

IN THE NATIONAL GREEN TRIBUNAL AT NEW DELHI

ORIGINAL APPLICATION NO. 911 OF 2022

IN THE MATTER OF

Prof. Dr. Sanjeev Bagai & Ors. ...Applicant(s)

Versus

Department of Environment, GNCTD & Ors. ...Respondent(s)

SUBSTITUTED AS:

NGT Bar Association ...Applicant(s)

Versus

Department of Environment, GNCTD & Ors. ...Respondent(s)

NDOH: 06.02.2024**I N D E X**

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THROUGH



(Shubham Bhalla)

Advocate for Respondent no.16

D-52, Basement, Panchsheel Enclave, New Delhi - 110017.
Mob. No. 9654427273; Email: shubhambhalla@hotmail.com

PLACE: NEW DELHI

DATE: . .2024

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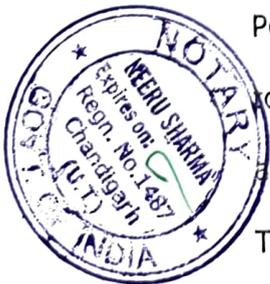
Versus

Department of Environment, GNCTD & Ors. ...Respondent(s)

AFFIDAVIT

I, Anil Kumar, Junior Scientific Assistant, Chandigarh Pollution Control Committee / Respondent No. 16 (hereinafter referred to as 'CPCC), do hereby solemnly affirm as under:-

1. That I am the Junior Scientific Assistant, Chandigarh Pollution Control Committee, Chandigarh and competent to file the present short reply in the form of an affidavit. I am filing this affidavit in terms of order of this Hon'ble Tribunal dated 05.12.2023.
2. That this Hon'ble Court had issued notice vide order dated 05.12.2023 directing the respondents to file their replies regarding the aspect of protection of trees against illegal



Anil Kumar
 CHANDIGARH POLLUTION CONTROL COMMITTEE
 PARYAYAN BHAWAN, MADHYA MARG
 SECTOR 19-B, CHANDIGARH - 160019

felling, pruning of trees, framing of guidelines/rules and other ancillary matters related to trees.

3. That in the city of Chandigarh the Chandigarh Trees Preservation Order, 1952 published was notified vide Notification No. C-4200-52-IV/3540 issued on 13th June, 1952 which prohibits any person from felling, lopping or destroying or cause or permit the cutting down, lopping or destruction of any tree in any part of the woodland area shown in the zoning plan as "protected trees" or in "protected woodland areas", except with the permission of the Chief Administrator.

A true copy of the Chandigarh Trees Preservation Order, 1952 is annexed herewith as **ANNEXURE R-1**.

4. That some of the salient features of the Chandigarh Tree Preservation Order, 1952 (hereinafter referred to as the 1952 order) are as under :-

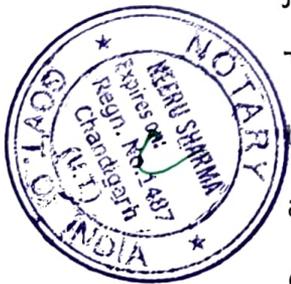
- a. Section 3 of the 1952 order provides that any cutting down, lopping, pruning, destruction, of any tree in any part of the woodland area in the zoning plan can only be done on the basis of an application made to the Chief Administrator.

- b. That on the basis of the application the Chief Administrator under Section 4 may permit or a refuse permission depending on the circumstances.



Meeru Sharma
 CHANDIGARH POLLUTION CONTROL COMMITTEE
 FORMS & ARAN SHAWAN, MADHYANAGAR,
 SECTOR 19-B, CHANDIGARH - 160019

- c. Section 8 provides that all the trees in the city of Chandigarh that are protected are required to be numbered and a register maintained in terms of section 7 of the 1952 order.
- d. Section 9 provides for replantation of trees on the basis of directions given by the Chief Administrator.
5. That after getting the approval of the Adviser to the Administrator, the Department of Forests and Wildlife, Chandigarh Administration passed an order dated 22/07/2022 whereby the entire procedure for felling of trees in the city of tenure was laid down.
6. That according to the order dated 22/07/2022 all requests by the public for felling, pruning, etc. of trees are to be received online after which the request is forwarded to the engineering/horticulture wing of the Municipal Corporation/Forest Department, depending on the jurisdiction after which a preliminary inspection is done. That in case the proposal is justified that it is passed on to the committee which has been formed under the aforementioned order otherwise it is rejected at the outset.
7. That the order dated 22/07/2022 also constituted the Tree Felling Committee (TFC) comprised of the following officers:-

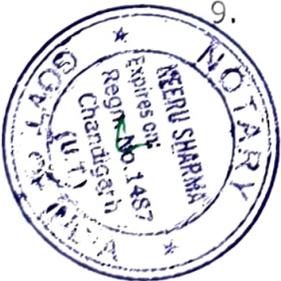


Varan Shuman
 CHANDIGARH POLLUTION CONTROL BOARD
 PARY-VARAN SHUMAN, CHANDIGARH
 ECT OF 13-B, CHANDIGARH

- a. Convener- Sub Divisional Officer (Horticulture),
Municipal Corporation, Chandigarh
- b. Member- Sub-Divisional officer (Horticulture),
Engineering Department, Chandigarh
- c. Member - Range Forest Officer, Chandigarh Range,
Forest Department, UT Chandigarh

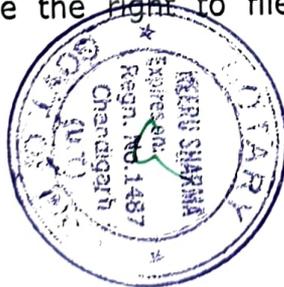
A true copy of the office order no. CCFD/257 dated 22.07.2022 issued by Department of Forests and Wildlife, Chandigarh Administration has been annexed herewith as **ANNEXURE R-2.**

8. That in case the application passes the preliminary inspection state, it is forwarded to the tree Felling committee to consider the application on the basis of criteria laid down in the order dated 22/07/2022. Further, the order also provides for framing of guidelines regarding felling of trees/ pruning replantation, etc.
9. That the Department of Forests and Wildlife, UT Chandigarh has also issued the Standard Operating Procedure titled as "Preventive Pruning Program, in accordance with the Chandigarh Trees Preservation Order, 1952 thereby explaining the meaning of pruning and further explaining the objectives of pruning, work plan, preventive pruning program for young trees, preventive pruning program for Matured trees, execution of the preventive pruning program and when to prune.



A true copy of the brochure Issued by the Department of Forests and Wildlife, Chandigarh Administration has been annexed herewith as **ANNEXURE R-3.**

- 10. That the Standard Operating Procedure Issued by the Department of Forests provides for the maintaining and improving the health of the trees, the guidelines for pruning of trees. The procedure also lays down the most effective method for pruning and the way it is to be carried out.
- 11. That the above mentioned all the information has been provided by the Department of Forests and Wildlife, Chandigarh Administration
- 12. That the present affidavit is being filed as a preliminary short reply on behalf of the answering respondent. The answering respondent humbly prays that they may be allowed to reserve the right to file a detailed reply if required.



Anil Kumar
DEPONENT

CHANDIGARH POLLUTION CONTROL COMMITTEE
 PARYAVARAN BHAVAN, MADHYA V-10,
 SECTOR 19-B, CHANDIGARH 160019

VERIFICATION:

I, Anil Kumar, the deponent above named do hereby verify and declare that the facts stated in the above paras are true to my knowledge verified at Chandigarh on this ____ day of January, 2024.



Attested As I Identified
2024
NEELJU SHARMA
 Notary, Chandigarh (U.T.)

Anil Kumar
DEPONENT

CHANDIGARH POLLUTION CONTROL COMMITTEE
 PARYAVARAN BHAVAN, MADHYA V-10,
 SECTOR 19-B, CHANDIGARH 160019

The contents of this affidavit/document has been explained to the respondent/deponent. He/She has admitted the same to be correct. The deponent/deponent has signed Register
 Sr. No. 339 Date 4 FEB 2024

4 FEB 2024

ANNEXURE R-1**The Chandigarh Trees Preservation****Order****Notification No. C-4002-52-IV/3540, dated the 13th June 1952**

Whereas it appears necessary to preserve trees generally in Chandigarh.

NOW, THEREFORE, in exercise of the powers conferred by section 11 of the Capital of Punjab (Development and Regulation) Act, (President's Act V of 1952), the Chief Administrator is pleased to make the following Order :-

THE CHANDIGARH TREES PRESERVATION ORDER, 1952

1. Title and extent. - (1) This Order shall be called the Chandigarh Trees Preservation Order, 1952.

(2) It shall come into force at once.

2. Definitions. - In this Order, unless there is anything repugnant in the subject or context:-

- (i) "Operational land" means land which is used by public service undertakers for the purpose of carrying on the undertaking of such undertakers.
- (ii) "Owner" includes a mortgagee with possession.
- (iii) "Public service undertakers" means a person (including a firm or other body of individuals whether incorporated or not) who is carrying on or is authorised to carry on any public utility service including a railway, light railway, or is engaged in road transport, water transport, disposal of waste, or in the supply of electricity or water.
- (iv) "Zoning Plan" means the numbered plan authenticated by the Chief Administrator and kept in his office, defining the layout of any numbered sector showing the streets, boundaries of building sites, open spaces, position of protected trees or other features and showing the specified land, building lines, permissible heights of buildings, site coverages and other restrictions on the development of land or buildings.

3. Application.

- (i) No person shall, except with the permission of the Chief Administrator cut down, lop or destroy or cause or permit the cutting down, lopping or

destruction of any tree in any part of the woodland area shown in the zoning plan as "protected trees" or in "protected woodland areas".

- (ii) An application under sub-clause (i) shall be in writing and shall specify the trees, groups of trees or the woodland area to which the application relates, and the operations for the carrying out of which the permission is required; and where necessary, for the identification of such trees, groups of trees or woodland area, shall be accompanied by a map or plan on a scale of 1" to 80".

4. Permission or refusal.

- (i) The Chief Administrator may grant such permission either unconditionally or subject to such conditions (including conditions requiring the replacement of any one tree by one or more trees of the same or a specified kind on the site or in the immediate vicinity thereof) as he may deem fit, or he may refuse permission.
- (ii) Where the Chief Administrator refuses permission under this Order or grants such permission subject to conditions, he shall, when refusing or granting permission, certify that in respect of any trees, groups of trees or any woodland area for which he has so refused or granted permission, he is satisfied that -
 - (a) the refusal or permission is in the interest of good forestry, or
 - (b) in the case of a woodland area, it has amenity value in relation to the woodland character of the area, or
 - (c) in the case of trees or groups of trees, the trees have an outstanding amenity value for offering shade to the building or roads, or
 - (d) there is any other special amenity provided by the trees or woodland area.

5. Register of applications. - The Chief Administrator shall keep and maintain a register of all applications for permission under this Order containing information as to the nature of the application, name of the applicant, the decision thereon and any directions as to the replanting of the trees and every such register shall be available for inspection by public during office hours.

6. Applications deemed to have been sanctioned. - An application made under clause 3 of this Order shall be deemed to be sanctioned if a decision thereon is not conveyed to the applicant within one month of the receipt of the application by the Chief Administrator.

7. Register of trees. - The protected tree or trees, groups of trees or woodland areas shall be listed by the Chief Administrator in a register.

8. Numbering of trees. - All protected trees or groups of trees or woodland areas shown on the zoning plan or listed in the register of trees shall bear a number corresponding to its number in the register of trees.

9. Replanting. - Where permission is granted under this Order or otherwise, the Chief Administrator may give directions to the owner of any site as to the planting or replanting of any trees or kinds of trees. Any such directions may include requirements as to -

- (a) species of trees.
- (b) planting distances.
- (c) the erection and maintenance of fencing necessary for protection of the planted or replanted trees.
- (d) the preparation of ground, drainage, removal or brushwood, lop and top; and
- (e) protective measures against drought or fire.

10. Exemptions. - This Order shall not apply to -

- (a) the cutting down, topping or lopping of any tree in an operational land;
- (b) for normal forestry operations in young plantations such as weeding, brushing and high pruning;
- (c) the usual pruning or trimming of a tree from time to time.

P.N. THAPAR,
Chief Administrator, Capital Project.


(Shubham Bhalla)
//TRUE COPY//



9
ANNEXURE R-2
DEPARTMENT OF FORESTS & WILDLIFE
CHANDIGARH ADMINISTRATION

Off: ParyavaranBhawan Building [2nd Floor], Sector-19B, Madhya Marg, Chandigarh-160019
 E-mail Address: forestchandigarh@gmail.com Tel: 0172-2700284

ORDER

Office order no. CCFD/257

Dated: 22-7-2022

In supersession of the earlier orders issued in this regard, the competent authority has approved the following procedure to be adopted for felling of trees in UT Chandigarh:-

It has been approved by the competent authority that all the requests from public in connection with tree felling in Chandigarh shall be received online through Chandigarh Smart City Limited (CSCL) portal acting as single window. The portal on receipt of such requests shall immediately forward the same to the department concerned i.e. Engineering/ Horticulture Wing of Municipal Corporation/ Forest Department as per their jurisdiction where the tree is located. The department concerned through at least SDO level officers shall act immediately to get the preliminary inspection done. In case the proposal is not found to be justified, the same is to be rejected at this level itself and if it is found to be a fit case, shall forward the same request to the Committee constituted below alongwith check list as per **Annexure-I**. This committee shall be called as '**Tree Felling Committee (TFC)**' with composition as below:-

1	Sub Divisional Officer (Horticulture) Municipal Corporation, Chandigarh	Convenor
2	Sub Divisional Officer (Horticulture) Engineering Department, UT Chandigarh	Member
3	Range Forest Officer, Chandigarh Range, Forest Department, UT Chandigarh	Member

In case of jurisdictional issues, the Committee will resolve the same and it shall meet at least once in a month. This committee on receipt of the complete proposal shall go for a detailed inspection of the status and health of tree and make specific recommendations alongwith detailed justification whether the tree is required to be pruned/ pollarded/ felled/ transplanted or otherwise.

The process for felling of trees of various nature shall be followed as mentioned below:-

a) For dead & dry/dangerously standing green trees

The committee shall send its recommendations to the Head of Department concerned i.e. Commissioner, Municipal Corporation in case the area falls

within the jurisdiction of Municipal Corporation, Chief Engineer, UT Chandigarh, in case the area falls within the jurisdiction of Engineering Department, UT Chandigarh or Chief Conservator of Forests in case the area falls within the jurisdiction of Forest Department. The Head of the concerned department is competent to approve such cases at his/ her level. For felling permission of dangerously standing trees, the entire process shall be completed expeditiously within 48 hrs.

b) For felling of green trees

The committee shall send its recommendations to the concerned Department Head and concerned HoD if satisfied with the recommendations of the committee shall forward the same proposal to Chief Conservator of Forests/ HoD Forest Department, Chandigarh. The Chief Conservator of Forests if satisfied with the proposal, shall send it to the Secretary (Forests) with his remarks for final approval for felling/ transplanting/ pollarding, pruning etc. The Chief Conservator of Forests can get the site inspection done by his office, if he feels it necessary to do so.

c) For pollarding / pruning of trees

The applicant shall send a request to CSCL portal for pruning. All such applications shall be submitted online and CSCL portal will forward it to the concerned Department for scrutiny of application and for having preliminary survey, and if it is found necessary, it shall be forwarded to the concerned HoD for final approval as being followed for dead/ dry trees.

For any felling/trimming of trees inside the forest area, appropriate action as per Forest Act/ Rules shall be taken by the Forest Department, UT Chandigarh.

Following **guidelines** are to be followed while felling of trees in future by all Departments:-

- i) Municipal Corporation would be the nodal organisation for execution of felling / pruning etc.

- ii) Online Public Portal has to be updated by the CSCL officials after execution of work or disposal of application including felling/ pollarding/ pruning/ transplantation of trees.
- iii) The Municipal Corporation, Chandigarh shall ensure that minimum 3 no. of trees are planted in compensation to each tree removed with the condition that at least one tree should immediately be planted at the place where the tree was located, if possible. A quarterly report to be submitted to Forest Department furnishing the details of compensatory plantation raised and their location etc.
- iv) CSCL will update the portal in case new features / functionality is to be added in the process. The portal operation and maintenance would also be kept by them as per standard protocol.
- v) Municipal Corporation will have all necessary equipments and technical requirements for executing the work of Tree Felling Committee (TFC).
- vi) Forest and Engineering Department shall pay respective amount to Municipal Corporation for the services provided for tree felling, compensatory plantation and for maintaining equipment etc. MC will take up separately for a mechanism from the Finance Department for transfer of such funds or meeting the requisite additional expenditure incurred during different related activities.
- vii) All revenue collected from the auction process of woodlot or of standing trees shall go to the Municipal Corporation only.
- viii) Municipal Corporation should ensure to plant preferably the same species that are removed, if possible as part of City Urban Planning/ Heritage and no other species.
- ix) Once the permission for dead/ dry tree has been given by the competent authority, the concerned Department shall take immediate steps to remove it so as to save life & property. It is advisable that a Rate Contract for cutting of trees is to be executed by Municipal Corporation, shall always be in place so that once permission to cut dead / dry tree is given, it should be removed immediately without any loss of time.
- x) MC will ensure regular Rate Contract / tendering for various steps so that appropriate agencies are available all the time for carrying out various activities approved by competent authority.
- xi) The TFC shall decide the cases based upon standard format as enclosed **Annexure-II**.
- xii) In case of trees with disputed jurisdictional issues (Trees at boundaries), the TFC shall identify from the root or main trunk of the tree whether lies in whose jurisdiction and the concerned department where the tree stands has to take action in time bound manner.

- xiii) In case of any tree leaning towards the property of the neighbour and causing nuisance, action to be taken for trimming/ felling of such trees in whose property tree is standing based on a written complaint from the neighbour/ complainant and as recommended by TFC. In case the person in whose property the tree stands does not allow, liability can be fixed upon him.
- xiv) The tree felling guidelines will be subject to regulations/rules/ Forests Acts as applicable if matter relates to the forest areas.

This issues with the approval of the Adviser to the Administrator.

Chandigarh, dated the
19th July, 2022

Nitin Kumar Yadav, IAS
H.S.-cum-Secretary (Forests)
Chandigarh Administration

Endst. No. FOR/2022/1850-1858

Dated: 22-7-2022

1. A copy is forwarded to the Commissioner, Municipal Corporation, Sec-17, Chandigarh, for information.
2. A copy is forwarded to the Chief Engineer, Engineering Deptt . Sec. 9, Chandigarh, for information.
3. A copy is forwarded to the Conservator of Forests, UT, Chandigarh, for information.
4. A copy is forwarded to the Deputy Conservator of Forests (WL), UT Chandigarh, for information.
5. A copy is forwarded to the Chief Engineer, Municipal Corpn, Chd, for information.
6. A copy is forwarded to the Executive Engineer, (Hort.), Engg. Deptt., Sec-23, Chandigarh for information & n/a.
7. A copy is forwarded to the Executive Engineer (Hort), Division no. 1 and Division no. 2, Municipal Corporation, Sec. 17, Chd. for information & n/a.
8. A copy is forwarded to the Range Forest Officer, Chandigarh Range, Forest Deptt., UT Chd, for information & n/a.


Chief Conservator of Forests &
Special Secretary Forests
Chandigarh Administration

Endst. No. FOR/2022/1859-1861

Dated: 22-7-2022

A copy is forwarded to the following for information:-

1. P.S. to A.A for kind information of worthy A.A.
2. P.S. to Secretary Engineering, UT, Chandigarh.
3. PA to Secretary (Forests), for kind information of Secretary.


Chief Conservator of Forests &
Special Secretary Forests
Chandigarh Administration

Check List/ Format for Tree Felling Proposals

Sr. No	Description	Yes/No	Placed at Flag	Remarks
1.	Submission of proposal through proper channel			
2.	Whether the proposal pertains to Developmental Project			
3.	In case of developmental project <ul style="list-style-type: none"> • Whether the copy of approval of carrying out work by the Competent Authority is enclosed • Whether copy of approval of Department of Urban Planning is enclosed (If Required) • Whether approved site plan is enclosed • Whether the trees standing on the project site has been serially marked • Whether Location of all the serially marked trees, standing in the proposed development site, has been depicted on the approved site plan map and marking details furnished on the map • Whether the Enumeration list attached with details regarding Girth and Species of Trees • Whether photographs of all the serially marked trees enclosed • Whether of Inspection by Executive Engineer • Whether Site Inspection note of Concerned Executive Engineer is attached 			
4.	Whether the proposal pertains to felling of trees posing danger to Life & Property/ or of Dead & Dry Tree			
5.	In such case <ul style="list-style-type: none"> • Whether the trees standing on the project site has been serially marked • Whether the Enumeration list attached with details regarding Girth and Species of Trees • Whether photographs of all the serially marked trees enclosed • Date of Inspection by Executive Engineer • Whether Site Inspection note of Concerned Executive Engineer is attached 			
6.	Is compensatory plantation programme in lieu of felling has been planned.			

CERTIFICATE TO THIS EFFECT

This is to certify that the proposal (Name of proposal) involves of (No. of trees). All the trees proposed to be removed are falling in the alignment/ construction zone of said activity/ Dead & Dry/ Posing Danger to life & property. The Proposal is site specific and involves removal of bare minimum number of trees.

Signature & Seal
of the concerned
Executive Engineer)

NOTE

- The measurement of Tree girth should be taken at 1.37 m above the ground level.
- The photographs to be pasted on Legal size (2 photos on each paper) with details mentioned under each photograph. Each page should be signed by Executive Engineer concerned.

FORMAT**Evaluation of tree felling cases by****TREE FELLING COMMITTEE**

Individual cases will be evaluated after joint physical inspections (wherever feasible) and recommendations for pruning, pollarding, tree felling or transplantation to be made based upon following parameters-

1. Diseased (name of disease and extent)
2. Dead/Dry
3. Road blockage & constitutes obstruction to traffic
4. Leaning & posing danger to life or property
5. Over mature (if estimated age is beyond tree rotation period)
6. Critical root zone is covered with concrete (Root asphyxiation)
7. Hollowness
8. Lacks mechanical strength
9. Decay in the main trunk due to fungi
10. Termite infestation
11. Silviculturally mature tress
12. Uneven canopy weights
13. Suitable for Transplantation


(Shubham Bhalla)
//TRUE COPY//



 **PREVENTIVE
PRUNING
PROGRAM**
Standard Operating Procedure (SOP)



FOREWORD

This Standard Operating Procedure outlines a recommended best practice to ensure the well-being of valuable trees of Chandigarh, highlighting the benefits they bring, from climate mitigation to enhancing aesthetics. Despite these advantages, trees may pose challenges, requiring careful pruning to address issues like pathway obstruction and hygiene concerns. Failing to maintain trees in extreme weather or poor health may jeopardize lives and property.

To maximize benefits and minimize risks associated with trees, effective urban forest management and tree care are crucial. This involves continuous maintenance, including irrigation, mulching, fertilization, and mitigation measures like pruning and support systems. Among these measures, tree pruning is essential for maintaining tree health, structural integrity, aesthetics, and safety. Pruning parameters, such as type, timing, and extent, should be carefully chosen based on specific goals, tree species, and conditions.

Tree pruning should adhere to established procedures, standards, and safety guidelines. Tree management personnel should refer to this document when planning and conducting pruning activities. While this document offers guidance on best pruning practices, its recommendations also provide flexibility in its implementation.

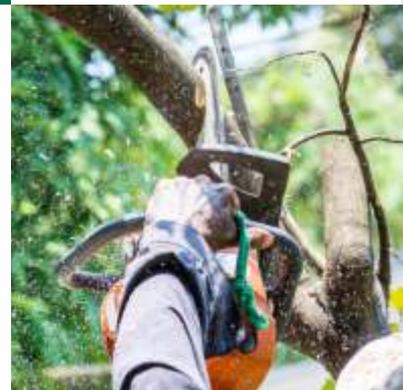




PREFACE

Chandigarh's city plan uniquely incorporates avenue trees, creating a stunning visual landscape. Trees line the roads, enhancing the city's beauty, and selective trees adorn various areas like buildings, parks, and roundabouts. The city's planners were considerate of its natural beauty, selecting native Indian tree species and plants based on a color scheme. The humongous task of transformation of a rural settlement into a planed urban setup entailed massive changes which could have resulted in ecological imbalance.

Le Corbusier aptly described the city's foundation as well-sown, and it's now up to the citizens to ensure these trees flourish and continue to grace Chandigarh with their presence.



19 PREVENTIVE PRUNING PROGRAMME FOR TREES OF CHANDIGARH UNDER - THE CHANDIGARH TREES PRESERVATION ORDER, 1952

The Chandigarh Trees Preservation Order, 1952 was enacted to safeguard the trees of the City Beautiful and to provide preservation to its natural beauty.

The Department of Forests & Wildlife, Chandigarh Administration, introduces a Preventive Pruning Program to enhance tree health and reduce incidents of tree falling during high wind/storm. This initiative provides a Standard Operating Procedure (SOP) to be followed while carrying out tree pruning.

General guidelines for pruning of trees prescribed for adherence by all concerned to prevent reckless practices that could diminish Chandigarh's green cover—a vital strategy in our pursuit of pollution control and maintaining it as “Clean & Green City”.

INTRODUCTION

Embracing the serene charm of Chandigarh, our trees provide myriad benefits, yet potential risks lurk in their branches. The Preventive Pruning Programme becomes our ally, addressing concerns like co-dominant stems and low branches prone to splitting. Through thoughtful pruning, we mitigate tree stress, extending their lifespan and safeguarding lives and property. This practice ensures resilient trees, capable of weathering storms and natural forces, boasting strong structures, dominant leaders, secure branch unions, and balanced canopies. Let's nurture the beauty of Chandigarh's greenery, forging a harmonious coexistence where safety and longevity thrive hand in hand.

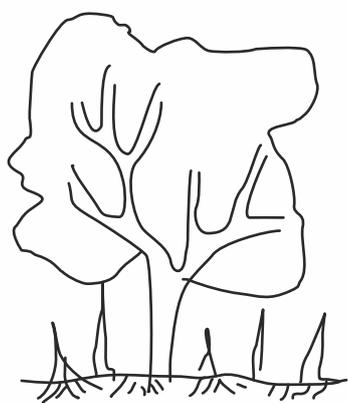


Before Pruning

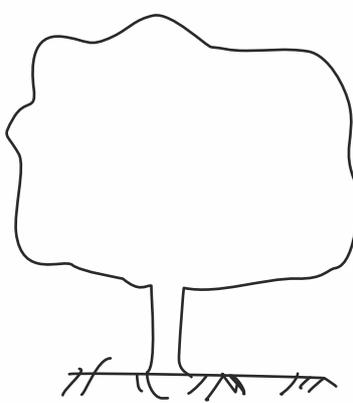


After Pruning

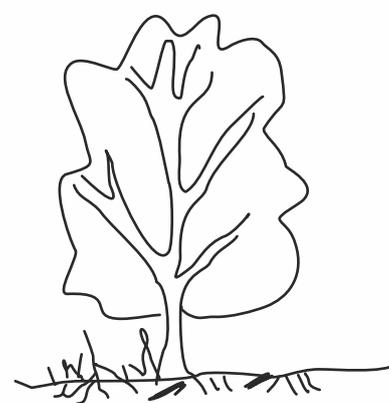
Shapes of the Trees classified for plantation in Chandigarh by the French architect Le Corbusier.



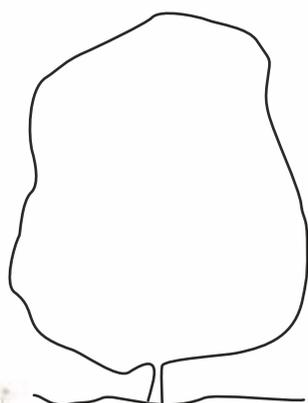
Irregularly rounded



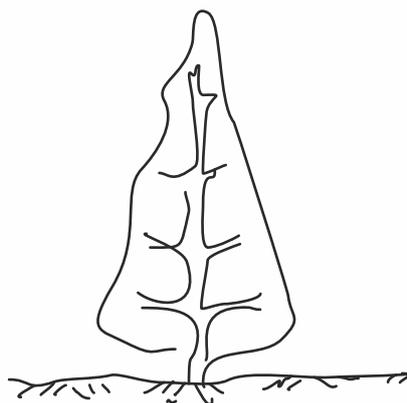
Regularly rounded



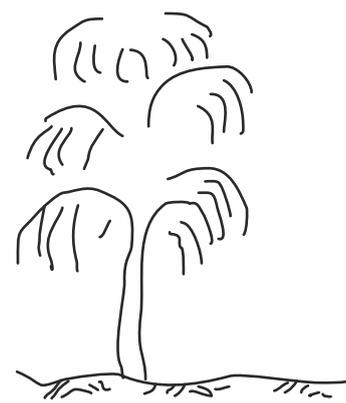
Irregularly columnar



Regularly columnar



Crown irregularly columnar



Weeping (pendulina)



Pruning is a horticultural/silvicultural technique that entails selectively removing dead or living parts of a tree, including branches, buds, or roots. This practice aims to enhance the tree's shape, promote healthy growth, and optimize overall plant vitality and structure.

OBJECTIVES:

Tree pruning is a widely used practice in tree risk management, offering a range of benefits, from risk reduction to improved aesthetics in urban environments. It is essential to establish clear objectives before embarking on tree pruning to ensure it is carried out effectively without unnecessary or excessive pruning. This informative guidelines the primary objectives of tree pruning and offers advice on how to achieve them.



1. Reducing Risk and Nuisance to the Public:

(i) Mitigating Tree Failure Risks:

To maintain a safe urban environment, it's crucial to promptly address potential tree failure risks. Regular and appropriate tree pruning is an effective measure to reduce these risks. Identifying and eliminating risks is ensuring the safety of pedestrians and motorists in the City Beautiful.

(ii) Clearing Roadside Obstructions:

Roadside trees can obstruct the view of pedestrians and motorists, hinder vehicular access, block road signs, lampposts, and power lines, and limit headroom for pedestrians and vehicles. Regular pruning is necessary to provide adequate clearance to road users and ensure smooth traffic flow.

(iii) Minimizing Nuisance to Building Occupiers:

Trees planted near buildings can cause disturbance and nuisance to occupants due to overgrown crowns encroaching on structures. Pruning to remove overgrown branches, reduce crown size, or uplift tree canopies can mitigate tree failure risks and alleviate nuisance issues.

2. Maintaining or Improving Tree Health, Form, and Structure:

(i) Enhancing Tree Vitality:

As trees mature, dead and diseased parts accumulate. Pruning helps remove weak and undesirable branches, allowing the allocation of resources to healthier parts, promoting tree development and recovery.

(ii) Disease and Pest Prevention:

Appropriate pruning can prevent the invasion of pests and diseases by eliminating infected or dead tree parts and thinning dense crowns, minimizing the spread of pathogens.

(iii) Increased Sunlight and Air Circulation:

Pruning removes overcrowded leaves, twigs, and branches, allowing more sunlight to penetrate the canopy and increasing photosynthesis. Improved air circulation prevents excessive moisture buildup, which is favorable for fungal infections.

(iv) Developing Strong and Balanced Structures:

Early tree pruning can train trees to develop strong and balanced frameworks. Pruning in the tree's youth reduces the need for costly pruning in the future and ensures better tree health and structure.

(v) Stabilizing Trees in Challenging Locations:

For trees with unstable root systems or those growing in restrictive environments, regular pruning can help maintain good and stable tree structures.

(vi) Adapting to Changing Urban Environments:

Urban development and construction may alter the original growing conditions for trees. Pruning can help trees adapt to their new environment by controlling growth rate and form.

(i) Reducing Wind Resistance:

Crown reduction and thinning can lower wind resistance, reducing the risk of tree failure during extreme weather conditions.

(ii) Improving Survival Rates:

Well-pruned urban trees have higher survival rates during inclement weather, protecting both the public and properties from damage.

(iii) Formative Pruning for Healthier Urban Forests:

Structural pruning during a tree's youth establishes a healthier urban forest with lower wind resistance and fewer tree failures during windy seasons. This pruning method guides tree growth toward a single dominant leader, strong branch attachment, and balanced crown.

4. Improving Aesthetics and the Urban Environment:

(i) Maintaining Desirable Tree Forms:

Formative pruning, especially in the nursery stage, helps maintain trees in their most desirable form and appearance, aligning them with specific landscape objectives.

(ii) Enhancing the Living Environment:

Properly pruned trees provide shading, improving the microclimate underneath and reducing temperature. Ample vegetation coverage also mitigates the urban heat island effect.

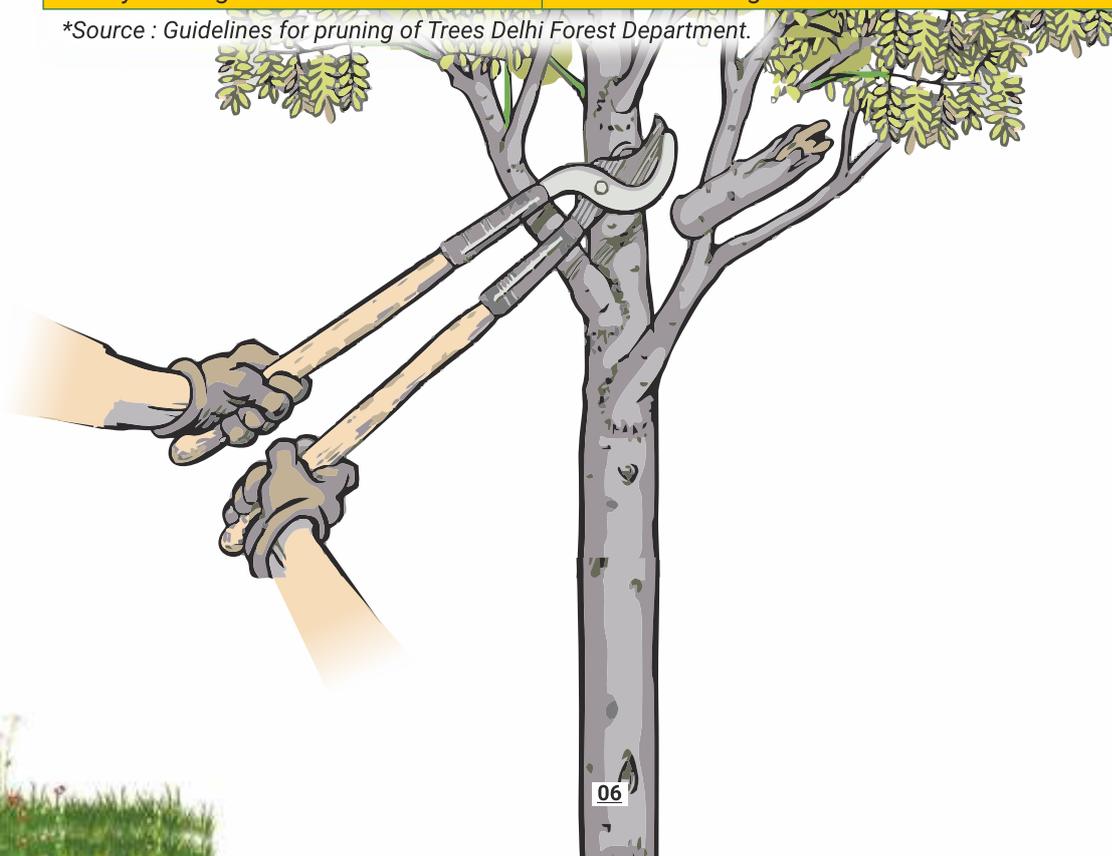
(iii) Beautifying Urban Landscapes:

Trees serve as green enhancements and screens for unsightly views in urban areas. Appropriate pruning techniques, such as crown thinning, reduction, and raising, create more attractive urban landscapes.

To ensure clarity and transparency regarding the definitions of light and heavy pruning, the following criteria are established:

TERM	BRANCH GIRTH
Regular Pruning/General Tending	up to 15.7 cm
Light Pruning	Exceeding 15.7 cm but not surpassing 40 cm
Heavy Pruning	Exceeding 40 cm

*Source : Guidelines for pruning of Trees Delhi Forest Department.





Tree pruning requires careful planning and execution to ensure safety, environmental protection, and overall well-being of the community. To effectively manage pruning work, it is essential to create a comprehensive pruning plan. This advisory guide provides a structured approach to tree pruning, emphasizing the importance of safety, risk assessment, equipment, scheduling, and environmental preservation.

1. Assessing Potential Risks

Before initiating any pruning work, it is imperative to assess the potential risks associated with the task. Ensure the safety of all involved by identifying and mitigating hazards. These risks may include:

- ☞ **Use of Pruning Tools:** Evaluate the safe use of tools like hand saws and chainsaws.
- ☞ **Work at Height:** Assess tree climbing and the use of elevated platforms.
- ☞ **Tree Condition:** Inspect the stability of trees, including leaning, cracks, decay, and fungal growth.
- ☞ **Impact on Trees:** Consider the impact of one tree part on lower tree parts and site conditions.
- ☞ **Weather Conditions:** Account for weather conditions such as wind, heavy rain, and extreme temperatures.
- ☞ **Health Concerns:** Be aware of health issues related to work, such as allergies and heat-related illnesses.
- ☞ **Site Conditions:** Analyse how site conditions like soil erosion and recent changes can affect tree stability.
- ☞ **Electrical Hazards:** Check for underground utilities and overhead cables that may pose electrical hazards.
- ☞ **Adjacent Structures:** Assess nearby structures like buildings, highways, lampposts, and signboards.
- ☞ **Traffic Conditions:** Consider the impact of nearby traffic, including vehicles, heavy trucks, and railways.
- ☞ **Wildlife and Habitats:** Identify the presence of wildlife like nests, snakes, ants, and beehives in & on the trees.

2. Scheduling

Efficient scheduling is vital for successful pruning. Consider the following factors:

- ☞ **Management Factors:** Define the pruning objectives, mobilize necessary equipment, and assess site accessibility and limitations.
- ☞ **Tree Factors:** Account for tree growing, flowering, and dormant seasons, the likelihood of tree failure, pruning intervals, estimated pruning time, and phased plans when multiple operations are necessary.

3. Safety System of Work

The department responsible for pruning must establish and maintain a safety system of work to protect the safety and health of ground workers. Implement the following measures:

- ☞ **Public Safety:** Ensure awareness of risks to the public and restrict unauthorized access by cordoning-off.
- ☞ **Protect Adjacent Properties:** Attention to adjacent buildings, utilities, and properties to prevent damage.
- ☞ **Site Cleanup:** After each operation, promptly clean and dispose of tree debris to restore the site.

4. Transmission of Pests and Pathogens

Pruning equipment and tools can facilitate the spread of pests and diseases. To prevent this:

- ☞ **Clean and Sterilize:** Regularly clean and sterilize equipment before and after operations.
- ☞ **Infected Trees:** Be cautious when pruning infected trees to prevent transmission of pathogens to other trees and nearby sites.

Prior to pruning, inspect the trees and working sites for wildlife and habitat. Prevent adverse impacts by following these measures:

Protected Wildlife: Identify active nesting, breeding, and roosting sites of protected wildlife and avoid interference.

- ☞ **Eggs and Nests:** Do not remove, destroy, or disturb nests or eggs of protected wildlife.
- ☞ **Endangered Species:** Protect rare or endangered tree species and plants as far as practicable.
- ☞ **Environmental Impact:** Strictly prohibit contamination and disruption of soil, water sources, and wildlife habitats.
- ☞ **Breeding Seasons:** When scheduling pruning near breeding locations of native birds like Maine, Hornbill, Parakeets, Kites, Sparrows etc., consider their breeding season.

Incorporate these guidelines into pruning plan to ensure a safe, efficient, and environmentally responsible tree pruning process. By doing so, will not only safeguard workers but also preserve the natural beauty and health of community's trees.



PREVENTIVE PRUNING PROGRAMME FOR YOUNG TREES:

Preventive Pruning Programme is a vital strategy to safeguard young trees from potential defects. Among the common culprits are co-dominant stems and assertive low branches, prone to causing tree splits or substantial pruning cuts. Such issues not only induce tree stress, diminishing its lifespan, but also pose risks to people and property. The proactive approach of preventive pruning fosters a robust tree structure, enhancing resilience against storms and natural forces.

Well-structured young trees exhibit a single dominant leader, sturdy branch unions without bark inclusions, and a harmonious canopy. The art of preventive or structural pruning becomes instrumental in cultivating these desirable attributes, ensuring the long-term health and strength of the trees.

STRUCTURAL PRUNING

Engaging in structural pruning during a tree's initial 5 to 25 years is pivotal. This time-frame is crucial for developing a robust canopy structure, enhancing the tree's resistance to storm damage. Through strategic reduction and removal cuts in structural pruning, the rampant growth of large branches competing with the leader is slowed. This intentional approach fosters accelerated growth in the selected leader stem. By carefully managing the tree's early growth, structural pruning lays the foundation for a resilient and well-balanced canopy, fortifying the tree against potential storm-related challenges.

COMPONENTS OF STRUCTURAL PRUNING:

Developing a Dominant Leader

Selecting a dominant leader involves identifying the stem with the greatest potential, usually the largest. While straightforward for some trees, it may pose a challenge for others. In cases of similar stem diameters, opt for the one nearest to the canopy's centre as the leader. Assess competing stems and strategically decide where to trim, ensuring the chosen leader thrives. This thoughtful process tailors the tree's growth, establishing a strong and central leader for optimal structural development.

Identifying the Lowest Branches in the Permanent Canopy

Recognizing the lowest branches in the permanent canopy streamlines the handling of lower temporary branches, offering a strategic approach to tree management.

Prevent Branches below the Permanent Canopy from Growing too Large

For optimal tree management, maintain the lowest permanent branch on shade trees at 15 to 20 ft above the ground; eventually, all lower branches are removed under ideal practices. Early subordination, achieved through reduction cuts, curbs excessive growth of these low branches, averting the need for large pruning wounds on the trunk. This intentional approach encourages new growth higher in the canopy, minimizing the necessity for significant cuts on the trunk. By strategically taming aggressive low branches, this method fosters a healthier and more balanced tree structure, promoting sustainable growth.





DETERMINING PRUNING CYCLE AND PRUNING DOSE

PRUNING CYCLE:

For a flourishing urban forestry program, delve into the art of preventive pruning with thoughtful consideration of the pruning cycle and dosage. Tailor the pruning schedule to the unique characteristics of each tree, factoring in variables such as quality, growth rate, climate, and species. High-quality trees nurtured in well-pruned nurseries merit less frequent attention, contrasting with their lower-quality counterparts that crave more meticulous care. In rapidly growing locales like Chandigarh, trim intervals warrant a strategic reduction. Species prone to decay demand a proactive approach with more frequent pruning to avert the necessity for extensive cuts.

Aim for a balanced pruning cycle of approximately three years to sustain optimal tree health. Prolonging the cycle exacerbates defects, paving the way for larger cuts and potential decay pockets. A 3-5 year cycle necessitates a higher pruning dose for optimal results, while a 1-2 year cycle calls for a more conservative approach.

Pruning Dose:

Carefully consider the pruning dose, the crucial quantity of live tissue removed, as it profoundly impacts a tree's well-being. For mature trees, it's advisable to limit the dose to under 10%, unless addressing major defects. Opting for a smaller dose yields controlled growth in unpruned areas, generating smaller wounds. Thoughtfully evaluate the pruning dose, accounting for the tree's age and specific requirements, to safeguard its health and aesthetics.

Use of Elevated and Reduced Pruning Doses

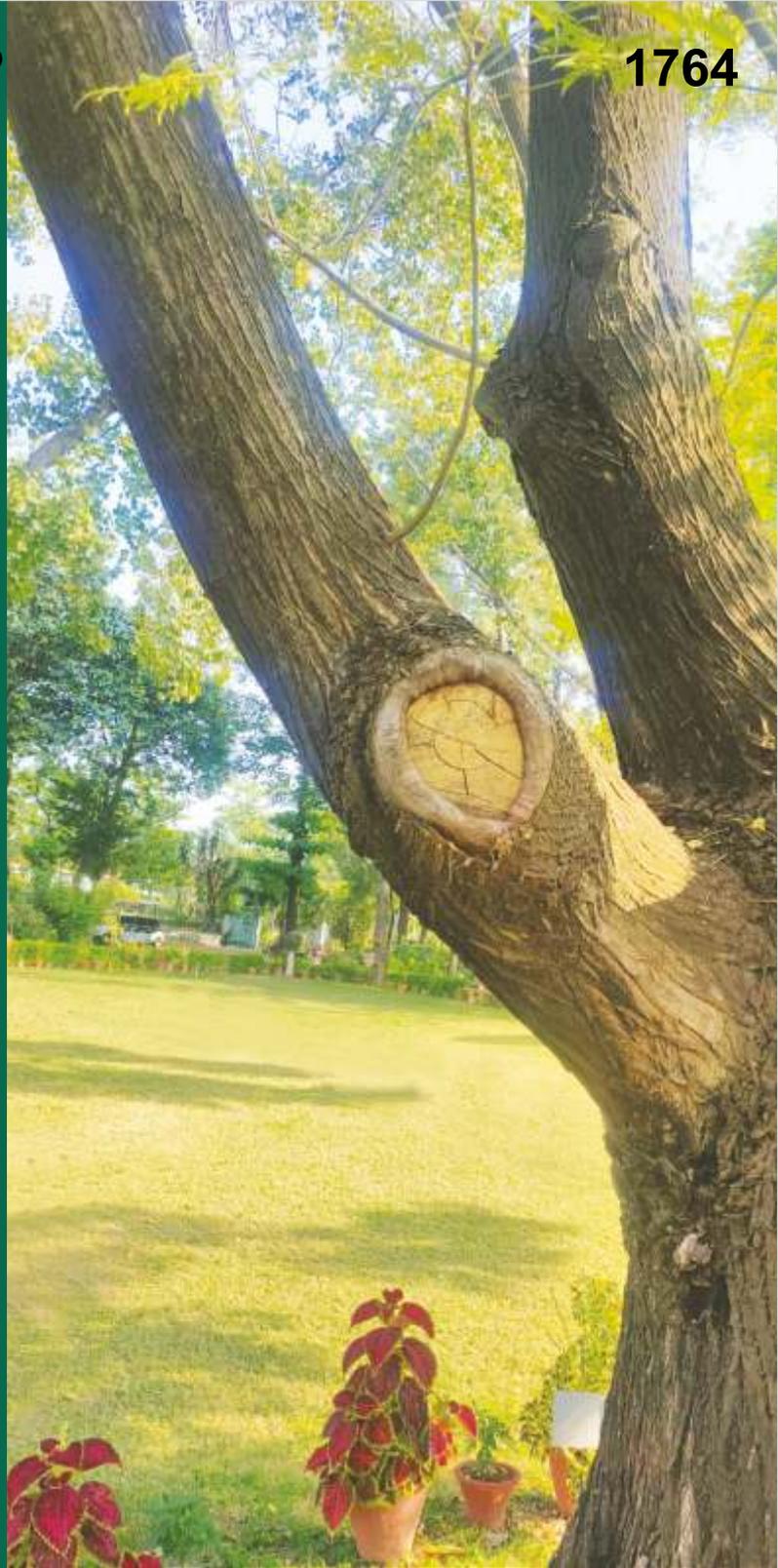
Minimal pruning amount (5-20% of foliage removed)	Intensive pruning level (>20% of foliage removed)
Established or recently planted	Young, established trees
Colder climates with brief growing periods	Temperate climate with long growing periods
Species prone to Decay (e.g. Kanakchampa)	Decay-resistant species (e.g. Jamun, Neem, Peepal, Imli etc.)



Correct Pruning Incisions:

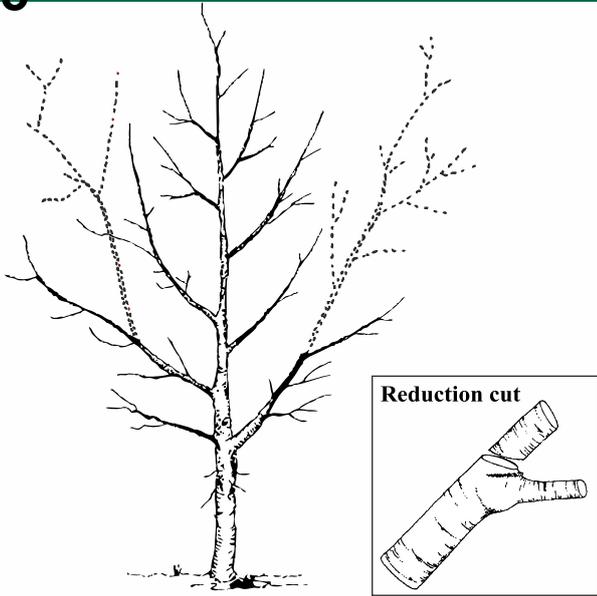
A fundamental element of an effective preventive pruning regimen involves executing proper pruning cuts. In this realm, two types of cuts play pivotal roles: reduction cuts and removal cuts.

Commencing a proper pruning cut entails initiating an undercut approximately 12 inches from the trunk. Following this, a top cut is executed, positioned further away from the limb or directly above the undercut. This strategic approach ensures the safe removal of the majority of the limb without jeopardizing the tree's integrity. Neglecting these initial steps might lead to damage, as the branch's weight can often cause it to tear down through the collar, risking harm to the trunk.

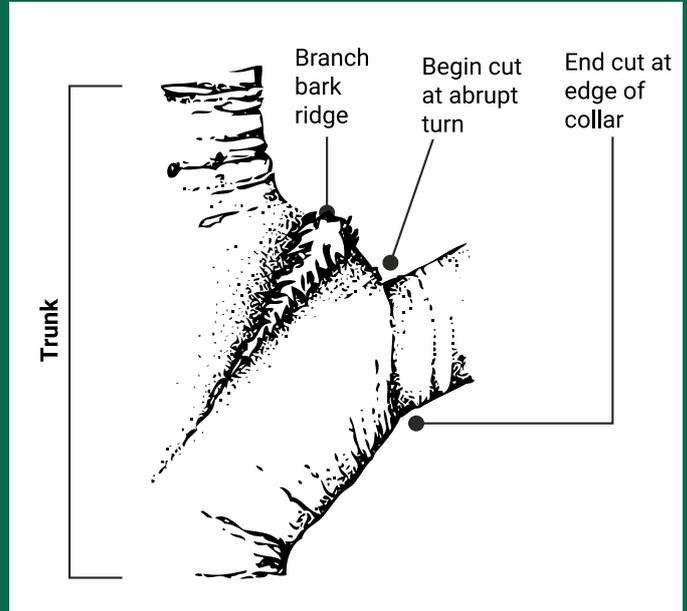


The final step involves removing the remaining stub with a meticulous final cut, taking care to avoid cutting flush against the trunk. Preserving the branch collar, a swollen area at the base of the branch where it connects with the trunk, is crucial. Proper pruning cuts steer clear of the collar, leaving a round-shaped wound, in contrast to the oval-shaped wounds caused by flush cuts.

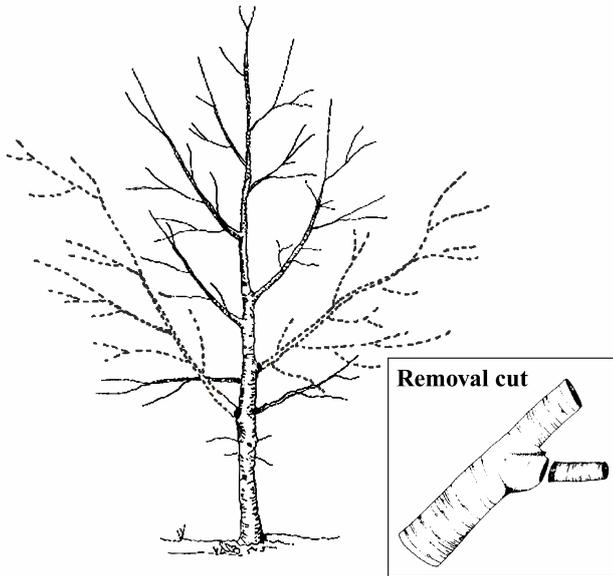
In contrast, suboptimal cuts, known as flush cuts, are deemed unacceptable in a preventive pruning regimen. The risk of severe decay escalates with larger-diameter flush cuts, making them an undesirable practice in effective preventive pruning.



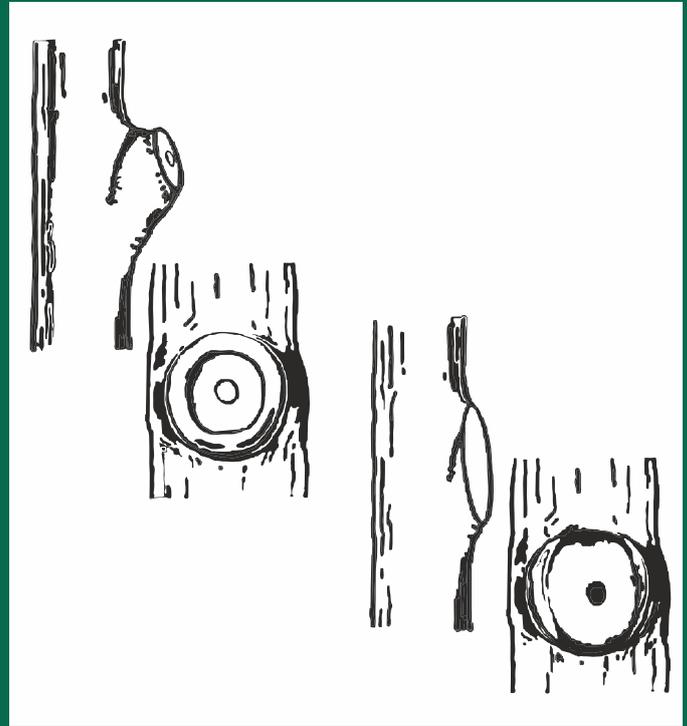
A reduction cut shortens the length of a stem by pruning back to a smaller limb large enough to assume dominance.



A close-up illustration showing where to make a removal cut.

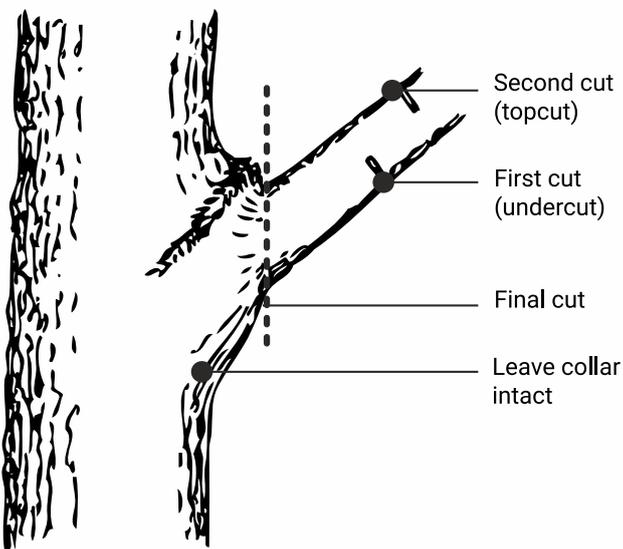


A removal cut prunes a branch back to the trunk or parent branch.



PRUNING PLANS

For enduring tree health and visual allure, crafting a meticulous pruning regimen, particularly in the early years, is paramount. Through six to seven strategic pruning sessions within the initial 25 to 30 years post-planting, you lay the groundwork for a resilient, lasting presence in your landscape. Below unfolds a streamlined pruning program tailored to shepherd your tree through its formative three decades.



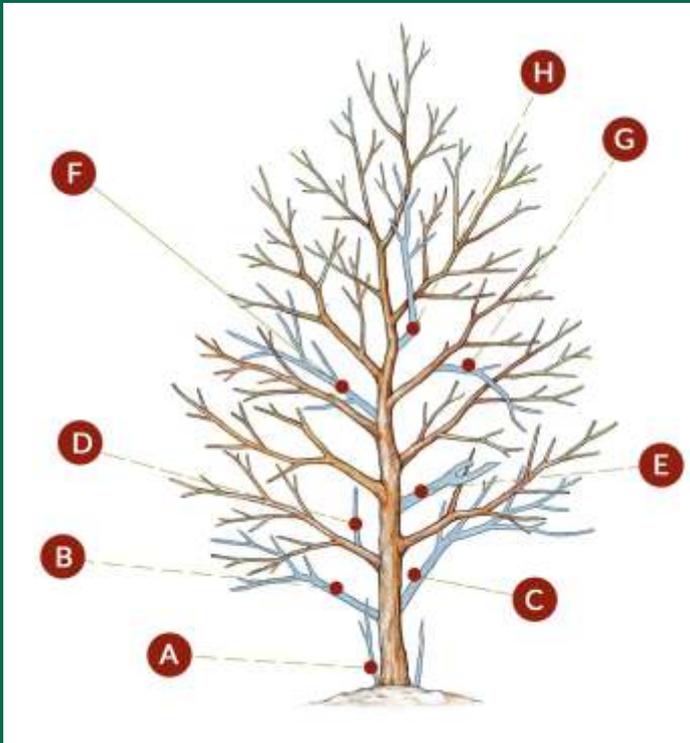
Proper pruning cut entails initiating an undercut app. 12 inches from the trunk to minimize damage.

Sustain the tree's form, ensuring prudent pruning by avoiding the removal of over 25-30% of live foliage during this period. Identify and trim branches beneath the lowest permanent limb in the canopy. Continue reducing branches surpassing half the trunk's diameter. Identify major scaffold limbs and prune branches within an 18-inch range. Remove branches with included bark and any competing leaders. Conduct a minimum of three pruning sessions in this stage, fostering a structured and robust tree development.

Twenty to Thirty Years after Planting:

As the tree advances in maturity, prioritize its enduring stability. By the 20-30-year milestone, eliminate branches below the first permanent limb. Select 5-10 permanent scaffold limbs and trim branches within 18-60 inches to prevent overcrowding. Safeguard against defects by pruning branches with included bark and those in competition with the main leader.

Bear in mind that the pruning regimen can fluctuate based on the tree's type, size, and health. Trees with dominant leaders and ample irrigation may require less frequent pruning, yet consistent upkeep remains vital for well-structured nursery trees. Following this strategy ensures the cultivation of a robust, enduring tree that enriches your landscape with enduring beauty and character.



What to prune from a tree

- A Suckers that grow from roots
- B Limbs that grow close to ground
- C Branches forming acute angle
- D Branch waterspouts
- E Dead, diseased or broken limbs
- F Parallel, close growing branches
- G Crossing or rubbing branches
- H Limbs competing with central leader





The preventive pruning program is designed to establish a robust trunk and branch architecture, ensuring the long-term vitality of mature trees. The primary aim for mature trees is to cultivate and sustain a sound structure that minimizes risks like branch failure.

When executed adeptly, mature tree pruning yields a multitude of advantages, including decreased risk of branch breakage, improved clearance for vehicles and pedestrians, enhanced health and aesthetics, and unobstructed views. Delayed or improper pruning, however, leads to undesirable consequences such as the growth of low limbs, the development of weak co-dominant stems, the formation of defects like included bark, and the accumulation of dead branches. Co-dominant stems and included bark defects heighten the risk of breakage.

Among the prevalent defects in mature trees is the emergence of large, low limbs. These branches may overextend and break or sag under their own weight, necessitating later removal and leaving significant pruning wounds. Removing substantial branches, especially those exceeding about half the trunk diameter, poses a higher risk of initiating decay compared to smaller branch removal.

In the context of mature trees, minimizing hazards like branch failure is crucial. Although live branch removal is less favourable for mature trees, it becomes necessary in certain situations, such as eliminating a cracked live branch over a structure. Recognizing hidden cracks characterized by elongated swellings is essential, as horizontal cracks significantly impact the structural integrity of the branch. Reduction and thinning are effective strategies to alleviate forces at the base, minimizing the risk of breakage. Regular crown cleaning, involving the removal of dead, diseased, or broken branches, is highly recommended for maintaining mature tree health.

Before embarking on pruning a mature tree, a thorough evaluation of its needs is essential. This evaluation guides the determination of the pruning objective to be achieved. Selecting appropriate pruning methods aligned with the desired objective is crucial.

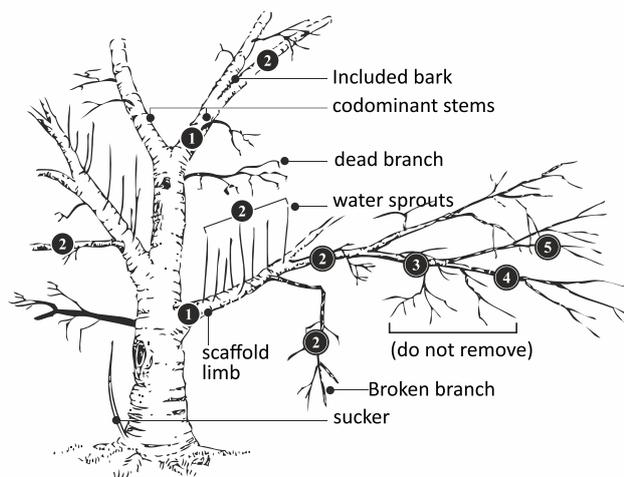
Pruning Cycle and Dose

Pruning on mature and over-mature trees necessitates a compelling reason, as excessive branch removal depletes vital reserves. Over-pruning may trigger the tree to generate adventitious sprouts in an attempt to replenish lost energy. Despite this, live branch pruning is a vital component in crafting sturdy tree structures, making it an indispensable practice within Chandigarh's tree pruning program, ensuring the preservation and enhancement of the urban greenery.

The most important defect in this tree is the included bark in the upper right side of the crown. Shorten or remove the stem with the number 2 over it.

Another issue involves the lengthy limb on the lower right. To address this, consider shortening it by removing the branch marked with the number 4. While there's no imperative to eliminate water sprouts entirely, you may selectively trim some to facilitate proper growth for others. This approach aims to enhance the overall balance and aesthetic.

Guidelines for Pruning Mature and Over-mature Trees



- | | |
|---|---|
| 1 Primary branches – do not remove | 4 Quaternary branches-could remove some |
| 2 Sec branches-almost never remove | 5 Quinary branches-could remove several |
| 3 Tertiary branches-careful consideration | |



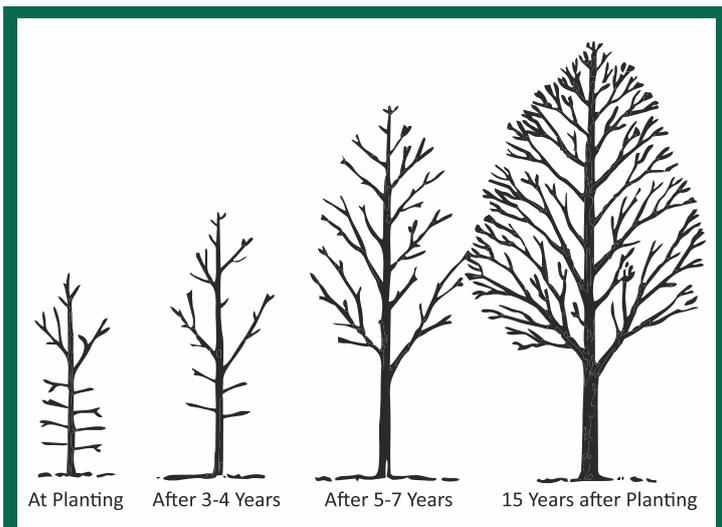
Proper Pruning Incisions

Arboriculture pruning employs three primary cut types: removal cuts, reduction cuts, and heading cuts. Removal cuts are favoured for preserving the branch protection zone. Specify maximum or minimum cut diameters before commencing the work, delineating the parts to be removed and the resulting size of pruning wounds. This precision ensures a tailored approach to pruning, promoting the health and resilience of the tree.

Pruning for Structure

Structural pruning entails the deliberate removal of live branches and stems to shape the orientation, spacing, growth rate, attachment strength, and eventual size of branches and stems. This technique is applied to young and medium-aged trees, serving to engineer a resilient trunk and branch configuration. When implemented on young trees, promoting good structure ensures their long-lasting viability in the landscape, surpassing the longevity of trees without structural pruning. Delaying structural pruning until the tree matures complicates the process significantly.

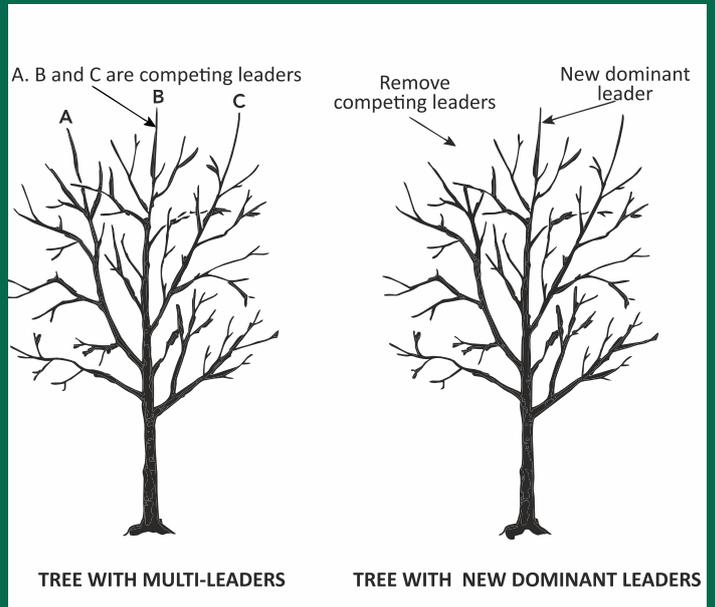
For large-maturing trees, structural pruning minimizes defects, aligns main branches along a dominant trunk, and keeps branches smaller than half the trunk diameter, averting structural failures. However, attempting meaningful structural changes on already mature trees may prove



Deliberate Removal of Live Branches and Stems

Structural pruning involves trimming stems and branches that view with the leader or main trunk. For trees prone to decay, pruning cuts typically range from 1 to 3 inches, while decay-resistant trees can tolerate cuts of 6 inches or more. In the case of a medium-aged tree, like the one

mentioned, removing up to about 25% of foliage during a single pruning session is generally acceptable. Moreover, more extensive removal is permissible for individual branches, fostering a balanced approach to maintain tree health and aesthetics.



Altering Mature Trees Structurally can Pose Challenges

Structural pruning in the early stages of a tree's growth rectifies defects, exemplified by the top tree, pruned twice in the last three years. The prominence of a dominant leader is evident. If structural pruning is neglected during a tree's youth, defects can escalate, becoming irreparable. Trees with substantial co-dominant stems and included bark pose hazards, potentially splitting during storms. To mitigate this risk, such trees can undergo size reduction, diminishing the likelihood of failure during storm events. Implementing timely structural pruning ensures a resilient and safe tree structure, averting potential dangers as the tree matures.

Structural pruning boils down to managing or eliminating co-dominant stems. Four key procedures shape structural pruning. Firstly, canopy cleaning involves removing dead, broken, diseased, and dying branches. The second procedure centres on selecting and nurturing a dominant leader, often requiring multiple pruning over 15 to 25 years. For medium-aged and mature trees, preserving the established leader is crucial. This entails subordinating or removing competing stems and branches. Subordination, often preferred over removal, proves especially prudent when the problematic stem exceeds half the trunk diameter, potentially causing less trunk decay. Removal remains an option if necessary, ensuring a nuanced approach to structural pruning for lasting tree health.

Guidelines to establish and sustain dominant leader.

1. Crowning Glory: Choose the Stem Sovereign

- Embrace the leadership by carefully selecting the stem.
- Let the chosen leader be the beacon, guiding the growth of the entire botanical kingdom.

2. Surgical Precision: Trim Competing Stems with Finesse

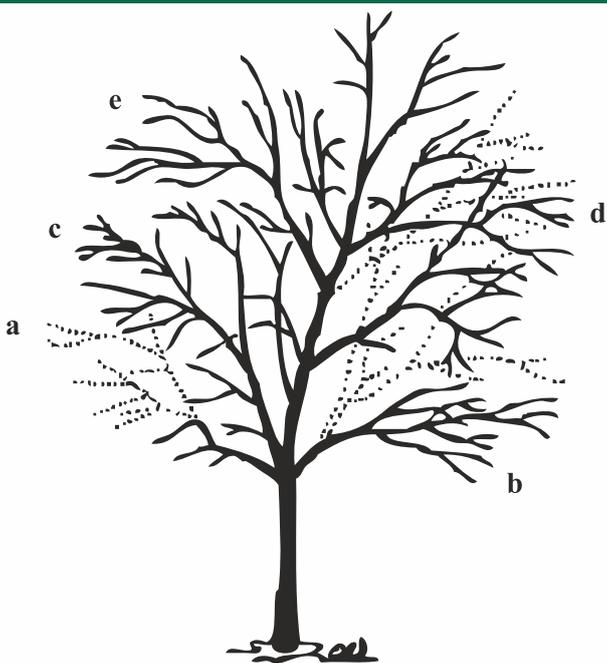
- Play the role of a horticultural surgeon, delicately deciding the fate of each competing stem.

3. Practice: Regularly Trim to Maintain Botanical Harmony

- Engage in a rhythmic pruning dance to keep the balance of nature intact.

The second step involves the discernment and establishment of the lowest permanent scaffold limb, a crucial consideration for sufficiently mature trees. This entails the shortening of robust branches beneath it and the reduction of any lower branches infiltrating the crown.

Moving to the third step, the identification and establishment of scaffold limbs come into focus, achieved by subordinating or removing competing stems and branches. This process, known as scaffold selection, is a patient endeavor spanning 10 to 20 years or more, influenced by climate, tree type, and location. Scaffold limbs, situated above the lowest permanent limb, serve as the foundation for constructing the permanent crown. They should exhibit minimal defects like included bark and cracks, rank among the tree's largest limbs, and maintain proper spacing, with a vertical clearance of at least 18 inches for large-maturing trees and approximately 12 inches for smaller varieties. This meticulous selection and establishment contribute to the tree's overall structural integrity and aesthetic.



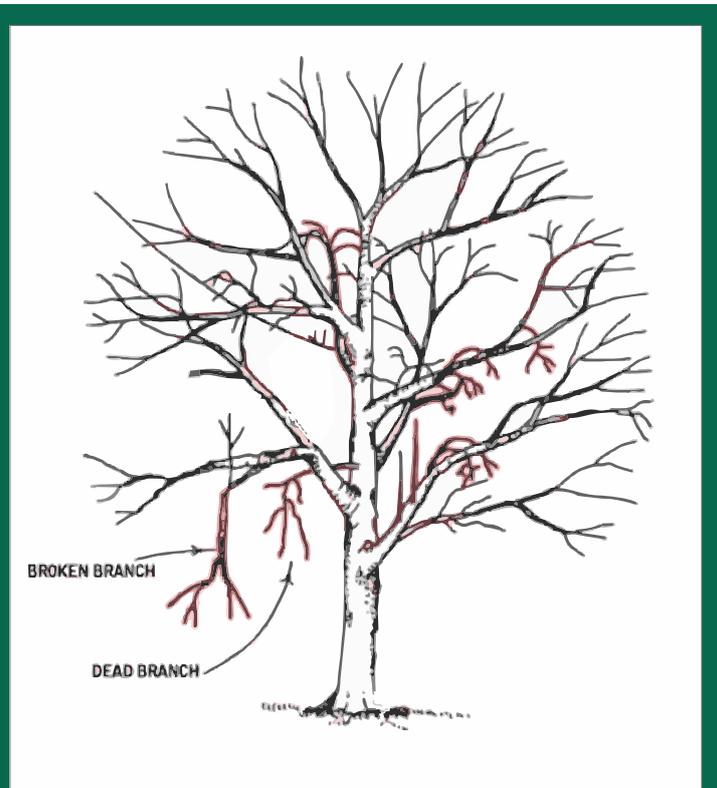
- 1) Prune branches a and b to favor branch c as the scaffold branch in this trunk section. The removal of part b is to prevent it from growing into the canopy;

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- 2) Eliminate or trim back (as shown in the illustration) the primary branch across from e, enabling e to assume the scaffold role in this trunk section. With branches c, d, and e now strategically spaced along the trunk, the two smaller branches opposite branch d can be retained since their growth is unlikely to compete significantly with d. This precise pruning approach ensures a balanced and well-structured tree silhouette.

Pruning to Clean

Cleaning involves the careful removal of dead, diseased, detached, or broken branches. This meticulous pruning technique aims to minimize the risk of branches falling and curtail the spread of insects and diseases from deceased or ailing branches to the rest of the tree. While applicable to trees of any age, it is most frequently applied to medium-aged and mature trees. Notably, cleaning stands out as the preferred method for mature trees, as it eliminates potential hazards without unnecessarily removing live branches. By targeting branches with cracks that might fail as the inner wood dries, cleaning ensures the sustained health and structural integrity of mature trees.

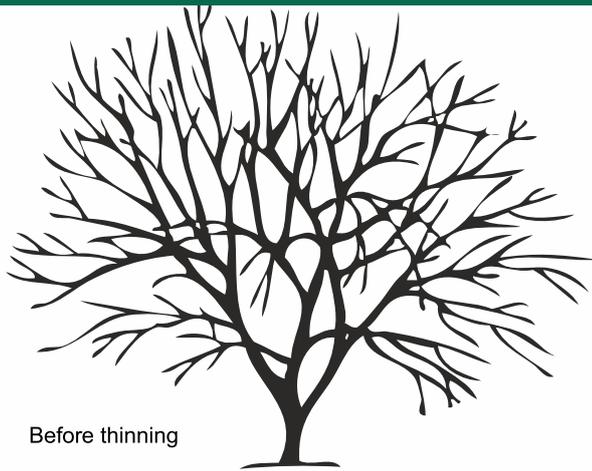


Cleaning

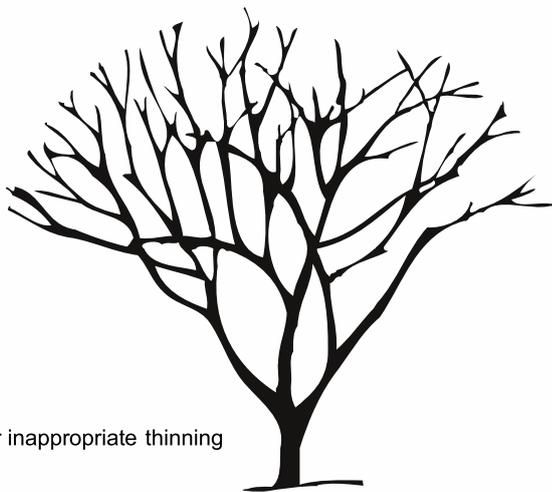
Although dead branches normally cause less damage in hurricanes than live branches with defects, removing dead branches represents good tree care. Any damage caused by these small broken branches would be minimal compared to the threat of damage from larger branches.

Thinning delicately selects and removes petite living branches. It focuses on the outer reaches, sculpting the crown with precision to retain its regal form while ensuring a harmonious foliage distribution throughout.

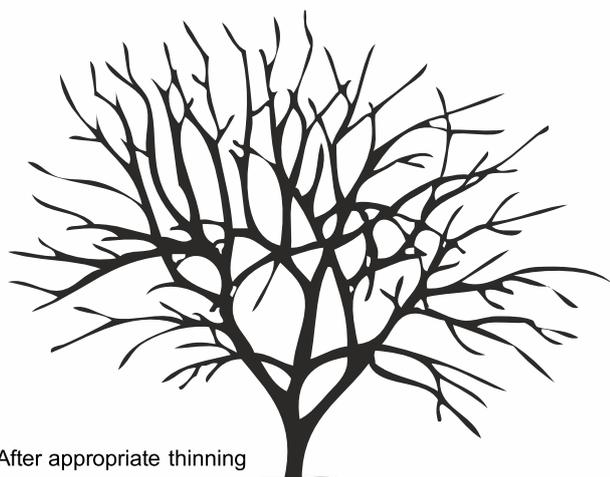
The practice of thinning is not merely aesthetic; it's a strategic maneuverer against the winds, gracefully reducing the sail-like effect of clustered foliage and alleviating the burden on branch unions. Like a sculptor's touch, thinning prepares the tree for the intricacies of cabling, and with finesse, it sweeps away unwanted suckers and water sprouts from the tree's base and interior.



Before thinning



After inappropriate thinning



After appropriate thinning

Improper thinning concentrates branches at the crown's edge, rendering trees susceptible to wind damage. Conversely, proper thinning strategically distributes live branches along limbs by selectively removing those predominantly at the crown's periphery. This method enhances tree stability and resilience, ensuring a balanced and wind-resistant canopy.

Excessive pruning in the lower two-thirds, aptly named "lion tailing," can disturb the harmonious rhythm of nature. In this arboreal ballet, precision is key, and a thoughtful choreography ensures that each pruning gesture contributes to a masterpiece of balance, resilience, and enduring beauty.

Pruning to Raise

A deliberate elevation that bestows vertical clearance for a symbiotic relationship with the constructed environment. Buildings, signs, vehicles, pedestrians, and scenic views all partake in this arboreal dance, where strategic branch removal becomes the choreography for a harmonious coexistence.

As this arboreal ballet unfolds, envision structural pruning as a loyal companion – a guardian of form and function. It's a symphony where every judicious cut not only sculpts the tree's physical form but contributes to the intricate equilibrium it sustains. The tree emerges not merely as a living entity but as a testament to the delicate interplay between human intervention and the preservation of nature's inherent grace.



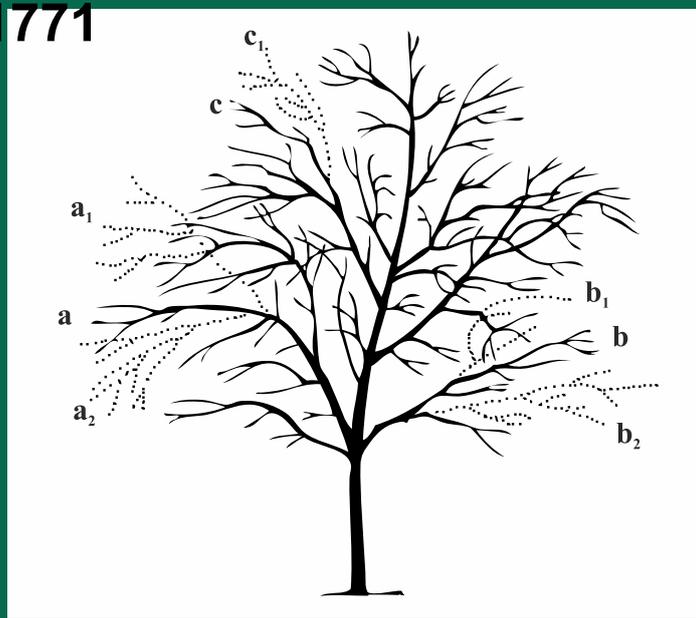
Before

After

Thinning Prunes Unwanted Suckers and Water Sprouts

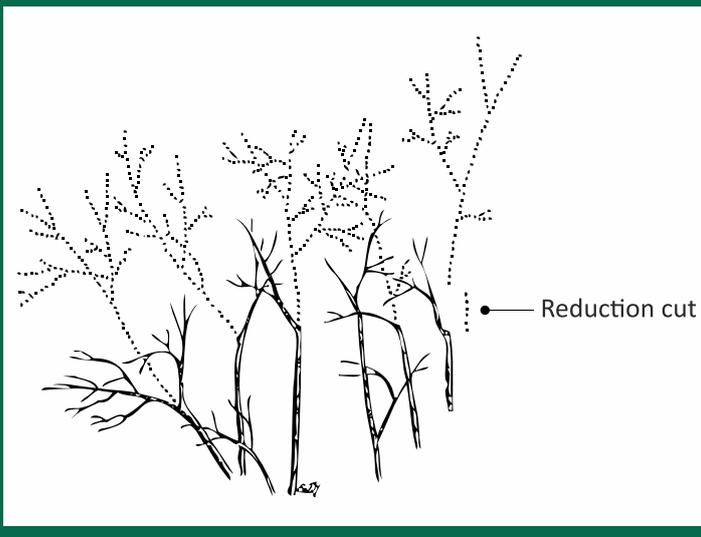
A lion-tailed tree (left) is stripped of foliage on the interior of the canopy. This produces excessive end weight at branch tips and makes the trees more susceptible to breakage in storms. Water sprouts (right) often result from stress in years following lion tailing.

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Raising

Elevate the crown by removing lower branches a and b. Subordinate them by removing branches a-1, a-2, b-1, and b-2 for balance. Prioritize structural pruning and reduce branch c to prevent competition.

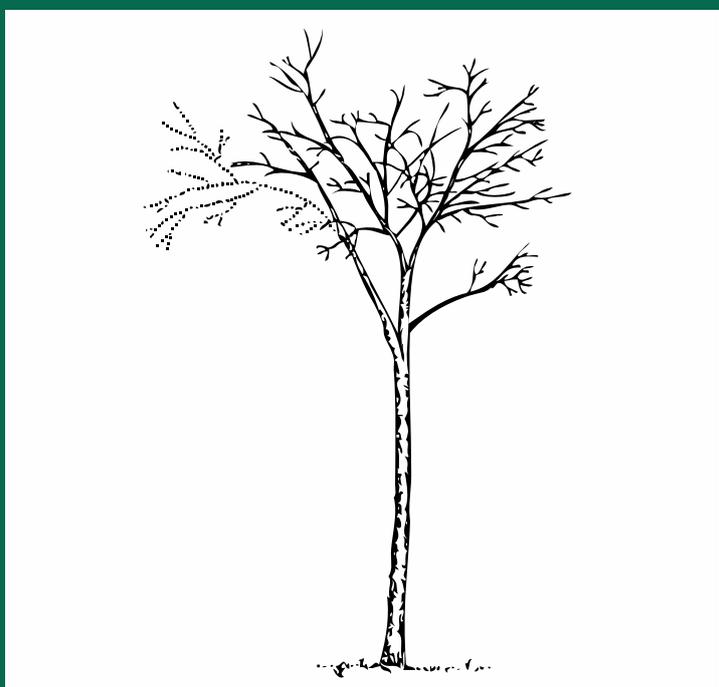


Pruning to Reduce (Shape, Drop-Crotch)

Reduction means selective removal of branches and stems to gracefully diminish the height or spread of a tree or shrub. Reduction curbs the risk of failure and redirects branch growth away from structures or signs.

In this the crown becomes a canvas, with individual limbs receiving the tailored touch of reduction to harmonize the canopy, create clearance, or stave off breakage on flawed limbs.

For the venerable, stressed, or mature trees, the treatment may be a potential stressor. In the mature tree's ageless ballad, cutting a limb back to a lateral requires a gentle hand – no more than half its foliage should depart. Yet, more decay may follow reduction than other pruning methods. Each reduction should ensure that the result is a crescendo of health and aesthetic balance.



Reduction

Adjust canopy or clear structures with reductions.

Pruning to Restore

"Restoration," is selective excising of branches, sprouts, and stubs shrubs that bear the scars of topping, severe heading, vandalism, lion-tailing, storm breakage, or other inflictions. The objective is to enhance the structure, form, and aesthetic allure of the tree or shrub.

It's a symphony of patience, requiring several prunings over years, each a brushstroke in the tapestry of restoration. In this arboreal ballet, the scars of past wounds become a testament to resilience, as each pruning is a whisper of renewal, guiding the tree toward a symmetrical rebirth.

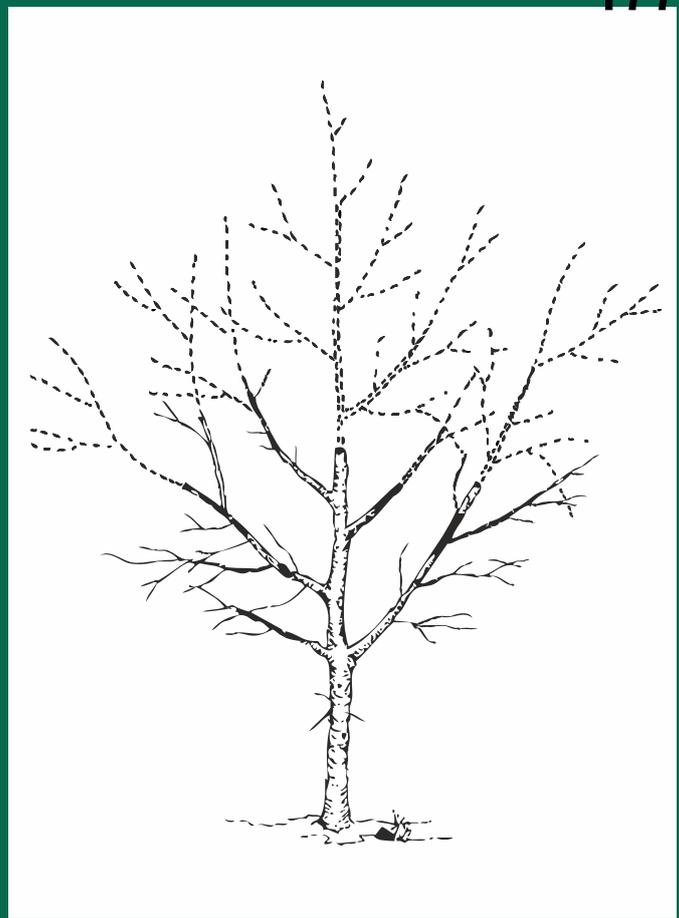


Restoration after a storm will take time, but it is possible.

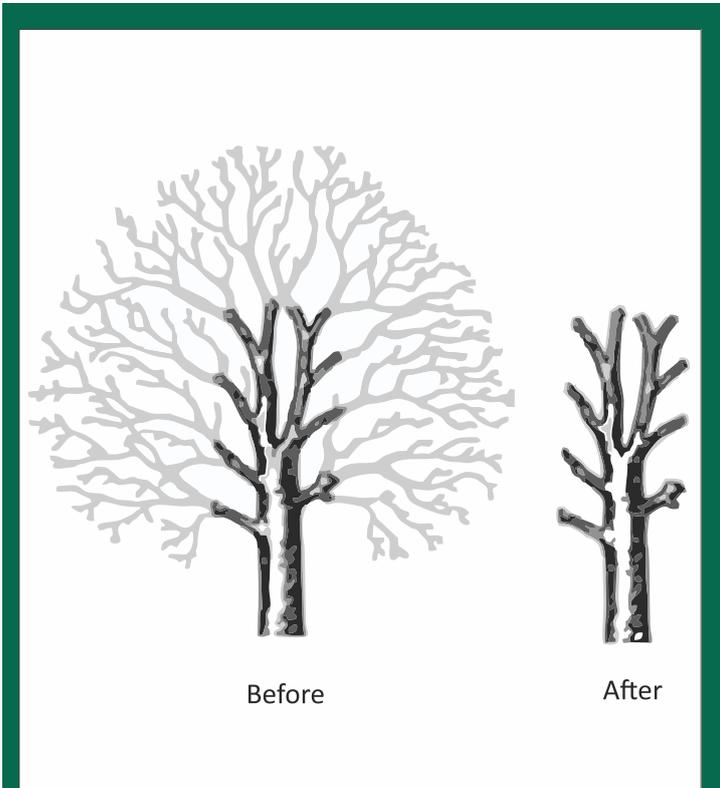
Pollarding - cutting of top tree branches back to the trunk, leaving club-headed stems that grow a thick head of new branches. The purpose is to limit the area of top growth or to create an annual harvest. A training system that commences with a year of severe heading through tender stems, followed by an annual ritual of sprout removal, sculpting trees or shrubs into predetermined elegance or maintaining a distinguished "formal" appearance. It's a delicate practice, distinct from the indiscriminate act of topping.

Historically, pollarding served as generating shoots for fuel, shelter, and various products due to the profusion of adventitious sprouts. To embark on this journey, initiate pollarding on deciduous trees in their youth, making strategic heading cuts through stems and branches.

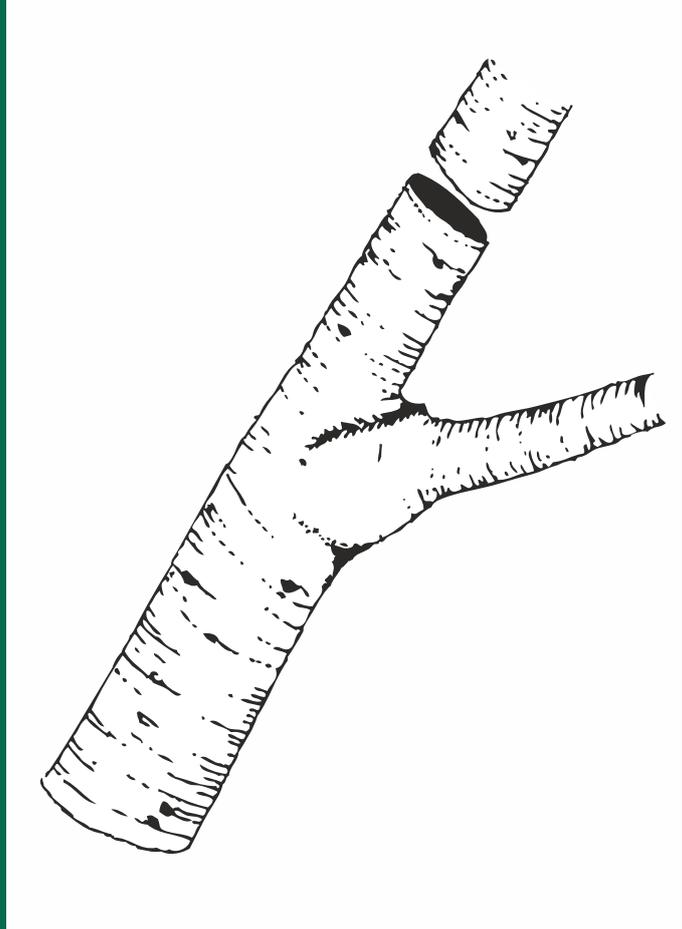
Crafting a pollard masterpiece involves strategic heading cuts, ensuring sprouts from all slices bask in sunlight. Once the initial incisions are made, subsequent heading cuts become unnecessary. After a few pruning cycles, pollard heads emerge, donned with sprouts that demand careful removal during the dormant season, avoiding any intrusion into or below the knobs. This symphony of pruning cycles weaves a tale of rebirth and control. Pollarding finds its spotlight in species like Eucalyptus, Silver Oak, *Morus alba* etc. offering not just aesthetic refinement but also safety by taming their towering heights.



Topping Vs Pollarding



Pollarding
 Sprouts pruned back to pollard heads (left). Pollarded trees flushing out with new sprouts (right). All sprouts are removed annually, typically in the dormant season.



Severe heading through mature tissue might usher in decline



Optimal pruning timing depends on desired outcomes. Removal of dying or diseased limbs can be done anytime without significant harm. Pruning during dormancy reduces pest risks, allowing wounds to heal.

Post-growth flush pruning is discouraged to avoid stressing trees. Mindful pruning enhances flowering. Fruit trees can be pruned during the dormant season to enhance structure and distribute fruiting wood. Consider timing as a crucial element in plant health care. The best time of year to prune is during dormancy generally when all of the foliage (Deciduous Trees) has dropped. Pruning during hot weather can cause additional stress to the tree.





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