Planting Logistics and Organizational Capacity by Land Type Guidelines

PLANTING ON PUBLIC GROUNDS

The City and County of Honolulu has established standards and procedures for planting trees in along streets, sidewalks, and commercial storefronts. As regions continue to develop and contribute to urban deforestation, street trees are extremely important as they are directly adjacent to a new impervious surface and exist in a small area of plantable space in public jurisdiction. However, outside of producing numerous ecosystem services, trees can also be viewed as liabilities and conflicts of interest in other development projects.

As Malama Maunalua explores their tree planting capacity and partnership opportunities, both the advantages and obstacles of working within the public sector should be evaluated. The majority of planting in public areas is coordinated with the Department of Park's and Recreation Division of Urban Forestry (DUF). In a 3/30/19 meeting DUF personnel, it was noted that within the Hawaii Kai region, the division was mainly focused on planting, maintaining and removing street trees that are planted on a contract. The streets surrounding the Kamilo Estate subdivision is currently a project of interest.

Street trees are often requested by private business or homeowners whose property borders a street or sidewalk. However, per the Department of Planning and Permitting, removal or planting of street trees within or along streets requires approving a street Tree Assessment Report. A Tree Assessment Report, as well as the Standards and Procedures for getting street tree planting projects approved, is outlined in the linked document.

https://static1.squarespace.com/static/59af5d3cd7bdce7aa5c3e11f/t/5bda1d32898583b781452eea/1541021026154/Hnl+Guidelines+and+Standards+for+Trees+in+Urban+Areas-Amended+2016.pdf

If pursuing a project involving street trees and other public sites, the standards and procedures for the planting of street trees must also be reviewed before completing a Tree Assessment Report. Guidelines most applicable to Malama Maunalua's planting initiatives are regarding the required distance between plantings.

- A minimum of one tree shall be required for every 50 feet of street frontage for new residential projects
- a minimum of one tree required for every 40 feet of street frontage for commercial and industrial projects.

Distance away from other entities (in feet)

	Small trees (>25 ft)	Medium trees (25-35 ft)	Large Trees (<35 ft)

Storm drain/water or sewer line	5	5	5
Utility pole	5	10	10
Fire Hydrant	5	5	5
Street light	5	5	5
Crosswalk	5	5	10
Driveway	5	5	10
Another tree	22	22	60

Species Selection on Public Grounds

For areas adjacent to the beaches and lowland waterways, Section 1-12 states “the coconut or other suitable palms shall dominate the street tree pattern with the objective of producing a palm-lined coast. Secondary planting shall be of trees that thrive in the littoral areas and are companions of the palm.”

The following is a list of street trees provided by the Department of Permitting and Planning selected for their appropriateness and beauty. The species on this list were chosen because of growth habitat, leaf or bark texture, color of leaf or flower, fragrance or adaptability.

The DPP Street Tree Planting SOP claims that updates would be made periodically to allow for substitution of desirable flora, any planting problems that may arise, and experimentation with new plant imports. However, during our meeting with DUF personnel it was noted that species selection has evolved somewhat but no other official list has been published since 1999. (draft created in 2016, but not officially published)

The chart below outlines the species on the last published list of approved species provided by the DPP also noting their size and other characteristics that should be considered when planning a planting on public land.

Scientific Name	**Common Name**	**Size (small, med, large)**	**Native (Y or N)**	**Considerations**
Andira inermis	Cabbage tree	Large	No	Slow growing, potentially poisonous bark

				and seeds
Bauhinia binata	Butterfly (Alibangbang)	small	No	Wind tolerant but not salt wind tolerant
Bauhinia blakeana	Hong Kong orchid tree	medium	No	Pruning required to prevent dense branching
Calophyllum inophyllum	True Kamani	large	No; traditional trees of pacific islands (introduced by early Polynesians)	Nuts used medicinally in Pacific Island cultures
Callistemon viminalis	Drooping Bottlebrush	Medium	No	Drought resistant and semi salt wind tolerant
Cassia javenica X C. fistula	Rainbow Shower Tree	large	No; hybrid spp. “Made” in Hawaii	Fast-growing with umbrella-shaped branches
Ceratonia siliqua	Carob Tree “Kiawe”	small	No	Thorny, can grown in arid areas and prevent erosion
Colchlospermum vitifolium	Golden Buttercup	medium	No; Native to South Pacific (introduced by early Polynesians)	Bright orange/yellow flowers
Connocarpus erectus var. Angenteus	Silver Buttonwood	Medium	No	Requires frequent pruning, tolerant to salt spray and saline soils
Cordia subcordata	True Kou	Medium	Yes	Requires good drainage, good shade tree

Cupaniopsis anacardioides	Tuckeroo	Medium	No	Possibly invasive (prolific seed production)
Elaeodendron orientale	False Olive	small	No	Fast growing, roots are non-intrusive, no litter drop
Erythrina sandwicensis	Wiliwili	medium	Yes	Produces leaf litter, sensitive to EGW
Ficus macrophylla	Moreton Bay Fig	large	No	Good shade tree, cited as possibly invasive
Ficus retusa	Chinese Banyan	large	No	Numerous aerial roots, produces fruit, high weed risk
Guiacum officinale	Lignum Vitae	small	No	Low weed risk, slow growing, lavender flowers
Harpullia pendula	Tulipwood	medium	No	Unobtrusive roots, low maintenance
Jacaranda acutifolia	Jarcaranda	large	No	Blue-violet flowers, unobtrusive roots
Lagerstromia indica	Crepe Myrtle	small	No	Colorful flowers, produces litter
Lagerstromia speciosa	Giant Crepe Myrtle	Medium	No	Showy in flower, but seasonal
Magnolia gradiflora	Southern Magnolia	small	No	Upright growth habit, very fragrant flower
Melaleuca leucadendra	Paper Bark	medium	No	Good for windbreaks/ reforestation of

				degraded or flooded areas, high weed risk
Metrosideros polymorpha	Ohia Lehua	small	Yes	Plant into ground before it becomes pot-bound, needs good drainage
Michelia alba	Pak Lan	Medium	No	Fragrant white flower, good shade tree
Mimusops caffra	African mimusops	small	No	Slow growing, no thorns, may form thickets
Pimenta dioica	Allspice	small	No	High weed risk, host to ‘ohi’a rust
Samanea saman	Monkey Pod/ Raintree	large	No	High importance value, good shade tree
Sapindus spp.	Manele	Medium	Yes	Good shade tree, produces non edible fruit
Swietenia mahogoni	Mahogany	large	No	Low weed risk
Tabebuia argentea	Silver Trumpet tree	small	No	Produces litter, seasonal flowers
Tabebuia banskii	White Tecoma	small	No	Produces litter, seasonal flowers
Tabebuia chrysantha	Golden Trumpet Tree	Medium	No	Produces litter, seasonal flowers
Tabebuia donnell-smithii	Gold Tree	large	No	Striking yellow flowers that replace leaves in blooming season

Tabebui palmeri	Palmer's Tecoma	small	No	Requires full sun, no thorns/spines
Tabebuia pentaphylla	Pink Tecoma	Medium	No	Handling can cause allergic reaction, salt-tolerant, possibly high weed risk
Thespeia populena	Milo	Medium	No	Formally more popular around Hawaiian homes as a shade tree, cultural and medicinal uses

Further consultation with DUF and the Department of Parks and Recreation as well as the Department of Public Transportation before Malama Maunalua engages with any project concerning planting in public areas including along streets, in parks, and in parking lots/ along commercial developments.

Additional Resources:
The following documents may also be pertinent in urban reforestation data collection and analysis and creating effective planting policies and plans:

Standards and Procedures for the Planting of Street Trees
http://www.honoluludpp.org/Portals/0/pdfs/engineering/StreetTreeStandards.pdf
Street Tree Review and Approval Procedures
http://www.honoluludpp.org/Portals/0/pdfs/engineering/StreetTreeReview.pdf
Honolulu C&C Urban Reforestation Master Plan
https://static1.squarespace.com/static/59af5d3cd7bdce7aa5c3e11f/t/5bd9ecb521c67ccf9118428d/1541008570899/Hnl+Reforestation+Master+Plan-2006.pdf
DUF draft of Recommended Trees & Palms for HI Streets
https://static1.squarespace.com/static/59af5d3cd7bdce7aa5c3e11f/t/5bda1cd688251b5707e2a229/1541020886178/Hnl+Recommended+Trees+and+Palms+for+Streets-2017.pdf
TOD Special District Design Guidelines
http://www.honoluludpp.org/Portals/0/pdfs/zoning/TOD%20Guidelines%208-29-18.pdf
Municipal Forest Resource Analysis
https://static1.squarespace.com/static/59af5d3cd7bdce7aa5c3e11f/t/5bd9f1a01ae6cfe0184dca4b/1541009827717/Hnl+Municipal+Forest+Resource+Analysis-2007.pdf

Urban Tree Canopy Assessment
https://smarttreespacific.org/projects/honolulu-urban-tree-canopy-assessment/

Plantings can then be recorded for the 100,000 trees by 2025 at
https://survey123.arcgis.com/share/6efa33d4adb44a13afe319798dc5b6b2

PLANTING ON SCHOOL PROPERTY

The following link shows the educational specifications (EDSPECS) for Elementary Schools determined by the Department of Education, State of Hawaii including guidelines surrounding planting on school grounds.
https://www.hawaiipublicschools.org/DOE%20Forms/Facilities/EDSPECSELEMSCHOOLS.pdf

PLANTING ON PRIVATE PROPERTY

As urban development continues, the number of large land plots owned by an individual, family, or some other unincorporated individuals diminishes. The US Forest Service defines a forest as at least an acre of land with trees on at least 10 percent of that land. As such, many partnership opportunities for nonprofits to engage with private landowners and federal and state programs to participate in reforestation efforts on these lands. The limiting factor for forging such partnerships is understanding what landowner assistance are currently being offered at the governmental level and reaching out to property owners.

Current landowner resources outlined by the US Forest Service include

- Community Forest Program
- Forest Stewardship Program
- Forest Legacy Program
- Conservation Reserve Enhancement Program
- Environmental Quality Incentives Program

In this capacity, Malama Maunalua could partner with landowners to provide the research, workforce, or capacity building necessary for the land to be qualified for such programs.

Our stakeholder analysis showed that Ko'olau Mountains Watershed Partnership is an organization that works with many private landowners and some public entities with more than <100 acres of land. As such, they may be an important partner for connecting Malama Maunalua with properties that are eager to participate in reforestation initiatives.

The following is a map outlining the partners currently in Ko'olau Mountains Watershed Partnership in the Maunalua Bay area

Legend
Blue- Kamehameha Schools
Light green- State DLNR
Purple- Tiana Partners
Light lavender- Wai Lan Preservation Group LLC
Dark green- Board of Water Supply
Light aqua- Apoalewa LLC

Refer to http://koolauwatershed.org/ for more information about the organization

Our survey showed that as an organization, their main connection with urban greening initiatives would be to restore vital ecosystem services as well as cultural connection and identity through native plants. Staffing and funding continue to remain as constraints however they have an extensive outreach capacity as well as volunteer and resource connections.

Smart Trees Pacific also showed to be a promising partner.

Koko Head Elementary School Pilot Project

With any partnership, a thorough understanding of rights and expectations is necessary. Attached is an example MOU between Koko Head Elementary School, Malama Maunalua, and a potential partner organization to help ensure a successful planting project.

Costs and Potential Funding Opportunities
Costs incurred by the project include:

- Trees: 1m saplings of native tree species (x10- 15)
- Soil
- Mulch
- Rented planting equipment (if not provided by any partners)
- Staffing expenses (meeting with school principal and facilities, volunteer outreach/ advertising, plant day facilitation, follow up monitoring and evaluation)

- Planting Day expenses (any volunteers food/ beverages provided, possible transportation costs

Grants

A possible grant that would be applicable to this project is the Kaulunani Grant Program, which funds proposals that support urban and community forestry projects. Grants awards range from $500-$14,999 and projects must respond to a need identified in Forest Action Plan. https://dlnr.hawaii.gov/forestry/files/2013/09/Hawaii-Forest-Action-Plan-2016-FINAL.pdf

Malama Maunalua and this project in particular fall under issue 4: urban and community forestry.

- Federal priorities for urban and community forestry
    - Mitigate and adapt to climate change
    - Protect and improve air and water quality
    - Reduce the impacts of land use change, fragmentation, and urbanization on forest landscapes
    - Improve community health and well-being
    - Build urban forest resilience and mitigate the impacts of invasive pests and catastrophic events

References

koolauwatershed.org
resilientoahu.org/urbanplanning
https://www.fs.usda.gov/managing-land/private-land/landowner-resources