City of Longmont
Forestry Standards and Specifications

Effective 9/16/2020

Department of Public Works and Natural Resources
Forestry Services

The following document is intended as a guiding tool for City of Longmont Licensed Tree Contractors and City of Longmont Forestry Staff. It aims to detail best practices for various aspects of tree care. This document was prepared utilizing many sources including the International Society of Arboriculture (ISA) Best Management Practices, Chapters 6.88 and 13.24 of the Longmont Municipal Code, American National Standards Institute (ANSI) Z133-2012, ANSI A300 (part 1), United States Department of Agriculture/Animal and Plant Health Inspection Service (USDA/APHIS), Colorado State University (CSU) Cooperative Extension, Ohio State University (OSU) Extension, ISA BMP's - Integrated Pest Management (IPM), and ISA Trees are Good – Insect and Disease (I&D) Problems. Tree work shall always keep in mind the health and structural integrity of the tree.

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Section A: License Requirements

Tree Contractor License

1) A 'Tree Contractor License', issued by the City of Longmont, is required for all businesses that perform work on trees located within the city limits. This includes all public and private trees. Tree work that requires a license includes the following activities:

a) Cutting, trimming, pruning, or removing of trees.

2) The following businesses that provide only these specialized type of service are exempt from needing to obtain a Tree Contractor License:

a) Stump grinding, tree planting, crane operations, or pesticide application. Businesses that apply pesticides to trees within city limits must be a Commercial Pesticide Applicator with the Colorado Department of Agriculture and adhere to guidelines laid out in The Integrated Weed Management Plan found here https://www.longmontcolorado.gov/Home/ShowDocument?id=18401.

3) The City of Longmont does not accept reciprocal licenses from other municipalities.

4) A license waiver may be requested for a specific tree removal operation or project such as site demolition by a qualified demolition company.

5) Chapter 6.88. – Tree Contractor License, of the City of Longmont Municipal Code, establishes the requirements for a Tree Contractor License.

Applicants Must Meet the Following Criteria to be Licensed:

1) At least one staff member shall obtain and maintain a minimum of one of the following International Society of Arboriculture (ISA) Certifications:

a) Certified Tree Worker Climber Specialist
b) Certified Tree Worker Aerial Lift Specialist
c) Certified Arborist Utility Specialist
d) Certified Arborist
e) Board Certified Master Arborist

2) Pass an aerial tree pruning practical field test, administered by Forestry Services. City staff will provide a ground person for exam and clean up debris generated from pruning test. Practical field tests will include a gear check to ensure safe, industry standard gear. Practical field test evaluates safe work practices as well as proper pruning technique and will include pruning one tree with the assistance of a Senior Arborist. The applicant should plan on spending 2 to 3 hours for the pruning practical field test.

3) All motor vehicles must clearly display the licensee's business name. Signage letters and numbers shall be a minimum size of 2 inches in height and visible from a distance of 60 feet.

4) Each licensee must carry general liability and automobile liability insurance covering all of the applicant's proposed tree service operations and vehicles.

a) General liability insurance coverage with minimum coverage of $1,000,000.00 per occurrence.
b) Automobile liability insurance coverage with minimum coverage of $1,000,000.00 per occurrence. Coverage shall include owned, hired, and non-owned vehicles.
c) If applicable, workers' compensation and employer's liability coverage pursuant to Colorado state law for persons performing work on behalf of the applicant or licensee.

Section B: Applicability of Standards

City of Longmont employees and companies holding a Tree Contractor License issued by the City shall perform all pruning and removal of trees on public or private property within the city in accordance with these Standards and Specifications, International Society of Arboriculture (ISA) Best Management Practices, American National Standards Institute (ANSI) A300 (part 1) pruning standards, and the City of Longmont Municipal Code. Any licensee not complying with these requirements may have their Tree Contractor License suspended or revoked at the discretion of the Director of Public Works and Natural Resources or a designee.

Section C: Best Management Practices

City of Longmont employees and companies holding a Tree Contractor License shall perform all work on or around trees in accordance with International Society of Arboriculture (ISA) Best Management Practices (most recent editions) unless otherwise approved by Forestry Services.

Section D: Pruning and Removal Standards

These standards were adapted in part from ANSI A300 (Part 1), ISA Best Management Practices/Tree Pruning, and ISA Best Management Practices/Utility Pruning of Trees. Most recent editions of all documents shall always be used.

Licensed Tree Contractors and City of Longmont Forestry staff shall be familiar with the City of Longmont Forestry Standards and Specifications, Chapter 6.88 and 13.24 of the Longmont Municipal Code, the most recent editions of all applicable ANSI A300 documents, and ISA Best Management Practices regarding tree pruning and removals.

Pruning recommendations and actual pruning work shall always regard tree health and the tree's structural integrity. Specifications for pruning and removal work should be based on objectives, describe the major job components, explain work type (pruning type or removal), and include location of tree(s) on the property. All specifications shall be written. Written specifications for pruning or removal should be administered by an arborist.

1) Scope of Work:

The following information shall be specified in writing prior to the commencement of tree pruning or removal and provided to the customer:

a) Pruning:
- Pruning Objectives (see section D, #7).
- Pruning Type - crown clean (CC), crown thin (CT), crown thin light (CTL), crown raise (CR), crown reduction, crown restoration, or structure pruning (see section D, #8).
- Location - address or location and specific details on location of tree(s) on the property.

b) Removal:
- Lowest final cut for removal and whether or not stump removal is to be included.
- Location - address or location and specific details on location of tree(s) on the property.

2) Tree Inspection Prior to Pruning or Removal:

a) An arborist shall visually inspect each tree before beginning pruning or removal operations.

b) If a condition is observed requiring attention beyond the original scope of work, the condition shall be reported to customer/client.

3) General Pruning and Removal Standards:

a) Pruning and removal cuts shall be performed by an arborist, or an arborist trainee under the direct supervision of an arborist. These are generic titles based on competency and experience, but they need not be the actual position titles. The arborist does not need to be on site at all times, but shall be familiar with the practices and hazards of the tree work assigned and the equipment used in such operations. Ground work does not need to be performed by an arborist or arborist trainee.

b) Any licensed Tree Contractor shall stop work on a job site when directed by the City for any reason such as possible violations of a safety standard, tree topping, or improper tree care. The contractor may only resume work once Forestry Services has deemed it alright to do so. Violations of these Standards may include suspension or revocation of

the Tree Contractor License. For details about suspension or revocation of a Tree Contractor License please see Chapter 6.88 Tree Contractor License of the Municipal Code.

c) In conducting tree pruning and removal, all work shall be performed using methods and equipment in such a manner so as to avoid and prevent damage to landscape, properties, structures, and/or persons.

d) Tree pruning and removal shall comply with all federal, state, and local laws and regulations.

e) Migratory Bird Treaty Act (MBTA): "The MBTA provides that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, egg or any such bird, unless authorized under a permit issued by the Secretary of Interior." In practice, all tree work shall cease if there is found to be nesting birds within the tree. Bird nests shall remain in the original location whenever feasible. Contractors working on behalf of the City shall only continue tree work once birds have fledged from the nest and the City Forester has approved the continuation of work.

f) Off-site trees shall not be cut, pruned, or removed beyond a property line without prior verbal or written approval from the owner(s) of the tree(s), or his/her authorized representative. An exception is that the City can authorize pruning or removal of trees or shrubs posing a hazard to public property, or for the control of tree diseases or insect infestations as described in Chapter 13.24 of the Longmont Municipal Code.

g) During an emergency, because of safety and the urgency of the operation, it may be necessary to deviate from the use of proper pruning techniques as defined in this Standard. Following the emergency, corrective pruning should be done as necessary.

h) Standards specific to removal operations:

- Specifications for removal work shall describe where the lowest final cut will be made.
- Specifications for removal shall include whether or not stump removal is to be included as part of the removal.

4) Pruning Tools and Equipment:

a) Equipment, tools, and work practices that damage living tissue and bark beyond the scope of normal work practices are prohibited.

b) Climbing spurs are prohibited when entering and climbing trees for the purpose of pruning, tree inspection, or any purposes other than removal. An exception will be made for aerial rescue operations.

c) Pruning tools used in making pruning cuts shall be sharp and disinfected at appropriate variables when applicable.

5) Wound Treatment:

a) Wound dressings shall not be used to cover wounds or pruning cuts, except when directed by the latest research.

b) When tracing wounds, only loose, damaged tissue shall be removed.

6) Pruning Cuts:

a) General Pruning Guidelines:
- The smallest diameter cut is preferred.
- The number and size of cuts that expose heartwood should be minimized.
- The final pruning cut should result in a flat surface with adjacent bark firmly attached.
- Tree branches shall be removed in such a manner so as to avoid damage to other parts of the tree, or to other plants or property.
- Distribution of remaining foliage should be consistent throughout the interior and exterior of the crown.
- Branches too large to support with one hand shall be pre-cut using an acceptable three-cut method or rigging to avoid splitting of the wood or tearing the bark. Multiple cutting techniques exist for the application of a three-cut method.
- A cut that removes a branch with a narrow angle of attachment should be made in a way that it will not cause damage to the parent branch or stem.
- When removing a branch with included bark, the cut should be made as close as possible to the point where the wood of the stems join without damaging the remaining stems.
- When removing a dead branch, the final cut shall be made just outside the collar of living tissue and without leaving a stub.
- Severed branches or hangers shall be removed from the crown upon completion of the pruning, any time that tree is left unattended, or at the end of the workday.
- Per Chapter 13.24. - Trees and Plants, of the City of Longmont Municipal Code, minimum clearance over city streets is 15 feet, and minimum clearance over city sidewalks is 8 feet, for all the following listed prune types.

b) Removal Cut: A pruning cut that removes a branch at its point of origin. This cut shall be made close to the trunk or parent branch, without leaving a stub, and without cutting into the branch bark ridge or branch collar.

c) Reduction Cut or Heading to a Lateral Cut: A pruning cut that reduces the length of a branch or parent stem by cutting back to another branch or stem. These cuts shall be made at a slight downward angle relative to the remaining stem without damaging the remaining stem.

- When pruning to a lateral (reduction cut), the remaining lateral branch should be large enough to assume the terminal role. This lateral branch should be at least 1/3 the diameter of the removed portion. A larger ratio, closer to 1/2 is usually preferred. If the lateral branch that remains is less than 1/3 the diameter of the removed stem (both stems measured perpendicular to their main branch axis at the branch junction), then the cut is considered a heading cut to a lateral. A heading cut to a lateral is considered inappropriate on most trees.
- Heading cuts to a lateral that are less than the 1/3 rule, shall only occur when the objective for pruning cannot be achieved with pruning cuts that cause less impact to the tree's health or structural integrity. **Topping is an inappropriate technique in meeting an objective.** Heading cuts to a lateral can cause significant problems and shall be used with a great deal of discretion. Pruning recommendations and actual pruning work shall always regard the health and structural integrity of the tree.

d) Heading cuts in the internodal zone shall not be made on a branch, or a stem, 2 years old or older, except for the following reasons:

- On a mature tree, a large branch or stem stub may be left to slow the movement of decay into a major branch or main stem. The exception and the reason shall be included in the specifications.
- On a mature tree, a large branch or stem stub may be left for wildlife considerations. The exception and the reason shall be included in the specifications.
- Pruning required for clearance of a street, sidewalk or other defined pedestrian or vehicle passageway may include shearing or cutting back into wood 3 years old or older. Minimum clearance over a city street is 15 feet. Minimum clearance over a sidewalk is 8 feet. Tree health, species, and age shall be considered and therefore no more than 30% of the crown of a tree shall be pruned at one time.

7) Pruning Objectives:

a) Pruning objectives shall be established prior to beginning any pruning operation.

b) Objectives should always keep in mind the health and structural integrity of the tree.

c) Objectives should include, but are not limited to, any of the following:

- Reduce risk
- Improve and maintain health
- Provide clearance
- Manage wildlife habitat
- Aesthetics
- Influence flower or fruit production

8) Pruning Type:

Pruning type shall be specified prior to commencement of work. These pruning types are all part of a natural pruning system. A natural pruning system conserves the characteristic growth pattern and adaptations of the tree but also allows for pruning to develop preferred structure and branch architecture, and to avoid conflict with infrastructure, lines of sight, and other obstructions. Pruning types include:

a) **Crown Clean (CC)**: Shall consist of safety pruning to remove one or more of the following non-beneficial parts: dead, diseased and/or broken branches.

- Location and minimum size of parts to be removed shall be specified prior to commencement of work.

b) **Crown Thin (CT)**: A complete prune that shall consist of selective removal of live branches to reduce crown density. This pruning type includes crown clean as defined above.

- Thinning should result in an even distribution of live branches on individual branches and throughout the crown.
- Cuts should be focused on the ends of the limbs.
- Lion tailing is a poor pruning practice and shall not occur when pruning live branches during thinning.
- No more than 30% of the live crown should be removed within an annual growing season.
- Location of parts to be removed shall be specified prior to commencement of work.

c) **Crown Thin Light (CTL)**: A complete prune that shall consist of selective removal of live branches with an emphasis on a lower percentage of live crown removal than a crown thin. This pruning type includes crown clean as defined above.

- No more than 25% of the live crown should be removed within an annual growing season.
- Cuts should be focused on the ends of limbs.

- Lion tailing is a poor pruning practice and shall not occur when pruning live branches during thinning.
- Location of parts to be removed shall be specified prior to commencement of work.

d) **Crown Raise (CR)**: Shall consist of selective removal of branches to provide vertical clearance. Crown raising should shorten or remove lower branches to provide clearance for buildings, signs, vehicles, pedestrians, vistas, or other considerations.

- Trunk to crown ratio in terms of tree height should not be reduced to less than 50%. Tree health, size, age and species shall be considered. A higher percentage of crown to trunk ratio is preferred when appropriate.
- Minimum clearance over city streets is 15 feet, and minimum clearance over city sidewalks is 8 feet.
- Location and size range of parts to be removed should be specified prior to commencement of work.

e) **Structure Pruning**: A complete prune that shall consist of selective pruning to improve tree and branch architecture primarily on young and medium aged trees.

- A central leader should be selected for development as appropriate.
- Strong, uniformly spaced scaffold branch structure should be selected for and maintained by reducing or removing other branches.
- Temporary branches should be retained or reduced as appropriate.
- Interfering, overextended, defective, weak and/or poorly attached branches should be removed or reduced.

f) **Crown Reduction**: Shall consist of pruning branches or stems to decrease the height and/or spread of a tree. This type of pruning is done to minimize risk of failure, to reduce height or spread, to provide utility line clearance, or to clear vegetation from buildings or other structures.

- Species and plant health shall be considered prior to commencement of work. No more than 30% of the crown should be removed. The tree's form, branch structure, health, and structural integrity shall be considered in determining the appropriate amount of reduction to meet the objective.
- Topping or heading shall **not** be used as a pruning technique to reduce tree size by cutting back a tree to a predetermined crown limit.
- When a limb on a mature tree is cut back to a lateral, no more than 1/3 of its foliage should be removed.
- The one-third rule should be abided by unless otherwise specified.
- Location of parts to be removed and/or clearance requirements shall be specified prior to commencement of work.

g) **Crown Restoration**: Shall consist of selective pruning to redevelop structure, form, and appearance of severely pruned, vandalized, or otherwise damaged trees.

- Location in tree, size range of parts, and percentage of sprouts to be removed should be specified prior to commencement of work.

9) Utility Pruning:

The purpose of utility pruning is to prevent the loss of service, comply with mandated federal clearance laws, prevent damage to equipment, maintain access, and/or uphold the intended usage of the facility while adhering to accepted tree care performance standards.

a) Companies performing utility pruning are required to obtain a City of Longmont Tree Contractor License.

b) Pruning cuts shall be made in accordance with sub-section "Pruning Cuts" of this document (Section D, #7). The structure and growth habit of the tree shall be considered prior to the commencement of work.

c) Utility pruning should be accomplished by removing entire branches. A tree interfering with a utility space should be pruned by reducing branches to laterals to direct growth away from the utility space or by removing entire branches.

d) Branches shall be cut to laterals or parent branches and not at a pre-established clearing limit. If clearance limits are established, pruning cuts shall be made at laterals or parent branches outside the specified clearance zone. Topping is an inappropriate technique in meeting this objective.

e) During a utility-declared emergency, service must be restored as quickly as possible. At such times it may be necessary, because of safety and the urgency of service restoration, to deviate from the use of proper pruning techniques. Following the emergency, corrective pruning should be done as necessary.

f) Only a qualified line-clearance arborist or line-clearance arborist trainee hired by the utility provider shall be assigned to line-clearance work in accordance with industry requirements and regulations.

g) To be compliant with the OSHA 29 CFR 1910.268, 269, 331, 333 and ANSI Z133.1, only utility pruning contractors with qualified employees shall perform any activity that may bring an individual or equipment within 10 feet of high voltage (600 volts or greater) overhead lines. Contractors working directly for the utility shall be considered qualified. Incidental line-clearance arborists must contact the appropriate utility to make arrangements for safe activity.

h) When an incidental line-clearance arborist is unable to safely maintain a minimum approach distance of 10 feet from a conductor they shall stop work operations until a qualified line-clearance arborist can provide adequate clearance from the conductor.

Section E: Planting Standards

These standards apply to anyone planting trees on City property. Contractors that only perform planting operations do not need to be licensed by the City, however, they still need to follow these general standards if planting on City property.

Planting on City Property must adhere to Planting Details, which can be found in Appendix B of this document.

1) Scope of Work:

The following information shall be specified in writing prior to the commencement of planting operations:

a) Location - address or location and specific details on location of tree(s) to be planted on the property.

b) Species, size, and nursery stock type - specific tree species to be planted along with the caliper inches, and the nursery stock type.

- All trees must be approved by Forestry Services prior to planting.

c) Mulching - the depth mulch will be applied and the size of the mulch ring.

d) Staking - indicate whether or not contractor or City is responsible for staking.

e) Initial Watering - indicate whether or not contractor or City is responsible for initial watering.

f) Irrigation - adhere to specific irrigation guidelines laid out in Planting Details (found in Appendix B).

2) Irrigated or Non Irrigated Site

a) Planting details will vary for different slopes and irrigation. For specific planting requirements refer to the planting details found in Appendix B.

Section F: Stump Removal Standards

These standards apply to anyone removing a stump on City property. Contractors that only perform stump removal services do not need to be licensed by the City, however, they still need to follow these general standards if removing a stump on City property.

1) Scope of Work:

The following information shall be specified in writing prior to the commencement of stump removal operations:

a) Location - address or location and specific details on location of stump(s) on the property.

b) Depth - the depth the stump is to be ground or removed to.

c) Grind radius - the radius around the above ground portion of the stump that needs to be removed.

d) Clean up and backfilling.

2) Utility Locates

a) It is the responsibility of the excavator to request and confirm all utility locates are complete and clear prior to excavation.

Section G: Safety Standards

These standards were compiled and adapted in part from ANSI Z133-2012. Contractors holding a Tree Contractor License and City of Longmont Forestry staff shall be familiar with and utilize the literature regarding safety standards in arboriculture (most recent editions).

1) General Safety Standards:

a) All workers present on-site shall wear appropriate Personal Protective Equipment (PPE). At minimum, PPE must include: head protection (helmet), eye protection, hearing protection, ankle high boots, long pants and a shirt. All clothing shall be free of holes, rips, and tears.

b) Chainsaw protective leg coverings (chaps or chainsaw protective pants) shall be worn when operating a chainsaw on the ground.

c) Chainsaw safety components (chain brake, throttle interlock, chain catcher) shall not be removed or modified. A chainsaw shall not be operated if the safety components are not in working order.

d) Two hands shall be used at all times when operating a chainsaw unless the operator is placed in danger or a significant hazard is presented by operating the chainsaw with two hands.

e) A work zone must be established and properly marked with signage, flagging, or cones when there is a possibility that non-workers could enter unknowingly. Non-workers and non-essential personnel should not enter a work zone.

f) Do not chip brush while wearing loose clothing, climbing equipment, harnesses, lanyards, or gauntlet-style gloves; because of a higher chance of becoming caught up by material being pulled into the chipper.

g) A visual inspection of the tree, trunk flare, and root zone shall be completed and potential hazards shall be identified before the arborist or arborist trainee climbs or performs any work on the tree.

h) A second arborist, arborist trainee, or ground worker trained in aerial rescue shall be within sight and/or oral communication range during aerial operations above 12 feet.

i) While engaged in aerial climbing operations and/or ascending a tree (including using spurs/spikes) an arborist shall have available an appropriate length climbing line. Additionally, the arborist shall be secured (tied-in) by at least one means (climbing line or work-positioning lanyard) while working aloft.

j) When using a ladder to gain aerial access to a tree, an arborist shall not work from or step-off the ladder onto the tree until they are tied-in or secured. Ladders should only be used when there is solid ground to place it on. Ladders should comply with Z133 7.5.

k) Aerial lifts shall be equipped with a fall protection anchor to secure a personal fall protection device (full body harness with energy-absorbing lanyard or regular harness with lanyard) which shall be worn by the arborist aloft at all times. These required pieces of PPE must meet the ANSI/SIA A92.2 Standard.

l) Arborists working aloft in a tree shall be tied-in and secured by a second means (work-positioning lanyard or second climbing line) when operating a chainsaw. Using two lanyards or both ends of a two-in-one lanyard shall not be considered acceptable as two means of securement when operating a chainsaw aloft.

m) Workers having roles and responsibilities with a temporary traffic control plan shall be trained in traffic control techniques, sign usage/placement, and how to perform work near traffic while mitigating their risk/exposure to injury.

n) Workers exposed to the risks of traffic shall wear high-visibility safety gear meeting the standards of ANSI/ISEA 107.

o) Traffic flow should be restricted as minimally as possible while moving through a temporary traffic control area. Workers shall use necessary signage and devices to provide clear signals to drivers in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).

p) A Working in the Right of Way Permit shall be obtained from City of Longmont Engineering Services, 303-651-8757. Appropriate traffic plans are required when impacting defined pedestrian or vehicle passageway. A permit fee is required when obtaining a permit.

q) Prior to beginning any tree operation, employees have both a need and a right to know the hazards they are exposed to when working. They also need to know what protective measures are available to prevent injury or accidents from occurring.

r) Longmont Power & Communication (LPC) will provide various levels of service to aid in the maintenance of trees near electrical conductors. To request a temporary shut off for maintenance pruning, general safety clearance pruning, or covering of the lines for safety call Longmont Power & Communications during business hours at 303-651-8386.

2) Sight Distance Triangle:

In order to preserve sight distance and the safety of pedestrians and vehicles, an unobstructed area shall be maintained at intersections per Section 200 of the City of Longmont Design Standards.

Section H: Insect and Disease Standards

These standards were compiled and adapted in part from United States Department of Agriculture/Animal and Plant Health Inspection Service (USDA/APHIS), Colorado State University (CSU) Cooperative Extension, Ohio State University (OSU) Extension, ISA BMP's - Integrated Pest Management (IPM), ISA Trees are Good - Insect and Disease (I&D) Problems.

1) General Insect and Disease Standards:

City of Longmont Licensed Tree Contractors and City of Longmont Forestry staff shall be familiar with and utilize in business practice City of Longmont Forestry Standards and Specifications, Chapter 6.88 and 13.24 of the Longmont Municipal Code, and the most current literature reflecting the latest research regarding insect and disease issues.

The goal of integrated pest management (IPM) is to manage insect and disease (I&D) and their damage to tolerable levels utilizing a broad range of tactics including preventative and control tactics. IPM focuses on pest prevention and suppression rather than eradication. However, when dealing with a highly damaging I&D issue, eradication may be the desired goal. IPM shall promote tree appearance, structure, and vitality as well as void harmful effects on non-target organisms and cause minimal disturbance to the built/natural environment.

Steps taken in IPM processes shall begin with prevention, followed by necessary action, continuing with maintenance and proper disposal of material.

a) Prevention will consist of reducing stressing factors to trees through regular maintenance, care, and watering. Other preventative measures based on specific I&D issues may be considered based on the latest research.

b) Necessary actions shall be taken if insects and/or diseases are present beyond tolerable levels. Those actions can include pruning, removal, or treatment.

c) When pruning or removing diseased or infested material, proper material disposal protocol shall be followed.

d) Handling and disposing of disease or infested material shall comply with all federal, state, and local laws and regulations.

e) Public education is an important component regarding local I&D issues. Forestry Services shall keep the public informed about I&D issues that are threatening the City's urban forest.

2) Pesticide Application:

a) Companies solely performing pesticide application are not required to have a City of Longmont Tree Contractor License. These companies must be licensed by the Colorado Department of Agriculture and adhere to guidelines laid out in The Integrated Weed Management Plan found here https://www.longmontcolorado.gov/Home/ShowDocument?id=18401.

b) Pesticide applicators shall comply with all federal, state, and local laws and regulations.

c) In conducting pesticide application operations, all work shall be performed using methods and equipment in such a manner so as to avoid and prevent damage to other non-target plants, properties, structures, or persons.

d) Applications shall comply with the most recent edition of ANSI Z133.1 Safety Requirements for Arboricultural Operations.

Section I: Tree Protection

A copy of the Tree Protection Detail, Section 600-27: Tree Protection, can be found in Appendix C of this document.

1) General Tree Protection and Preservation Standards:

a) An applicant for a Construction permit or a Working in the ROW permit shall protect public trees on any project or construction site where public or private improvements are proposed.

b) An applicant for a Construction permit or a Working in the ROW permit shall submit a tree protection plan incorporating proposed tree protection measures for any existing trees located on public property.

c) Work that shall occur within the dripline of a public tree requires consultation from the City Forester. Contact the Call Center at 303-651-8416 to set up an appointment with the City Forester.

d) The tree protection plan shall identify any potential detrimental effects to existing public trees that might result from proposed construction activities within the drip line of any existing trees. The plan shall include the species, size, and location of all existing trees that are 2 inches or larger in diameter. Existing trees approved to be removed or relocated shall be clearly identified on the landscaping plan. If no existing trees are present that require protection, this shall be noted on the plan.

e) The applicant for a Construction Permit or a Working in the ROW permit shall notify the City within 24 hours of any suspected damage to trees resulting from construction activities. If damage occurs to public right of way trees during construction the applicant shall have the damaged tree assessed by Forestry Services. The applicant will be responsible for all costs associated with damage mitigation, restoration work and/or the appraised tree value.

f) Disposing of chemicals or foreign material anywhere on site is prohibited. This shall include but is not limited to: paint, stain, solvents, fuel, oil, concrete, rinsing water from any receptacles tools or equipment containing chemicals, or any construction material on site.

2) Preventing Soil Compaction:

a) To prevent soil compaction, designated routes for equipment and foot traffic by work crews shall be determined prior to commencing construction activities and indicated in the tree protection plan.

b) These planned routes shall be marked at the site before construction commences. Durable fencing shall be used. Flagging tape or other materials that may be moved or evaded is not acceptable.

c) The contractor shall inform all construction crew members and subcontractors of the routes and will ensure that only these routes are used.

d) To prevent soil compaction and reduced tree root respiration; no soil stockpiles, supplies, equipment, or any other material shall be placed or stored within a tree drip line or within 10 feet of the tree trunk, whichever distance is greater. Heavy objects such as wood pallets or metal railings shall not lean against, or come in contact with the trunk of a tree.

e) When foot traffic or equipment use is unavoidable within the drip line, this area shall be mulched with wood chips to a predetermined depth before construction activity begins. Mulch depth and possible planking shall be maintained for the duration of the project and removed when construction activities are completed. Situations such as this need to be discussed and approved by Forestry Services prior to beginning work.

3) Tree Fencing:

a) Fencing material shall encircle any tree whose drip line edge is within 20 feet of any construction activity.

b) Fencing material shall be a bright, contrasting color, durable and at least 4 feet high. Fence posts shall be comparable to metal T-posts or heavier posts and placed at least 12 inches in solid ground.

c) Fencing material shall be placed at the drip line or at least 10 feet from any tree trunk, which ever distance is greater. Fencing shall be maintained in an upright position throughout the duration of construction activities.

d) Gates or other access shall not be allowed in tree fence areas. Crews may not take breaks or reside in the fenced in tree protection area.

e) See Appendix C: Tree Protection for more detail.

4) Soil Grade Changes:

a) Grade changes, such as removing topsoil or adding fill material, shall not occur within the drip line of any existing tree. If necessary as part of project or site development, retaining walls and tree wells to maintain the existing grade within the drip line of any tree may be acceptable when constructed prior to site grading changes near the tree. A tree protection plan containing an illustrated design scheme of the tree protection improvement shall be approved by the City prior to initiating any grade changes near existing trees.

5) Tree Root Protection:

a) Tree roots shall not be cut unless cutting is unavoidable. When root cutting is unavoidable, a clean sharp cut shall be made. Whenever possible a root cut shall be made back to a lateral root.

b) Whenever possible tree roots shall be cut between late fall and bud break in the spring.

c) Forestry Services shall be notified of any cutting of two or more roots with a diameter greater than 3 inches.

d) Whenever possible roots shall be tunneled or bored under. Tunneling or boring may be required when open trenching would result in major root destruction.

e) Power tools and large equipment shall not be used to prune roots unless it is industry standard approved root-cutting equipment used under the supervision of the City. Examples of approved tools include: hand pruner, non-anvil type lopper, pruning saw, chainsaw, or demo saw with approved diamond bit root cutting blade.

f) Exposed roots shall be covered immediately with soil or kept moist with wet burlap.

g) When more than one root 2 inches or larger in diameter on any public tree is cut supplemental watering shall be provided if the tree lacks an operational irrigation system. The contractor, person performing the work or adjacent landowner shall provide the watering. If roots are cut between April and August, trees may require supplemental watering (minimum of 20 gallons of water per inch of trunk diameter) once per week for at least two months after the root(s) are cut.

h) Roots with fresh wounds present shall not come into contact with building materials such as concrete, cement, mortar, asphalt, pavement, chip seal, tar, or any other non-solid surfacing material. A minimum soil barrier of 2 inches shall be provided between the root wound and listed materials. When a soil barrier cannot occur, an impermeable layer of plastic shall be used as a barrier between root wounds and any materials listed above.

i) If four roots greater than 4 inches in diameter are to be cut, the tree may need to be removed due to structural instability. If said roots are cut, the individual or contractor shall be responsible for the cost of the tree removal and the appraised value of the tree.

j) Alternatives to root cutting shall be considered when excavating under the drip line of trees for root/sidewalk conflicts. Alternatives can be discussed with a representative from Forestry Services. Alternatives include:

- Sidewalk grinding
- Sidewalk cutouts
- Sidewalk meandering
- Sidewalk ramping
- Flexible paving materials

Section J: Permitted Uses of Public Trees

Tree attachments, such as swings, birdhouses, or other items can allow Longmont residents to interact with public trees and help build support for urban forestry programming. However, Forestry Services is a steward to public trees and needs to weigh the balance between tree health, public safety, and resident interests. Attachments, if installed inappropriately, can cause damage to the affected tree or injure people and/or property.

Per Chapter 13.24 Trees and Plants, of the City of Longmont Municipal Code, it is a violation, *"to attach any material to a tree on city property which can affect the natural growth, injure, cause harm to, or impair the health of the tree."*

1) Temporary attachments: such as holiday lights, bird houses, or other items, that are to be used on a temporary basis are permitted uses of public trees. The attachments shall be placed in the tree as to not cause damage to the whole tree or tree parts, by puncturing the bark, or girdling a limb, branch or trunk.

2) Climbing of City Trees shall occur only during the following circumstances:

a) When performing approved tree maintenance
b) When installing or removing approved tree attachments or objects for approved arboricultural training or competition
c) During rescue or emergency situations
d) When performing an arboricultural tree climbing test, authorized by the City
e) For approved City Recreation Department sponsored classes

3) All other attachments must be permitted by Forestry Services. To contact Forestry Services call 303-651-8416.

Section K: Nuisance Trees

1) A nuisance tree is a tree with undesirable characteristics and declared to be a public nuisance by the Director of Public Works and Natural Resources or a designee. The City cannot enforce removal of nuisance trees on private property. If a tree is considered a noxious weed, as defined by the Colorado Noxious Weed Act, and planted on private property, City of Longmont Code Enforcement will need to be contacted to amend the issue according to CRS 35-5.5-109, management of noxious weeds on private property. Siberian elm and cotton-bearing trees in the genus *Populus* shall not be exempted from tree mitigation when a property is being reviewed for development purposes.

2) The following tree species shall be considered a nuisance and are prohibited from being planted on City properties as defined in chapter 13.24.100 of the Longmont Municipal Code:

a) cotton-bearing cottonwood - (*Populus sp.*)
b) cotton-bearing white poplar - (*Populus sp.*)
c) female boxelder maple - (*Acer negundo*)
d) Siberian elm - (*Ulmus pumila*)
e) Russian olive - (*Elaeangus angustifolia*)
f) salt cedar - (*Tamarix sp.*)

For more information on nuisance trees please see chapter 13.24.100 of the Longmont Municipal Code.

3) Noxious Weeds: Noxious weeds are defined and managed according to CRS 35-5.5 the Colorado Noxious Weed Act. To see which trees are on the Colorado Noxious Weed list or for a copy please contact the Colorado Department of Agriculture or visit their website https://www.colorado.gov/pacific/agconservation/noxiousweeds.

Section L: Definitions

aerial operations – any tree maintenance operations performed with feet not firmly planted on the ground.

American National Standards Institute ANSI/ISEA 107 standard (commonly referred to as the ANSI/ISEA 107) – in the United States, industry-developed, national consensus standards for high visibility safety apparel.

American National Standards Institute A922.2 standard (commonly referred to as the ANSI A922.2) – in the United States , industry- developed, national consensus standards for vehicle-mounted elevating and rotating aerial devices.

American National Standards Institute Z133.1 standard (commonly referred to as the ANSI Z133.1) – in the United States, industry-developed, national consensus safety standards of practice for tree care.

American National Standards Institute Z87.1 standard (commonly referred to as the ANSI Z87.1) – in the United States, industry-developed, national consensus standards for specific impact resistance rating and safety design for eye protection.

American National Standards Institute A300 standard (commonly referred to as the ANSI A300) – in the United States, industry-developed, national consensus standards of practice for tree care.

apical dominance – condition in which the terminal bud inhibits the growth and development of the lateral buds on the same stem formed during the same season.

appraisal – (1) placing a monetary value on a tree, other plant, other landscaping, including hardscape, or an entire property. (2) a report stating an opinion of appraised value.

arboriculture – practice and study of the care of trees and other woody plants in the landscape.

arborist – professional who possesses the technical competency and knowledge gained through experience and related training to provide or supervise tree pruning, tree removal, and/or the management of trees and other woody plants in residential, commercial and public landscapes.

arborist trainee – an individual undergoing on-the-job training to obtain the experience and the competence required to provide or supervise tree pruning, tree removal, and/or the management of trees and other woody plants.

best management practices (BMP's) – best available, industry-recognized course of action, in consideration of the benefits and limitations, based on scientific research and current knowledge.

branch – a shoot or stem arising from another branch or stem.

branch bark ridge – raised strip of bark at the top of a branch union, where the growth and expansion of the trunk or parent stem and adjoining branch push the bark into a ridge.

branch collar – area where a branch joins another branch or trunk that is created by the overlapping vascular tissues from both the branch and the trunk. Typically enlarged at the base of the branch.

City Forester – the City Forester of Longmont or designee.

climbing spurs – sharp devices strapped to a climber's lower legs to assist in climbing poles or trees being removed. Also called spikes, gaffs, irons, hooks, or climbers.

codominant stem – forked branches nearly the same diameter (diameter ratios greater than 80%), arising from a common junction and lacking a normal branch union.

collar cut – see removal cut.

compartmentalization – natural defense process in trees by which chemical and physical boundaries are created that act to limit the spread of disease and decay organisms.

crown – upper part of a tree, measured from the lowest branch up, including all the branches and foliage.

crown clean (CC) – consists of safety pruning to remove one or more of the following non-beneficial parts: dead, diseased and/or broken branches.

crown raise (CR) – consists of selective removal of branches to provide vertical clearance.

crown reduction – consists of pruning branches or stems to decrease the height and/or spread of a tree.

crown restoration – consists of selective pruning to redevelop structure, form, and appearance of severely pruned, vandalized, or otherwise damaged trees.

crown thin (CT) – a complete prune that shall consist of selective removal of live branches to reduce crown density. This pruning type includes crown clean as defined.

crown thin light (CTL) – a complete prune that shall consist of selective removal of live branches with an emphasis on a lower percentage of live crown removal than a crown thin. This pruning type includes crown clean as defined.

decay – (1) (noun) an area of wood that is undergoing decomposition. (2) (verb) decomposition of organic tissues by fungi or bacteria.

dominant leader – the stem that grows much larger than all other stems and branches.

drip line – a projected line from the outer most branches of a tree to the ground.

easement – legal interest in real property that conveys use or partial use, but not ownership, of a portion of an owner's property.

facility – a structure or equipment used to deliver or provide protection for the delivery of an essential service, such as electricity or communications.

flagging – (1) symptom in which leaves on a branch wilt and may ultimately turn brown without falling from the shoot. (2) colored tape used to mark trees.

ground work – all work done from the ground.

hanger – loose, dangling, cracked or unsecured limb in the canopy of a tree.

heading cut – pruning a shoot back to a bud, or cutting a branch back to a bud, stub or lateral branch not large enough to assume apical dominance. Depending on the placement of the heading cut it is called: 1) heading to a bud; 2) heading to a lateral; or 3) internodal heading.

hazard – situation, condition, or thing that may be dangerous. (1) in tree management, a tree or tree part that is likely to fail and cause damage or injury, and the likelihood exceeds an acceptable level of risk. (2) in tree care or forestry operations, the presence of a condition or situation that may cause harm or injury to workers.

included bark – bark that becomes embedded in a union (crotch) between branch and trunk or between codominant stems resulting in weak structure.

infectious – capable of being spread to plants from other plants or organisms.

integrated pest management (IPM) – method of controlling plant pests by combining biological, cultural, mechanical, physical, and/or chemical management strategies.

International Society of Arboriculture (ISA) – an organization devoted to research, technology and education to promote the professional practice of arboriculture and foster a greater worldwide awareness of the benefits of trees.

internode – the area between lateral branches or buds.

invasive species – non-native organisms likely to spread, disrupting the natural balance of an ecosystem.

interior foliage – typically small-diameter (less than 3 inches) branches with foliage on the interior or inner portion of the crown.

lateral – secondary or subordinate branch or root.

leader – primary terminal shoot or trunk of a tree; a stem that dominates a portion of the crown by suppressing lateral branches.

liability – (1) something for which one is responsible. (2) legal responsibility.

lion tailing – poor pruning practice in which an excessive number of live branches are thinned from the inside and lower part of specific limbs or a tree crown, leaving mostly terminal foliage. Results in poor branch taper, poor wind load distribution, and a high risk of branch failure.

live crown ratio – the ratio of the height of the crown containing live foliage to the overall height of the tree.

mature tree – trees that have reached at least 75% of their typical final height and spread.

mitigation – in tree risk management, reducing, alleviating, or minimizing risk of harm (damage or injury).

native species – plants indigenous to a region. Naturally occurring and not introduced by man. Contrast with exotic species, introduced species, invasive species, and naturalized species.

off-site tree – a tree located on property other than where work is authorized to occur.

Occupational Safety and Health Administration (OSHA) – the Agency dealing with health and safety in the workplace.

Occupational Safety and Health Administration 29 Code of Federal Regulations 1910.268, 269, 331, 333 (commonly referred to as OSHA 29 CFR 1910) – for the purpose of this document the sections that apply to the regulations that govern safe work distances. Anyone who works within 10 feet of energized conductors must have additional training requirements beyond those necessary for regular tree care and urban forestry operations.

one-third rule – remaining limb after pruning is at least one third the diameter of the removed limb.

parent branch – larger branch or stem from which a smaller, lateral branch arises.

parts to be removed – the location in the crown of a tree where pruning work will be performed. This can be specified as all of the crown or just the section(s) of the crown to be pruned.

permanent branches (permanent limbs) – in structural pruning of young trees, branches that will be left in place, often forming the initial scaffold framework of a tree.

personal protective equipment (PPE) – personal protective equipment as defined by Z133 designed to protect the worker.

pest – organism (including, but not limited to, weeds, insects or fungi) that is damaging, noxious, or a nuisance.

pesticide – any chemical used to control or kill unwanted pests such as weeds, insects, or fungi.

plant health care (PHC) – comprehensive program to manage the health, structure, and appearance of plants in the landscape.

pruning – removing branches (or occasionally roots), or shortening branches or leaders on a tree to achieve a specified objective(s). Certain kinds of pruning are prohibited and a violation of the standards such as: topping a tree, pruning without regard for health or structural integrity, making incorrect pruning cuts, etc.

qualified line-clearance arborist – an individual who, through related training and on-the-job experience, is familiar with the equipment and hazards in line clearance and has demonstrated the ability to perform the special techniques involved. This individual may or may not be currently employed by a line-clearance contractor.

qualified line-clearance arborist trainee – an individual undergoing line-clearance training under the direct supervision of a qualified line-clearance arborist. In the course of the training, the trainee becomes familiar with the equipment and hazards in line-clearance and demonstrates ability in the performance of the special techniques involved.

reduction cut (drop-crotch cut, lateral cut) – pruning cut that reduces the length of a branch or stem back to a lateral branch large enough to assume the primary role.

removal – removal of most of the above ground portion of a tree by cutting to a stump or to a point on the main trunk where no side branches remain. Whether or not stump removal is part of the removal shall be included in the proposal.

removal cut (thinning cut) – cut that removes a branch at its point of origin. Collar cut.

rigging – method of using ropes and hardware. (1) in tree pruning or removal, to control or direct the descent of cut material or to handle heavy loads. (2) with cranes, loaders, or other equipment, to life heavy loads.

right-of-way (ROW) – defined area of land, usually a linear strip, reserved for the passage of traffic (paths and roadways) or the construction, maintenance, and operation of various aboveground or underground utilities. ROW users may be owners (public and private roadways are common examples) or may be granted easement rights by the owners (utility corridors are common examples).

risk assessment – the process of evaluating the potential of a tree or tree part to fail on a potential target.

root flair – see trunk flair.

root protection zone – surface area of tree root concentration to be protected from construction damage, usually soil compaction damage. Best accomplished by fencing off the entire root protection zone.

scaffold limb – (1) pertaining to tree architecture or form, a strong and properly spaced arrangement, framework, or system of branches throughout the crown. (2) a work platform, which may be stationary or moving.

service drop – low-voltage (generally 110 to 750 volts) electric supply lines that connect end users to an electric distribution supply network. Also known as service lines.

shall – denotes a mandatory requirement.

shearing – cutting back exterior growth using internodal heading cuts in 1 to 2 year old wood resulting in a defined edge with thick outer growth. Outer growth is regularly shaved to maintain the shape and outer density.

shoot – new stem or branch growth on a plant.

should – denotes an advisory recommendation.

sight distance triangle – an unobstructed area maintained at intersections per Section 200 of the City of Longmont Design Standards.

sign – in insect and disease: physical evidence of a causal agent (e.g., insect eggs, borer hole, frass). Contrasts with symptom.

soil compaction – compression of the soil, often as a result of vehicle or heavy equipment traffic, that breaks down soil aggregates and reduces soil volume and total pore space, especially macro-pore space.

specifications – detailed plans, requirements, and statements of particular procedures and/or standards used to define and guide work.

stem – woody structure bearing foliage and buds that gives rise to other stems (branches).

stress – (1) in Plant Health Care, a factor that negatively affects the health of a plant; a factor that stimulates a response. (2) in mechanics, a force per unit area.

structural defects – any naturally occurring or secondary conditions such as cavities, poor branch attachments, cracks, or decayed wood in the trunk, crown, or roots of a tree that may contribute to structural failure.

structural pruning – a complete prune that shall consist of selective pruning to improve tree and branch architecture primarily on young and medium aged trees.

structural roots – large, woody, tree roots that anchor and support the trunk and crown. Roots characterized by secondary thickening and relatively large diameter, giving form to the root system and functioning in anchorage and support.

stub – portion of a branch or stem remaining after a stub cut, branch breakage, or branch death.

stump – the remaining portion of the tree above ground after removal of the majority of the trunk and crown.

subordination – pruning to reduce (suppress) the size and ensuing growth of a branch in relation to other branches or leaders.

sucker – shoot arising from the roots. Contrasts with water sprout.

symptom – in insect and disease: plant reaction to a disease or disorder (e.g., wilting, dieback). Contrast with sign.

target – person, object, or structure that could be harmed (damaged or injured) by a tree or tree part in the event of failure.

temporary branches – in structural pruning of young trees, branches (generally the lower branches) that are left in place or subordinated but should be removed in the future.

three-cut method – a method for removing a branch involving two cuts to remove the majority of the weight of the branch to prevent bark tearing before making the final cut.

topping – inappropriate pruning technique to reduce tree size. Indiscriminate cutting back of a tree without regard to tree health or structural integrity. Not a recommended industry standard and is considered malpractice.

tracing – in tree maintenance: the removal of loose, damaged tissue from in and around a wound.

tree – woody perennial usually having a single elongated trunk or stem.

tree attachment – any foreign object affixed to a City owned tree, such as signs, holiday lighting, bicycle locks/chains, wildlife nesting boxes, etc.

tree protection zone (TPZ) – defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

tree value – (1) appraised, monetary value placed on a tree. (2) non-monetary benefits(s) of a tree.

trenching – linear, open excavation, often used to install utilities or structural footings. Can cause tree root damage. Contrasts with horizontal boring, tunneling, and radial trenching.

trunk – main stem or stems of a tree.

trunk flare – transition zone from trunk to roots where the trunk expands into the buttress or structural roots. Also known as root flare.

tunneling – digging, often with special machinery and shoring or other supports, below the surface of the ground without an open trench. Alternative for installation of underground utilities that avoids cutting of tree roots or damage to hardscape or existing utilities. Contrasts with horizontal boring, trenching, and tunneling.

urban forestry – management of naturally occurring and planted trees and associated plants in urban areas.

union (crotch) – the junction between a stem and branch or between stems.

utility – a public or private entity that delivers a public service, such as electricity or communications.

utility-declared emergency – a loss of power or other utility infrastructure within the City of Longmont.

utility space – the physical area occupied by a utility's facilities and the additional space required to ensure its operation.

vector – the carrier of a disease that affects tree health.

water sprouts – upright, epicormic shoots arising from the trunk or branches of a plant above the root graft or soil line. Contrasts with sucker.

wound – an opening that is created when the bark of a live branch, trunk, or stem is cut, penetrated, damaged, or removed.

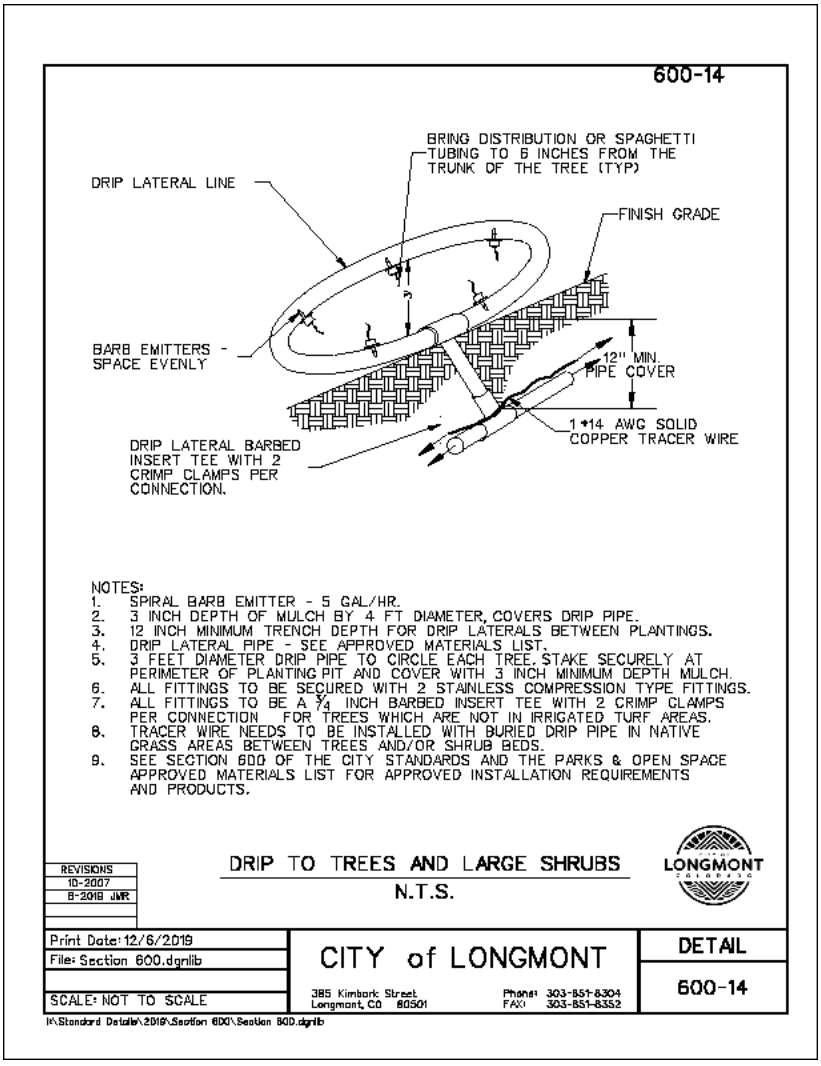
wound dressing – compound applied to tree wounds or pruning cuts.

Appendix A: Recommended Trees for City Regulated Areas, 20202

Appendix A located in separate document

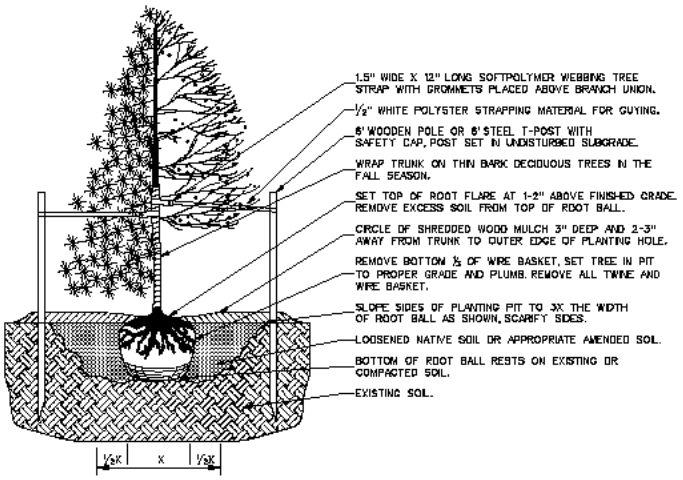
Appendix B: Tree Planting Details

Section 600-14: Drip to Trees and Large Shrubs



Section 600-22: Tree Planting – Irrigated Turf

600-22



NOTES:

1. DO NOT PRUNE CENTRAL LEADER. PRUNE ONLY DAMAGED, DEADWOOD OR CO-DOMINATE LEADERS.
2. REJECT TREE IF ROOT BALL HAS BEEN COMPROMISED.
3. **ROOT BALL:** MAINTAIN INTEGRITY OF ROOT BALL. TYPICALLY PULL BURLAP DOWN MINIMUM OF ⅔, CUT TO REMOVE AND DISCARD. OCCASIONALLY WHEN ROOT BALL NEEDS ADDITIONAL SUPPORT FROM EXISTING BURLAP, BACKFILL ⅔ OF PLANTING HOLE, REMOVE TOP ⅓ OF BURLAP DISCARD, AND THEN COMPLETE BACKFILL.
4. **SOIL:** AMEND SOIL PER RECOMMENDATIONS OF SOIL FERTILITY TEST.
5. **WATERING:** AFTER SEVERAL THOROUGH WATERING'S AND POTENTIAL SOIL SETTLING, REGRADE AND REMOVE SOIL BERM PRIOR TO MULCHING.
6. **TREE WRAP:** APPLY TO THIN BARK DECIDUOUS TREES APPROX. OCT 15TH AND REMOVED MAY 15TH. WRAP TRUNK FROM GROUND LEVEL TO FIRST BRANCH. SECURE WRAP AT TOP WITH MASKING TAPE.
7. **STAKING:** TWO STAKES REQUIRED FOR DECIDUOUS TREES 2" CALIPER AND LESS AND CONIFERS 6' AND LESS. THREE STAKES REQUIRED FOR DECIDUOUS TREES GREATER THAN 2" CALIPER AND CONIFERS GREATER THAN 8'. REMOVE STAKES 1 YEAR AFTER PLANTING PROVIDED TREE IS WELL ROOTED.
8. **GUYING:** WIRE NOT TO BE USED, ONLY POLYSTER STRAPPING MATERIAL.
9. **MULCHING:** MULCHING TO OCCUR AFTER SEVERAL THOROUGH WATERING'S TO ALLOW FOR SOIL SETTLING, REGRADING AND SOIL BERM REMOVAL.
10. **WILDLIFE PROTECTION:** CONSULT PWNR FOR POSSIBLE BEAVER PROTECTION WHEN PLANTING WITHIN 200 FT OF RIPARIAN AREAS.
11. SEE SECTION 600 OF THE CITY STANDARDS AND THE PARKS & OPEN SPACE APPROVED MATERIALS LIST FOR APPROVED INSTALLATION REQUIREMENTS AND PRODUCTS.

TREE PLANTING - IRRIGATED TURF

N.T.S.

REVISIONS
10-2007
8-2018 JMR

Print Date: 12/5/2019	CITY of LONGMONT	DETAIL
File: Section 600.dgnlib		600-22
SCALE: NOT TO SCALE	385 Kimbark Street, Longmont, CO 80501 — Phone: 303-651-8304, FAX: 303-651-8352	

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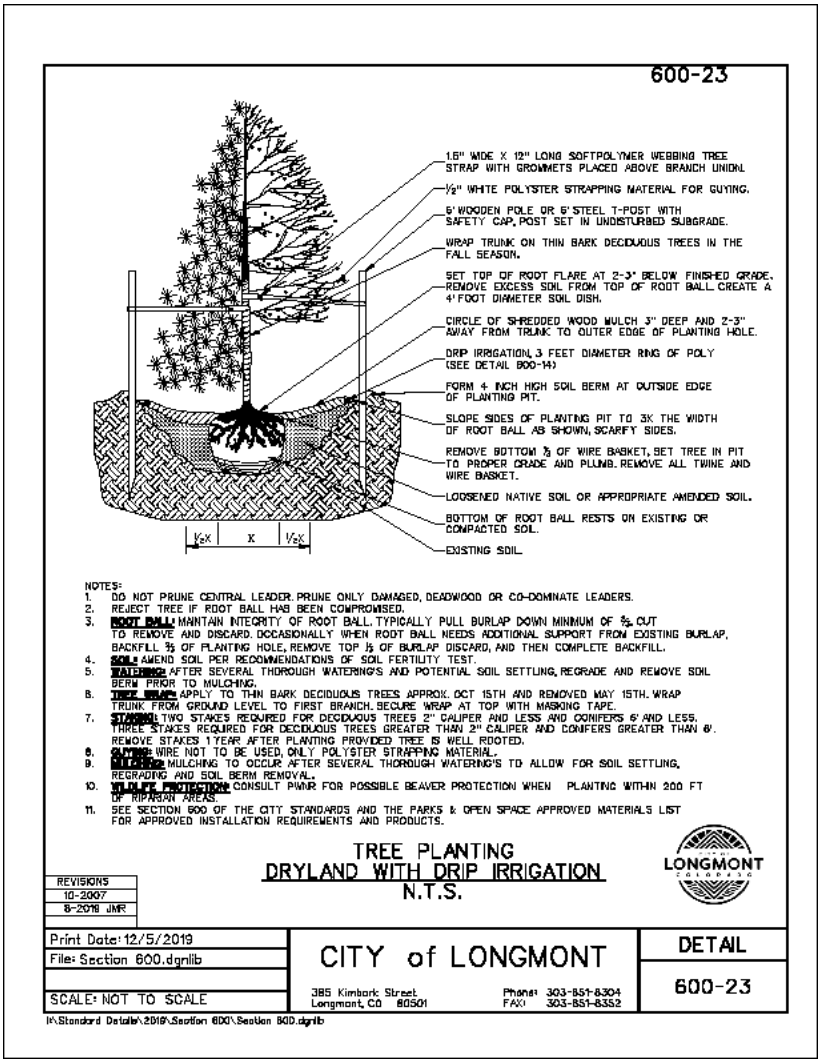
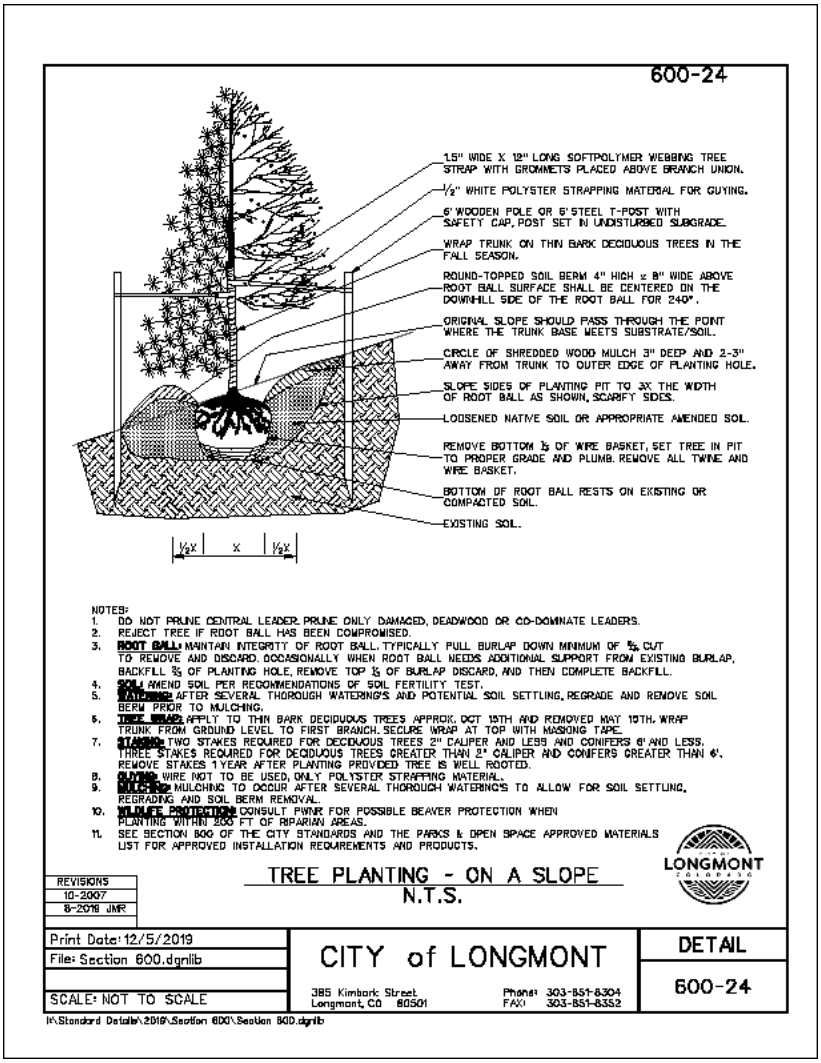
Section 600-23: Tree Planting Dryland with Drip Irrigation



Section 600-24: Tree Planting – On a Slope



Appendix C: Tree Protection

Section 600-27: Tree Protection