

Landscape Protection, Tree Preservation and Mitigation

Intent

The University of Nebraska-Lincoln places a high value on its trees and recognizes the aesthetic, environmental and educational benefits trees provide to the campus environment. It is the intent of these guidelines to provide standards for the evaluation and preservation of trees as part of the development and building construction process for campus.

Goals

- A. Maintain, preserve and protect trees through preservation and mitigation practices.
- B. Encourage creative, innovation and stewardship in architectural design on development sites in order to preserve existing trees.
- C. Limit the removal of trees on construction sites for new and expanded buildings, roads and utilities with appropriate site development.
- D. Educate architects, engineers, project managers, contractors and those who oversee contractors about the value of trees and how to protect and preserve them during construction.
- E. Protect trees during the construction planning process through the completion of construction and to define the parameters for construction projects to follow.
- F. Establish procedures to insure communication among all parties in setting forth expectations concerning tree protection.

Landscape Protection Plans:

1. Prior to the start of design work, the consultant will develop a Landscape Protection Plan based on information provided by UNL. The plan will identify the location, size, root zone, and value of each existing tree and note whether it is to be protected, relocated, and/or removed as part of the project. Tree types, locations, sizes, and root zone areas will be provided as part of the project survey.
2. Should the survey be incomplete at the start of design, the consultant will use UNL's archive and GIS drawings to establish an initial draft Landscape Protection Plan.
3. The consultant will work with the Project Manager, Campus Landscape Architect, and Campus Arborist to understand landscape protection goals impacting the project and to establish protective fence and mulch locations as the project design develops.
4. An example Landscape Protection Plan is available at the end of this narrative. All elements on this example drawing must be included on the project Landscape Protection Plan including a site plan with appropriate symbols, a symbol legend, notes as shown on the example and a campus arborist signature line.
5. The Landscape Protection Plan will be located after the survey and before the demolition plan in the construction documents.

Landscape Protection Specifications: See Tree Protection and Trimming specifications located in the Design Specifications of the UNL Design Guidelines, Division 32 – Exterior Improvements.

Tree Preservation and Mitigation: UNL has adopted design guidelines for tree preservation and mitigation outlined in this narrative. Any questions or requests for waivers should be directed through the Design Guideline waiver process.

Procedures:

Programming Site Inspection

1. The Tree Preservation Team, consisting of the Assistant Director of Landscape Operations, Campus Landscape Architect, and other Landscape Services designated staff and Project Manager will participate in a pre-construction site "walk-through" to determine limitations and discuss concerns regarding trees on the construction site.

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- a. The Tree Preservation Team shall identify and evaluate trees to be impacted by the construction project.
 - b. The Assistant Director of Landscape Operations or designated Landscape Services staff shall appraise all trees on the site that are to be protected or removed. (The appraised value is established by using formulas published in the *Guide to Plant Appraisal, 9th Edition*, authored by the Council for Tree and Landscape Appraisers and published by the International Society of Arboriculture.)
 - c. Appropriate mitigation will be determined by adding new trees to the site (upon completion of the construction).
2. The Tree Preservation Team will work with the project manager to designate protected root zone areas on a landscape protection plan drawn up for the construction site. This plan will include a description of the measures necessary to protect root zone areas (ie. 6' chain link fence).

Pre-Construction Meeting

1. The Campus Landscape Architect will review the landscape protection plan with the contractors and Construction Superintendent or their representatives. At this time they will discuss the details of the plan and how to properly implement them.
2. General information concerning proper tree preservation techniques will be discussed with the contractors based on the specifications included in the UNL Design Guidelines.

On-going Site Inspection

1. The Tree Preservation Team will monitor the construction site throughout the construction process. Violations and damages will be handled according to construction department guidelines and specifications stated in the contract or landscape protection plan.
2. The Tree Preservation Team will notify the project manager or designated inspector of any breach of the landscape protection plan. At this time the contractor will stop and/or correct whatever practice led to the breach.
3. If a breach occurs, damages will be assessed according to the schedule listed in the landscape protection plan. (Damages are established based on the pre-established value of the affected tree and the amount of both short and long term damage done to that tree. The Assistant Director of Landscape Operations shall perform the damage assessment.)

The contractor shall immediately contact the University's project manager should protected trees be compromised in violation of agreed upon specifications. Failure to communicate promptly could result in damages of up to 100% damage assessment.

Definitions:

Compaction – Increased soil density. This results in death of existing roots and/or greater difficulty for new roots to develop. Damage may be caused by many agents, including the use of heavy equipment, concentrated foot traffic, and storage of heavy materials under or around trees.

Damage – Shall include any of the prohibited practices listed below and as determined solely by the owner.

Landscape Protection Plan – A plan that identifies areas of woody plant preservation and methods of protection within the protected root zones. Information identified on this plan: root zone, fence location, tree ID number, approximate tree canopy and tree appraisal schedule

Prohibited Practices – Shall include, but are not limited to:

1. Breaking of branches, scraping of bark or unauthorized cutting.
2. Nailing or bolting into trees or using trees as temporary support in any way (including cabling around any part of the tree).
3. Unauthorized filling, excavating, trenching, or auguring within protected root zone.

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4. Compaction of or driving over protected root zone.
5. Storage of any materials or vehicles within the protected root zone.
6. Dumping of construction waste or materials within the protected root zone.
7. Disposal of liquid waste or contaminants in an area, which may impact, protected trees or their protected root zones.
8. Unauthorized removal or relocation of protected trees.
9. Removal of tree protection barricades or construction fencing prior to completion of project.
10. Any other practices listed in the landscape protection plan.

Protected Root Zone – The part of the root system of protected trees in which construction damage must be avoided. For trees, the ideal protection area shall be defined as one and one half foot of radius out from the tree for each inch of diameter of the protected tree, measured at 4.5 feet above the existing grade. The protected root zone for other existing plants will be indicated on the landscape protection plan.

Protected Trees – Any tree that the Assistant Director of Landscape Operations and Campus Landscape Architect has designated to be of high value because of its type, age or other professional criteria.

Tree Preservation Team – The UNL tree preservation policy team consists of the Assistant Director of Landscape Operations, the Assistant Director of Landscape Services, the Campus Landscape Architect and designated Landscape Services staff as necessary.

Enforcement: It shall be the duty of the Project Manager or his representative, based on recommendations from the Assistant Director of Landscape Operations to enforce the provisions of the contract specifications and the landscape protection plan. Damages shall be assessed as described in the landscape protection plan and in accordance with construction department guidelines.

Alternatives: Alternatives shall refer to any pre-arranged variation to working within the protected root zone. Alternatives allow for the flexibility of requirements where approved specific measures can be implemented in lieu of standard protection specifications. Alternatives would be based on the specific requirements of the plant species in question, as determined by the Assistant Director of Landscape Operations and Campus Landscape Architect.

Exceptions: The Assistant Vice Chancellor of Facilities Planning and Construction or Assistant Vice Chancellor of Facilities Maintenance and Operations must approve exceptions to these standards.