (including no action), and be open to contributions from all potentially affected parties.

Design with nature and culture.
Create and implement designs that are responsive to economic, environmental, and cultural conditions and to the local, regional, and global context.

Use a decision-making hierarchy of preservation, conservation, and regeneration.
Maximize the benefit of ecosystem services by preserving existing environmental features, conserving resources in a sustainable manner, and regenerating lost or damaged ecosystem services.

Provide regenerative systems as intergenerational equity.
Provide future generations with a sustainable environment supported by regenerative systems and endowed with regenerative resources.

Support a living process.
Continuously re-evaluate assumptions and values, and adapt to demographic and environmental change.

Use a systems thinking approach.
Understand and value the relationships in an ecosystem. Use an approach that reflects and sustains ecosystem services and re-establishes the integral and essential relationship between natural processes and human activity.

Use a collaborative and ethical approach.
Encourage direct and open communication among colleagues, clients, manufacturers, and users to link long-term sustainability with ethical responsibility.

Maintain integrity in leadership and research.
Implement transparent and participatory leadership; develop research with technical rigor; and communicate new findings in a clear, consistent, and timely manner.

Foster environmental stewardship.
In all aspects of land development and management, foster an ethic of environmental stewardship—an understanding that responsible management of healthy ecosystems improves the quality of life for present and future generations.

http://www.sustainablesites.org/
The prerequisites are as follows:

**Context P1.1**: Limit development on farmland
**Context P1.2**: Protect floodplain functions
**Context P1.3**: Conserve aquatic ecosystems
**Context P1.4**: Conserve habitats for threatened and endangered species

**Pre-Design P2.1**: Use an integrative design process
**Pre-Design P2.2**: Conduct a pre-design site assessment
**Pre-Design P2.3**: Designate and communicate Vegetation and Soil Protection Zones

**Water P3.1**: Manage precipitation on site
**Water P3.2**: Reduce water use for landscape irrigation

**Soil+Veg P4.1**: Create and communicate a soil management plan
**Soil+Veg P4.2**: Control and manage invasive plants
**Soil+Veg P4.3**: Use appropriate plants

**Materials P5.1**: Eliminate the use of wood from threatened tree species

**Construction P7.1**: Communicate and verify sustainable construction practices
**Construction P7.2**: Control and retain construction pollutants
**Construction P7.3**: Restore soils disturbed during construction

**O+M P8.1**: Plan for sustainable site maintenance
**O+M P8.2**: Provide for storage and collection of recyclables

http://www.sustainablesites.org/
Section 2: Pre-Design Assessment + Planning

Prerequisite 2.1: Use an integrative design process

Required

INTENT
Optimize site performance by identifying and executing synergistic opportunities across different disciplines throughout all phases of design and construction.

REQUIREMENTS
Projects must complete all of the following steps for prerequisite achievement:

1. Form an integrated design team
   • The integrated design team should include, at minimum, the following roles:
     - Owner and/or client
     - Professionals knowledgeable in design, construction, and maintenance
     - Professionals knowledgeable in sustainable practices
     - Professionals with expertise in vegetation, water, soils, landscape ecology, materials, and human health and well-being, selected to meet the unique constraints and opportunities of the project and its site

2. Develop a collaborative communication process
   • Develop an agreed-upon communication method for team members. The method should be collaborative and allow the viewpoints and perspectives of all members to be fully considered in the decision-making process.
   • Designate a team facilitator to be responsible for overseeing and ensuring a collaborative communication process.

3. Identify project sustainability principles and performance goals (see O&M P.8.1: Plan for sustainable site maintenance)
   • Identify the principles and performance goals of the project (both short- and long-term). Include an associated timeline and specific performance measures for each goal to determine when it has been achieved.
   • Designate specific team members to track project goals throughout the development process.

4. Incorporate the sustainability principles and performance goals into a program plan
   • Develop a program plan that at minimum includes the following information:
     - The unique characteristics, opportunities, and constraints of the site
     - General project parameters, such as the scope, budget, implementation schedule, purpose, and design intent of the project
     - A diagram or description of the intended function, arrangement, and relationship of desired features and their approximate dimensions
     - Describe how the sustainability principles and performance goals will be incorporated into the design.

5. Identify stakeholders and site user groups
   • Identify project stakeholders.
   • Identify the full range of potential site users. List the primary and secondary user groups.
1. Form an integrated design team
   - The integrated design team should include, at minimum, the following roles:
     - Owner and/or client
     - Professionals knowledgeable in design, construction, and maintenance
     - Professionals knowledgeable in sustainable practices
     - Professionals with expertise in vegetation, water, soils, landscape ecology, materials, and human health and well-being, selected to meet the unique constraints and opportunities of the project and its site
Owner, Architect, Civil Engineer, Landscape Architect, Operations, Maintenance, Irrigation, Arborist, etc.

100% Construction Documents

General Contractor, ARBORIST
Who is a Design Professional?

A design professional can be one of several different types of specialists:

- A licensed Architect
- A licensed Landscape Architect
- A registered Professional Engineer
- A licensed Land Surveyor
The common theme with any professional trade is a strict adherence to the highest level of moral and ethical standards during the performance of a given task.

If we maintain that design is not just a job, but a profession, like being an architect or a doctor or lawyer, then we must also accept the responsibilities and obligations that come with it.

Being a design professional is not merely a badge of acceptance. The title implies adherence to a code of professional behavior; it implies that we have obligations towards society and that there are lines that we are professionally bound not to cross.
How Do You Get a Seat at the Table?

It is critical that you gain the respect and trust of other design professionals:

• **Credentials**
  • ISA Certified Arborist
  • ISA Board Certified Master Arborist
  • ISA Municipal Arborist Specialist
  • Tree Risk Assessment Qualification (TRAQ)
  • SITES AP
  • ENV SP

• **Education**

• **Experience**

• **Excellent Communication Skills**
  • You must understand how to communicate effectively in the language of other trades:
    • Architect
    • Civil Engineer
    • Landscape Architect
• → 29-100
  o Availability of the trees in the Metro Atlanta area Questionable
  o Water Hickory
  o Bluff Oak
  o Southern Shagbark Hickory
  o No Green Ash should be planted, Emerald Ash Borer is killing them
  o Sand Post Oak
  o Carolina Buckthorn
  o Persian Ironwood
  o Post Oak
  o American Bladdernut
  o Horse Sugar

This note needs to be added to this page:

Since all trees shown are specified as container grown trees, all trees are to be inspected by an ISA certified arborist BEFORE the containers are to be removed from the shipping vehicle. NO EXCEPTIONS.

All container grown trees shall meet the American Standard for Nursery Stock ANSI Z60.1-2004. As per Section 1.7 on page 20 of the document, all trees shall be free of excessive circling roots. Trees found with excessive irreparable girdling root conditions will be rejected before being off-loaded. NO EXCEPTIONS.
Accuracy is critical when dealing with the City of Atlanta Parks Department plan reviewers. It is strongly recommended that someone on this team go thru this table with the plan and accurately one tree at a time mark the poor, dead, and invasive trees with the box symbol on the plan and correct if needed any deficiencies on the tree table. No exceptions to this will be acceptable anywhere on the 29 plan series.

General note: every sheet in this series has significant inconsistency regarding the symbol for poor, dead, and invasive trees. Some trees have the symbol while most trees that should have the symbol do not. It is critically important that this symbol be shown on all trees in the 29 Series that require this symbol, whether they are being removed or not.

- 001.
  - Remove "X" from tree #301.
  - NOTE: Tree #1906 & 1907 will be removed and relocated on site. To read "will be relocated on site, remove "X" from both trees use a unique designation for relocated trees. I never identified on the planting plan where these trees are to be relocated to.

- 002.
  - No tree impact shown to CRZ's within the bioswale/rip rap area.
  - #2004 shown in a bioswale, should it be removed?
  - Multiple trees require the DDH symbol.

- 003.
  - #2640 has trees being removed immediately adjacent to it, need a note stating: "Tree removal shall not damage adjacent trees to be saved."
  - #2745 shown to have a 23% impact in the table, but no shaded CRZ or impact shown on the plan.
  - #3078 shows rip rap thru a large portion of the CRZ with a 5% impact shown in the table and no root zone impact shown on the plan. Please refer to the details pages in the 21 series set to see how this rip rap area is going to be constructed and revise the tree impact accordingly.
  - No tree protection fence shown adjacent to Bridge 1, there will be tree removal and rip rap installation under the bridge that will impact the CRZ's of adjacent protected trees. SRP's are to be protected on both sides of the bridge, see attached jpg of marked-up site plan.
  - Multiple trees require the DDH symbol.

- 004.
  - @ #3031, TPF encroaches into rip rap feature (?)
  - No TPF @ #3057, should at least follow the LOD.
SWALE PLANTED THROUGHOUT BETWEEN ROCKS PER LANDSCAPE ARCHITECT

STONE KEY AT 20" OC STARTING AT BOTTOM OF SWALE (BEYOND)

HAND PLACE 2"-8" NON-EROSIVE STONES IN LAYERS. TIGHTLY BACKFILL Voids FOR EACH LAYER WITH NATIVE SOIL AND HAND COMPACT. STONE SIZES VARY TO MINIMIZE Voids AND SHALL BE PLACED TO MAXIMIZE CONTACT WITH EACH OTHER

SECTION

TOP OF SWALE

BOTTOM OF SWALE

PERMEABLE MEMBRANE UNDER STONE LAYER

STONE KEY SET BENEATH SWALE BOTTOM

NOTE: *ROCK REINFORCED* SWALE TO BE CONSTRUCTED GENERALLY FOR SWALES WITH LONGITUDINAL SLOPE OVER 5%, UNLESS OTHERWISE SHOWN ON PLANS.

PROFILE

SCALE: NTS

ROCK REINFORCED SWALE

2

RIPRAP LOW FLOW CHANNEL

3

Plan Courtesy of alta
NOTES:
1) NO COMPACTION OF EXISTING GRADE SHALL OCCUR WITHIN THE CRZ OF TREES BEING PRESERVED.
2) SOIL CUTS AND/OR ROOT DISTURBANCE SHALL ONLY OCCUR UNDER THE DIRECT SUPERVISION OF THE PROJECT ARBORIST.
3) IF EXISTING GRADE IS GREATER THAN 5% SLOPE, LOW RETAINING WALL MAY BE NECESSARY TO REQUIRED TO HOLD MATERIAL IN PLACE.

ROOT BRIDGING DETAIL
NOT TO SCALE
WALL 1 CROSS-SECTION A-A

SCALE:  1” = 5’

FENCE OR RAILING (BY OTHER) PER COUNTY REQUIREMENTS

PLACE 3.5oz NON-WOVEN GEOTEXTILE BETWEEN 57-STONE AND SOIL BACKFILL AT T.O.W.
PLACE 57-STONE WITHIN AND 12” BEHIND BLOCK UNIT.

1 INCH SETBACK EACH COURSE (7.1 DEGREE BATTER)

4” DIA. CORRUGATED AND PERFORATED POLYETHYLENE DRAIN TILE.

HYDROCKS FILL

GEOGRID LENGTH = 5’

SHORING WALL

G.A.B. AS REQUIRED FOR LEVELING. MINIMUM 6” THICKNESS.

Diagram Courtesy of Schnabel
KH/ARBOR GUARD COMMENTS:
5/12/2022

- green alignment is acceptable
- please provide final shop drawing for review and comment including: soil nail elevations for PH I and PH II
- over dig is a concern, limits to be determined on site during pre-con
- Arboguard to be on-site for start of construction
David Dechant LEED AP, SITES AP, ENV SP

ISA Board Certified Master Arborist
ISA Certified Municipal Specialist
ISA Qualified Tree Risk Assessor

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