



LOS ANGELES
CITY PLANNING

HISTORIC DISTRICT

Drought-Tolerant Landscape Design Handbook



Introduction

Properties within Historic Preservation Overlay Zones (HPOZs) play an important role in exhibiting Los Angeles' historic pattern of development and architectural history, while also demonstrating how these historic areas can adapt to changing conditions.

Front yard landscapes are prime examples of this, and offer a host of opportunities for property owners to participate in their own sustainable practices. Pre-war landscapes of Southern California are typically characterized by large swaths of turf and flowering annual plants that are not naturally equipped to survive Los Angeles' semi-arid Mediterranean climate. As the region's natural resources become scarce, and maintaining traditional gardens becomes increasingly burdensome, homeowners may turn to sustainable landscape design to reduce excessive water use and promote biodiversity. Fortunately, drought-tolerant landscapes and stormwater runoff features can be beautifully integrated elements of Los Angeles' historic districts, and if properly designed, can maintain the historic appearance of an HPOZ and overall character and form of a historic front yard.

With the understanding that sustainable landscape practices are increasingly mandated or incentivized by local and statewide legislation (see Sidebars: LADWP Turf Replacement Program, page 8, and Low Impact Development, page 10), as well as desired by residents who are concerned with high water use, the Office of Historic Resources' HPOZ program aims to provide an easy and informative way of achieving an historically-compatible sustainable landscape. To that end, this handbook will provide the following:

- Definitions and terminology related to landscape and hardscape within HPOZs,
- An understanding of the character of traditional pre-war landscape design,
- Examples of native drought-tolerant plant selections that are appropriate for use in HPOZs,
- Descriptions and examples of HPOZ-preferred storm water infiltration and capture systems, as required by the Low Impact Development Ordinance (LID), and
- Instructions for how to create a landscaping plan

A water-wise landscape can help you achieve sustainable goals and contribute to the setting of your historic district.



Landscape Terminology

The following list of terms are commonly used when discussing front yard landscape projects within an HPOZ.

Definitions are derived from the City of Los Angeles Landscape Ordinance (LAMC 12.40 and 12.42-12.43) or borrowed from other city departments including the Department of Water and Power and the Department of Public Works’ Bureau of Sanitation (LA Sanitation) and Bureau of Urban Forestry (UFD).

Best Management Practice (BMP): Activities, practices, facilities, and/or procedures that when implemented will reduce or prevent pollutants or discharges.

Ground Cover: Any permeable substance, natural or man-made, living or non-living, that is designed to substantially cover the ground of a planting area or any portion thereof; or any feature so designated in the documents required to be submitted by Section 12.40 of the Los Angeles Municipal Code, including mulch.

Grass: Any relatively low-growing living ground cover of the family Poaceae (Graminae), usually grown.

Hardscape: Hard landscape materials within the built environment that are incorporated into a landscape; examples include decomposed granite, pebbles, rocks, boulders, gravel, and pavers.

Impervious surface: Any man-made or modified surface that prevents or significantly reduces the entry of water in to the underlying soil, resulting in runoff from the surface in greater quantities and/or at an increased rate, when compared to natural conditions prior to development. Examples of impervious surfaces include paving, compacted gravel, compacted earth and oiled earth.

Lawn area: Any relatively low-growing, living, ground cover, typically (but not necessarily) mown, that will withstand foot traffic, and that requires dry-season irrigation greater than that required by Common Bermudagrass (*Cynodon dactylon*).

LID: Low Impact Development (see sidebar, page 10).

Mature tree: A tree that has reached at least 75 percent of its typical final height and spread.

Mulch: A protective covering spread or left on the ground to reduce evaporation, maintain even soil temperature, prevent erosion, control weeds, enrich soil, or keep fruit clean.

Native (Plant): Any (plant) species indigenous to the Los Angeles area existing before European settlement, as identified in James Hendrickson’s *The Jepson Manual*, or its successor standard reference, as adopted by the Director of Planning.

Permeable: A material that permits water penetration to a soil depth of 18 inches or more, including non-porous surface material poured or laid in sections not exceeding one square foot in area and collectively comprising less than two-thirds of the total surface area, of loosely laid material such as crushed stone or gravel.

Stormwater or Storm Water: Water that originates from atmospheric moisture (rainfall or snow melt) and that falls onto land, water, or other surfaces. These terms can be used interchangeably.

Stormwater Runoff: That part of precipitation (rainfall or snow melt) which travels across a surface to the storm drain system or receiving waters.

Xeriscape: A style of landscape design requiring little or no irrigation or other maintenance. This term can be used interchangeably with “drought-tolerant landscaping.”

Review Process

A landscaping project may require review and approval within most HPOZs, so whether you have a professional landscape designer or you are doing the work yourself, the design guidance within this handbook should always be considered before getting started. In many HPOZs, minor landscape and hardscape work in the front yard, such as the planting of flowers and shrubs, is exempt from HPOZ review altogether. In others, maintenance work like tree pruning, the planting of new trees, and in-kind tree or hardscape replacement can be reviewed administratively by staff. However, in most HPOZs, front yard projects that involve the addition or expansion of hardscape, removal of trees, or installation of fences, hedges and retaining walls will require further review by the HPOZ Board.

Before you complete any work, it is important to review the Preservation Plan for your specific HPOZ and be in touch with your staff planner. Once a proposal is received and reviewed by staff or the Board for conformance with the guidelines of the Preservation Plan, you will be on your way to a sustainable front yard!



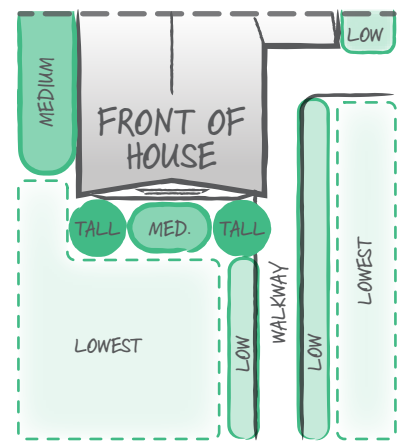
Looking at a historic yard in terms of form, it's easy to imagine a landscape design that uses different plants but retains the same basic character.

Creating A Drought-Tolerant Front Yard Within An HPOZ

Historic front yard landscaping in Los Angeles’ residential neighborhoods, with the exception of post-World War II districts like the Gregory Ain or Balboa Highlands HPOZs, or those with steeply sloped lots like the Whitley Heights or Highland Park HPOZs, was often quite simple.

Traditional Landscape Form

Characterized by an open lawn and scattered planting beds and foundation plantings, the traditional front yard acted as the public area of a private residence, serving to present an attractive appearance to the street while welcoming and directing visitors toward the front door. A successful landscape project will retain this essential progression of public to private spaces and the fundamental elements of the traditional front yard form and shape.



Ground Cover and Planting Beds (low-lying)

Ground covers and planting beds extend from the curb and substantially occupy the planting area, contributing to a continuous frontage that connects the front yard to the sidewalk, parkways and overall streetscape.

Shrubs, Bushes and Perennials (low-medium)

Shrubs, bushes, and perennials are typically located adjacent to walkways or at the rear of the ground cover (low) or located at the base of the building (medium): these elements provide a visual transition between the yard and the house.

Trees (tall)

Taller front yard trees are located furthest from the street. Though they are typically clustered at the corners of the building or framing the front façade entryway, they may be sparsely distributed throughout the yard.

Period Landscapes

A historic landscape design is often dependent on the style of the house. When a property no longer has a traditional yard, period-appropriate landscapes should be used as inspiration. A great resource for images of historic houses in a traditional landscape setting are period advertisements for mail-order homes. Many such advertisements can be found here: antiquehomestyle.com/plans.

Types of Drought-Tolerant Landscaping

There are several ways to convert your front yard and save water. When pursuing one of the options below, care should be taken to design the yard in such a way that it retains the three basic elements of a traditional front yard, as described in the previous section. Attention should also be paid to the style of the primary structure and the original configuration of the front yard, if known.

Xeriscape

Xeriscape landscapes offer the greatest water and labor savings. These types of yards require little to no supplemental water once established, and no fertilizer or compost. Some xeriscape yards are eligible for the LADWP Turf Replacement Program (see below).



LADWP Turf Replacement Program

The HPOZ Program encourages residents of HPOZs to take advantage of incentive programs such as the Turf Replacement Program, implemented by the Los Angeles Department of Water and Power (LADWP). This program allows single-family residential property owners to be eligible to receive rebates for turf removal. In order to qualify for the rebates, projects must include a minimum of 250 square feet of turf removal, and satisfy several criteria. These criteria can be found on the SoCal Watersmart website.

A property owner who wishes to participate in the Turf Replacement Program can do so while meeting the requirements of the HPOZ, so long as the new design evokes the traditional character of a historic front yard. The LADWP and the HPOZ approval processes are not linked, so owners are encouraged to obtain HPOZ approval before submitting plans to the LADWP.

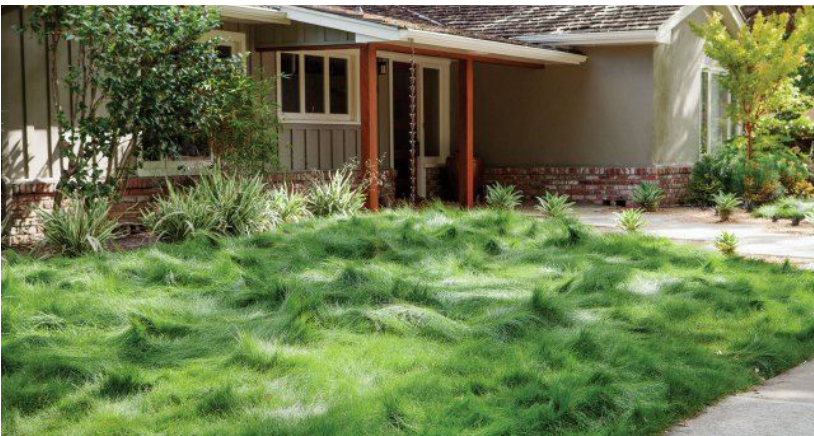
Partial Xeriscape with Lawn

This method of landscaping maintains a portion of lawn in the front yard, while implementing xeriscaping in areas away from the lawn. Xeriscape areas may still be eligible for rebates.



Low Water Lawn

Replacing a traditional cool-season grass lawn with live turf substitutes that use significantly less water can help with water savings. However, homeowners should be aware that turf-looking grasses are not eligible for rebates.



Artificial Turf

While artificial turf substitutes can potentially result in lower water use, homeowners should be aware that artificial turf still requires maintenance in the form of regular cleaning, watering and infill. Additionally, artificial turf yards are not eligible for rebates.



Stormwater Capture/Infiltration Techniques

Stormwater management is an approach to regulating and reducing the amount of pollution flowing into and through Los Angeles’ regional waterways. One of the leading stormwater management strategies utilized by the City is Low Impact Development (LID) (see below).

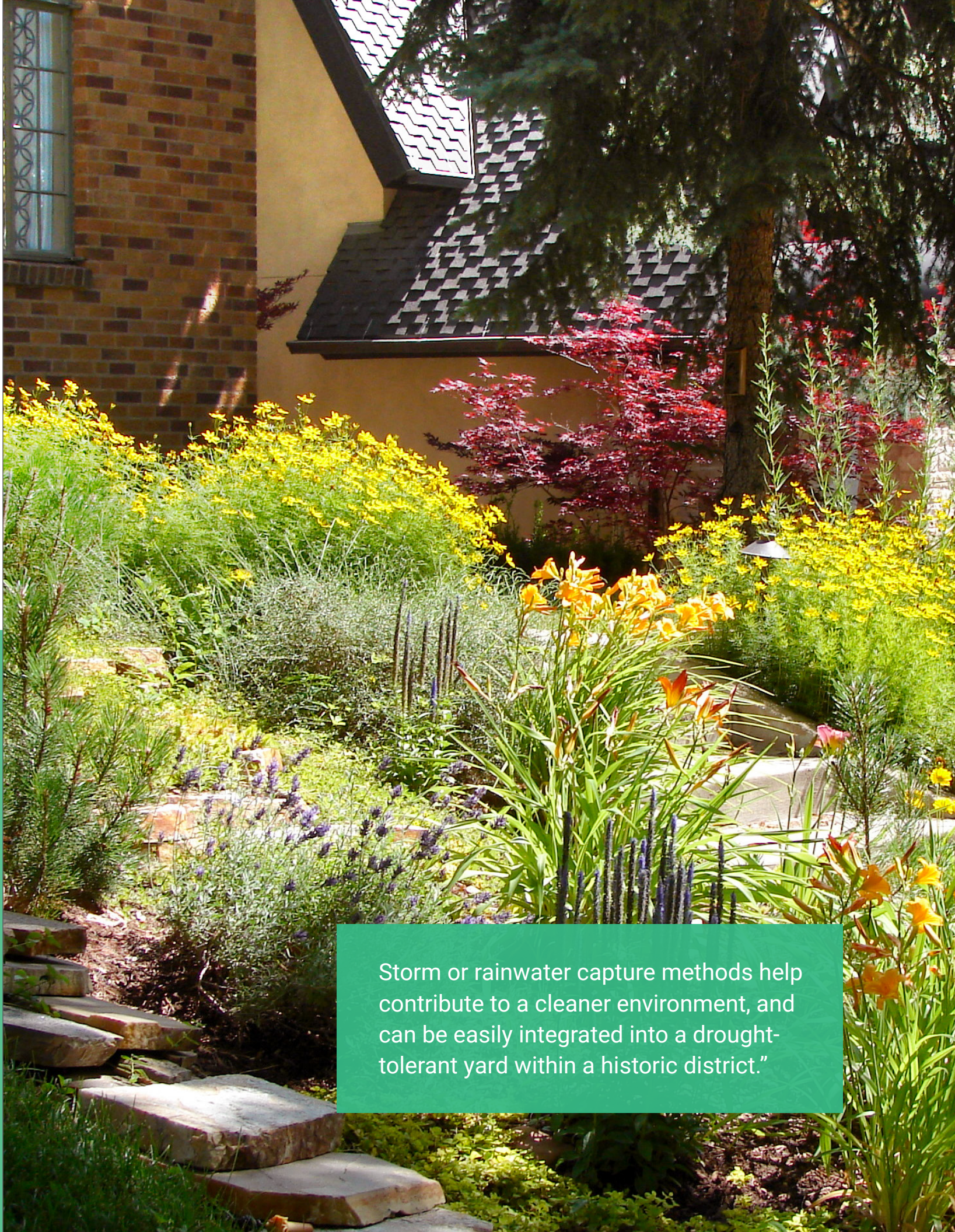
Under the City’s LID Ordinance, five systems have been identified as “Best Management Practices,” or BMPs, to collect and/or redirect storm runoff and reduce or prevent pollutants in discharges. When installing this type of system in an HPOZ, care should be taken to ensure that such elements are diminutive in scale and style and visually deferential to the existing historic site features. This can be achieved by appropriately screening these systems with live plant material or by locating them outside of street visible areas to the greatest extent possible.

Low Impact Development (LID)

In 2012, the City of Los Angeles adopted a Low Impact Development (LID) ordinance, which requires new development and redevelopment projects of a certain size to mitigate stormwater runoff through rainwater capture. To achieve this goal, LID requires that small residential projects implement adequately-sized Best Management Practices (BMPs), which are defined as activities, practices, facilities, and/or procedures that, when implemented, reduce or prevent pollutants in discharges. Rain tanks/ barrels, planter boxes, rain gardens, permeable pavement, and dry wells are all prescriptive BMPs under LID. Property owners are encouraged to work closely with their HPOZ planner when implementing these types of systems in order to ensure they are inconspicuous and compatible with the character of the property.

More information on the LID ordinance can be found at:
lastormwater.org/green-la/low-impact-development/.

Specific instructions for meeting the BMP requirements can be found here:
lastormwater.org/wp-content/files_mf/appxfinal.pdf.



Storm or rainwater capture methods help contribute to a cleaner environment, and can be easily integrated into a drought-tolerant yard within a historic district.”

Appropriate Rainwater Capture Methods

When stormwater capture in the front yard of a property is necessary or desired, the following Best Management Practices have been deemed appropriate for HPOZs:

Dry Well

A dry well is a bored, drilled, or driven shaft or hole filled with gravel or a prefabricated storage chamber placed within the ground. A dry well is a preferable BMP in HPOZs because it is typically located below grade and is minimally visible from the public right-of-way. Should the well extend above grade, visible elements should be screened with live plant material (visit the HPOZ pages of LA City Planning’s website for a list of drought-tolerant options).



Rain Gardens

Rain gardens are shallow, depressed areas designed to capture rain water and allow it to soak into the ground. Rain gardens are another preferred method of stormwater capture in HPOZs because they can be easily integrated with the existing landscape. Rain gardens should be planted with drought and flood resistant native plant species whenever possible, and invasive or pest species should be avoided. In addition to HPOZ guidelines, a rain garden can meet both LID requirements and Turf Replacement Program requirements.



Planter Box

Where a drywell or rain garden is not feasible, a planter box may be appropriate, so long as its installation does not involve the removal of historic character-defining features of the structure or site such as windows, doors, patio walls, or decorative details. Planter boxes are typically constructed of either reinforced CMU block or pre-cast concrete. However, if a planter box is to be used, efforts should be made to clad it with a material compatible with the primary structure.



Discouraged BMPs

Certain types of stormwater capture/filtration systems are discouraged in street-visible areas of HPOZs; these include, but are not limited to rain tanks/barrels, permeable pavement, vegetated swales, dry riverbeds, berms, and grades. Though prescriptive BMPs under the LID Ordinance, rain tanks and barrels are often designed in a way that is visually incompatible with the character of an HPOZ. Even with appropriate screening, they tend to be more conspicuous than the preferred BMPs. Permeable pavement, another LID BMP, is typically used as a replacement material for existing hardscape.

While the appropriateness of permeable pavement is dependent on the HPOZ, in-kind replacement of original front yard hardscape materials is typically required in HPOZs. Therefore, permeable pavement as a replacement for original driveways, patios, or walkways is usually not appropriate. Vegetated swales, dry river beds, berms, and grades are not prescriptive measures defined by LID. Though acceptable systems under the Turf Replacement Program, these types of site features result in a greater modification of the existing topography of a site and are, therefore, discouraged.

Design Tips

When implementing any kind of drought-tolerant landscaping within an HPOZ, the following design tips will help your project comply with Preservation Plan guidelines.



- 1 Large windows and architectural features on the primary façade should not be hidden by foliage.
- 2 Retain healthy, mature trees whenever possible. Removal of mature trees will require Los Angeles City Planning approval and is generally discouraged. Should a mature tree require replacement, replacement in-kind is recommended, though an Urban Forestry-approved equivalent may also be found to be appropriate. A tree that is identified on a property's Historic Resources Survey page may require additional evaluation in order to determine appropriate replacement.
- 3 The walkway should not be deliberately obscured, and there should be a clear view from the street to your front door if it is not otherwise hidden (for instance behind a colonnade).

Parkways

Parkways are very important to the character of historic neighborhoods. While historically containing turf and trees, you can replace parkway turf with water-saving alternatives. The Los Angeles Residential Parkway Landscaping Guidelines, available online, has a comprehensive list. The LADWP Turf Replacement Program can also be used for parkways.

Trees within parkways can only be planted with a Tree Planting Permit from the Bureau of Street Services. You should only plant the same species of tree that is currently on the block. If that species is no longer used for street trees, or there a multitude of species on your street, consult with your planner and Urban Forestry for appropriate equivalents.

Avoid installing a desert landscape that is dominated by dry and/or non-living materials and only sparse plantings. A desert landscape composed only of cactus, agaves, and succulents may be more appropriate within an HPOZ if the configuration of plantings generally adheres to the pattern of a traditional front yard, with the ground cover being an organic material that is the lowest and most forefront element.



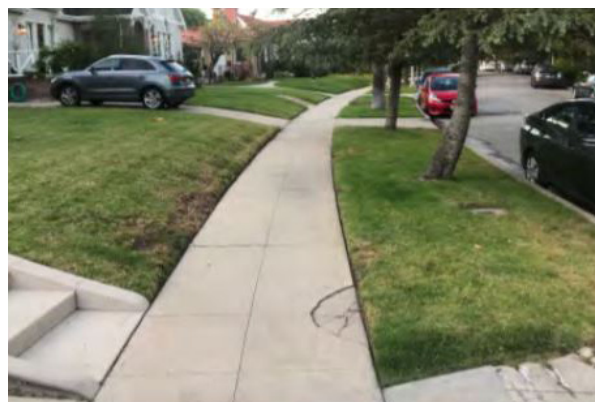
- 4 At maturity, the majority of space within the front yard should be covered with plants to avoid large bare areas.
- 5 In place of pavers and gravel as groundcover, natural wood mulch or decomposed granite may be appropriate depending on the HPOZ. It should be noted that these materials should be used to supplement live vegetation, and not used as the primary ground cover material.

Preparing a Landscape Plan

If your landscape/hardscape project requires HPOZ approval, a landscape plan may be required. A landscape plan illustrates and details what is currently in place and what is proposed to be installed and/or repaired. A landscape architect or designer can prepare a plan for your front yard, or you can draw your own plan by following these steps. Before beginning, consult with your planner.

Step 1 – Photograph Your Yard

Start by taking some contextual photographs of your yard. This will help your HPOZ planner understand the current relationship of landscape to hardscape, the yard configuration, and the overall scale of the physical features of the site. **Current photographs will help your planner get a better sense of the historic character of your yard.**

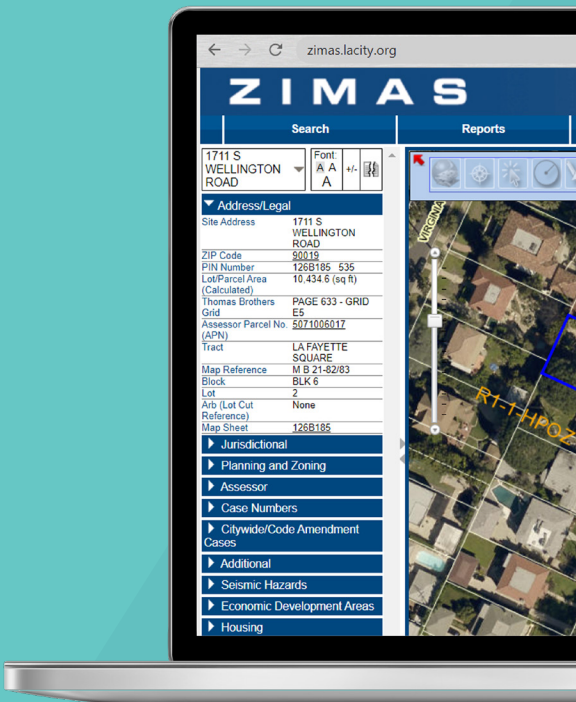


Using ZIMAS

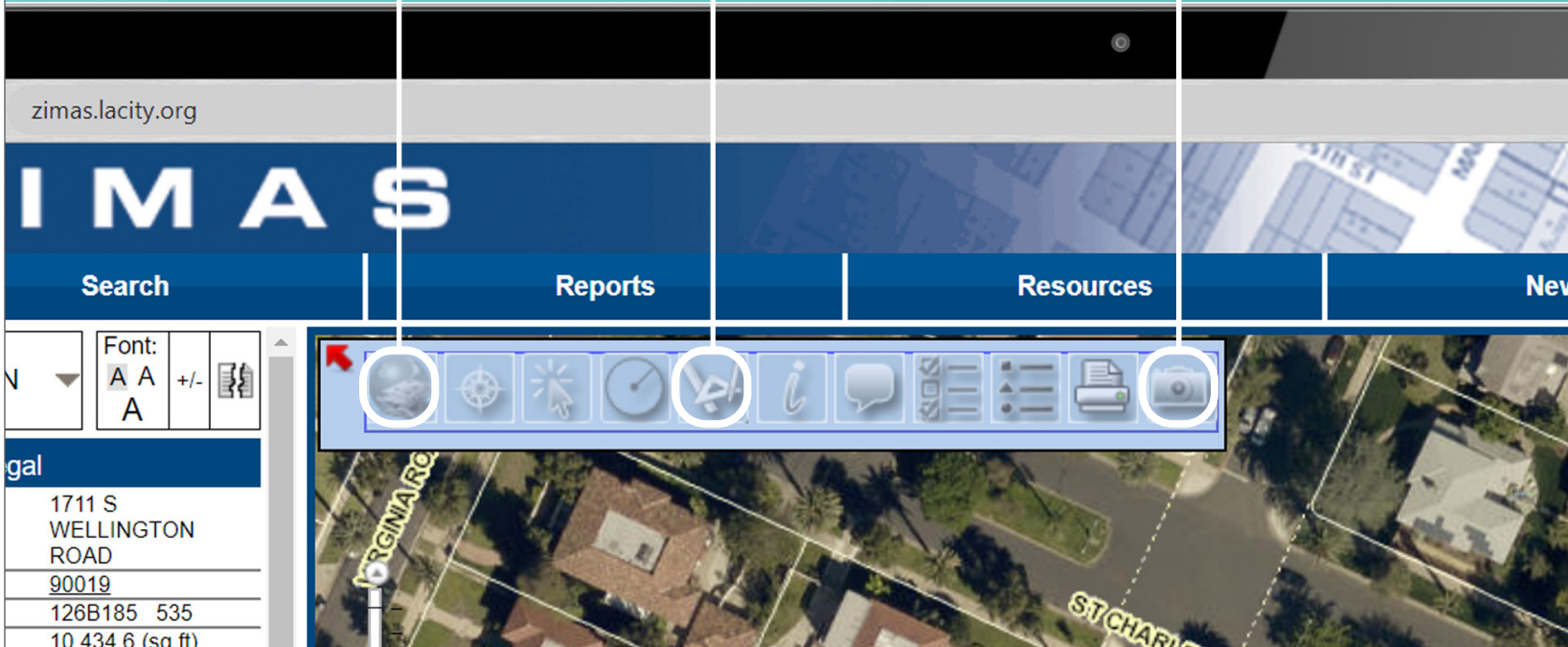
The Zone Information and Map Access System (ZIMAS) is a web-based mapping tool that provides zoning information for properties located in the City of Los Angeles. This includes information related to HPOZs, which can be found under the “Planning and Zoning” menu in the navigation toolbar. ZIMAS can also be used to assess site conditions.

To pull up a satellite image click on the far-left icon on the toolbar, “Change background display layer.” In the “Background Map Display Layer” that displays, click on the most recent Digital Color-Ortho map layer. Then, use the measuring tools to dimension existing elements. You can open a close-up photo of the satellite image by click on the “Camera” icon at the far-right of the toolbar.

The photograph shows how to access the different icons that will help you prepare your landscape plan. ZIMAS can be accessed at zimas.lacity.org

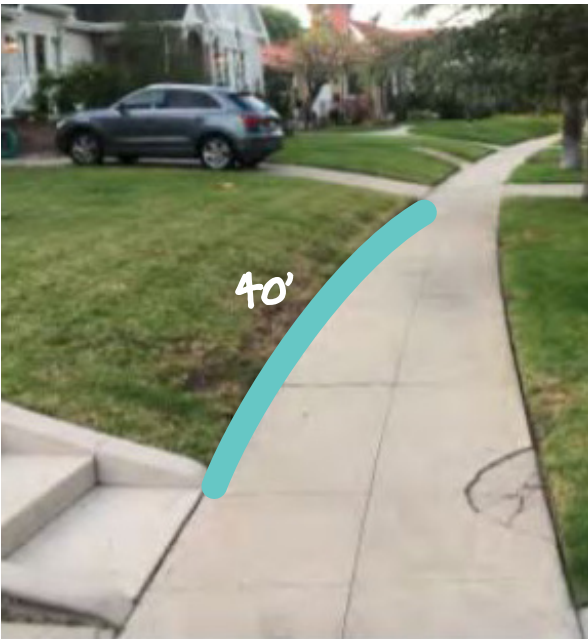
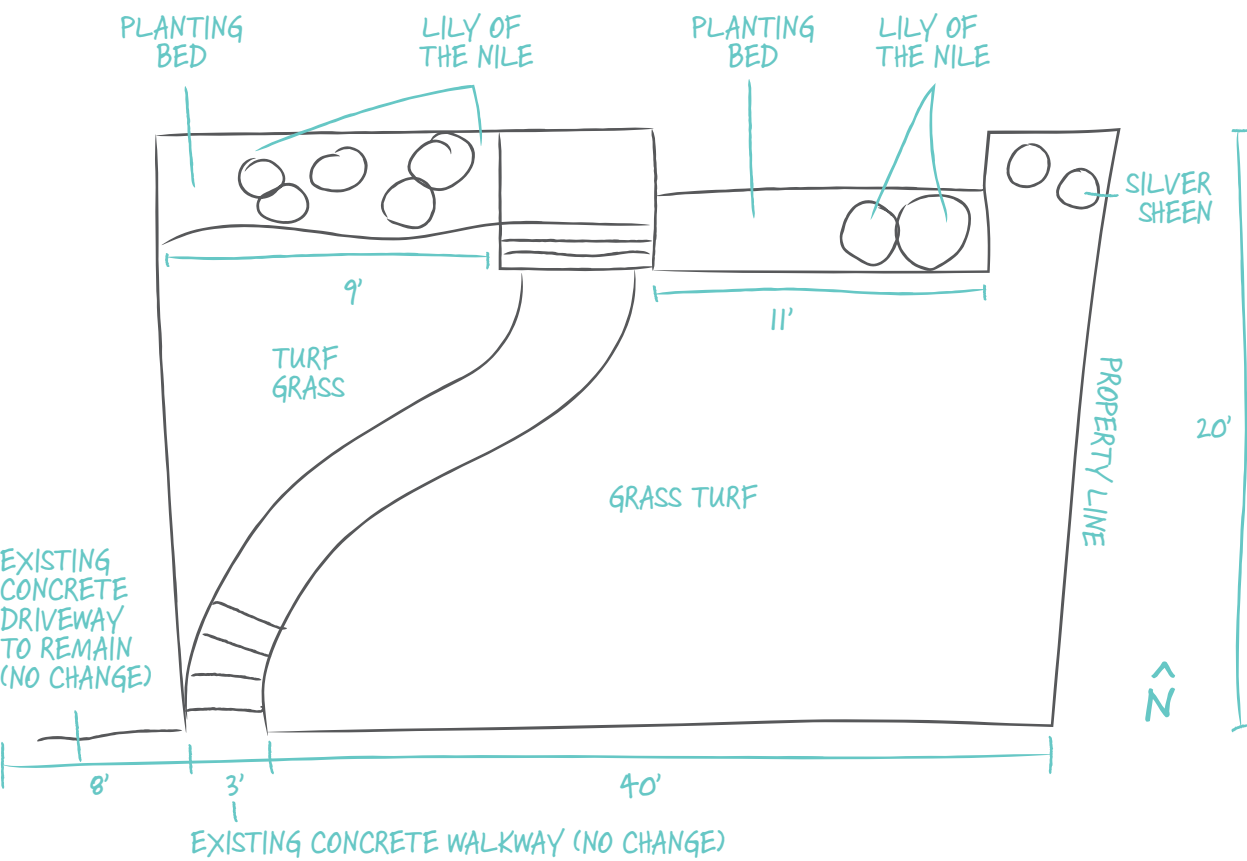


Change Background Display Layer Measuring Tools Camera



Step 2 – Sketch Your Yard (or Mark-Up Photos!)

Prepare an existing landscape plan by drawing the borders of your yard. You can do this by physically measuring your yard or looking up your property and using the measuring tools in ZIMAS (see sidebar, page 17). In place of a drawing, you can also use a clear aerial photograph or photographs that shows all existing site features. Then, annotate the sketch or photographs (either by hand or on the computer, as shown below) of your existing conditions with dimensions and plant information. Be sure to indicate the location and dimensions of existing site features like walkways, retaining walls, driveways, fences, and areas of access. **Whether by hand or computer, make sure your plan or photographs note important dimensions and existing plant types.**



Step 3 – Draw a Proposed Landscape Plan

Using the map or annotated aerial photograph you made of your yard and what you have learned about historic landscape design, start designing!

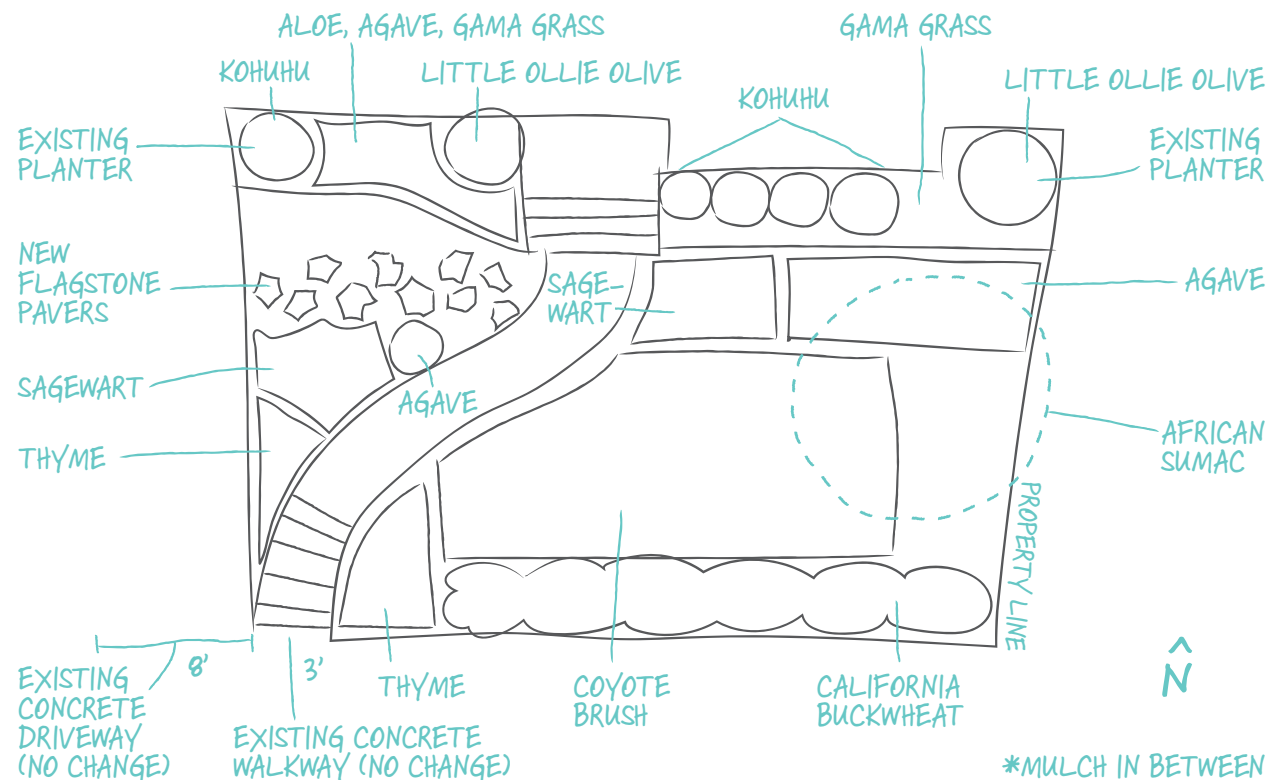
When designing your new yard, you will want to consider what site features will remain. Care should be taken to retain mature trees and original hardscape features. Where these site features are to remain, you should add a note of "No Change" to the plan.

Make sure to draw in plants at the size they will be at maturity for proper siting. It takes two or three years for a new landscape to fill out, so you need a plan for what will cover the ground in the interim. A natural wood mulch usually works well and is recommended as supplemental material within HPOZs.

You can find a list of plant suggestions on the Planning Department's Preservation webpage under California Native Plant List.

Once you have a drawn plan, contact your HPOZ planner, and you're ready to begin the approval process. For more examples of successful landscape and hardscape project submittals, visit: planning.lacity.org/preservation-design/program-overview.

Your landscape plan should clearly illustrate what elements will remain and what is proposed to be changed.



Optional Step 4 – Prepare a Plant Palette

To assist your planner and/or the HPOZ Board with review, you may choose to provide a plant palette or legend that is keyed to your landscape plan and includes the plant name and a photograph. While this step is optional, it may facilitate a better understanding of your project.



Rhus Lancea
African Sumac



Bouteloua Gracilis
"Blonde Ambition" Blue Gamma Grass



Aloe Vera
Medicinal Aloe



Artemisia Pycnocephala "David's Choice"
Coastal Sagewort



Ceanothus Maritimus
Valley Violet (Native)



Echium Candicans

Pride of Madeira



Echeveria Perie Von Numberg

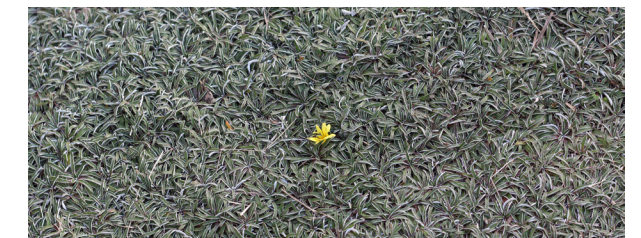


Agave Vilmoriniana

Octopus Agave



Baccharis Pilularis
Coyote Brush (Native)



Dymondia Margaetae
Silver Carpet

Conclusion

Looking at a landscape in terms of form rather than individual components or species is a useful way to visualize a design.

The form of historic residential landscaping was open and welcoming, and as this handbook has illustrated, this same historic character and purpose can be achieved with a water-wise plant palette. If you follow the tips in this handbook, and keep the form of your design simple, you should have an easy time coming up with an appropriate landscaping plan.



Appendix A. Resources

Office of Historic Resources HPOZ Website
planning.lacity.org/preservation-design/local-historic-districts
Find the Preservation Plan for your HPOZ and contact information for your planner here.

LADWP Turf Replacement Program
socalwatersmart.com/en/residential/
Information about eligibility and application.

LADWP California Friendly Landscaping in Los Angeles
ladwp.cafriendlylandscaping.com/
The DWP's guide to drought-tolerant landscaping. Their plant guide features natives and exotics. (Note: you are not limited to the plants listed in their guide to obtain a rebate).

Metropolitan Water District California Friendly Garden
bewaterwise.com/Gardensoft/index.aspx
Resource for drought-tolerant landscape planning. Includes a plant database with native and non-native plants.

California Native Plant Society
cnps.org/
Information about native plants and landscaping with native plants. Includes a gardening guide.

Theodore Payne Foundation for Wildflowers and Native Plants
theodorepayne.org/
Local native plant nursery that is a great resource for landscaping tips and information. Includes a plant database.

Rancho Santa Ana Botanic Garden
rsabg.org/
Nearby native botanical garden and nursery, great for landscape inspiration.

Las Pilitas Nursery
laspilitas.com/
A great resource for plant information and gardening tips. Also sells native plants by mail-order.

East Bay Wilds Native Plant Nursery
eastbaywilds.com/
Bay Area nursery with a fantastic online photo album, great for ideas and inspiration.

Antique Home Style
antiquehomestyle.com/
Contains a catalog for historic advertisements, which is a great resource for images of historic houses in traditional landscape settings.



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