





**Figure 120. Vegetation Classification.** Much of the vegetation around the LA River is degraded or mostly comprised of non-native plant species.  
Source: LA River Master Plan, 2020.

## 5. ECOLOGY, HABITAT, AND PLANTING

**THE RIVER'S CAPACITY TO SUPPORT  
NATIVE HABITATS IS DETERMINED BY  
CONDITIONS UNIQUE TO EACH FRAME,  
FROM ITS CHANNEL SHAPE TO URBAN  
CONTEXT TO HYDROLOGIC CONDITIONS**

Despite being highly urbanized, the LA River watershed sits within one of the world's most diverse Mediterranean biodiversity hotspots. The river's capacity to support biological life is determined by hydrological conditions, channel geometry, and connectivity across and along the river to adjacent patches and habitat areas.. The guidelines for ecology and planting are thus guided by the unique biodiversity of the region and characteristics of the river's distinct reaches.

With further connectivity and habitat enhancement, the river has the potential to increase urban biodiversity given the high natural biodiversity occurring nearby in the region's large inland protected areas. Additionally, elements of the river's former ecology can be reintroduced where appropriate to reestablish many of the rare riparian and upland ecosystems that have been lost to urbanization. However, the resilience of these native ecosystems to changes in hydrology and climate should also be considered and, where needed, planting palettes should be augmented and adaptively managed.

# WHAT'S IN THE CHAPTER

The following pages contain the guidelines for the design and installation of planting along the LA River. This chapter will provide information regarding planting setbacks and buffers, planting along levee and floodwalls, and channel modifications among other aspects related to the creation of habitats and functioning ecosystems. Further, extensive LA River plant community lists are in this chapter, described in detail starting on page 208.

The designer or engineer shall be responsible for ensuring the implementation of these guidelines is compliant with prevailing building codes and regulations. Consult the checklist at the end of the chapter to ensure the correct guideline items are followed.

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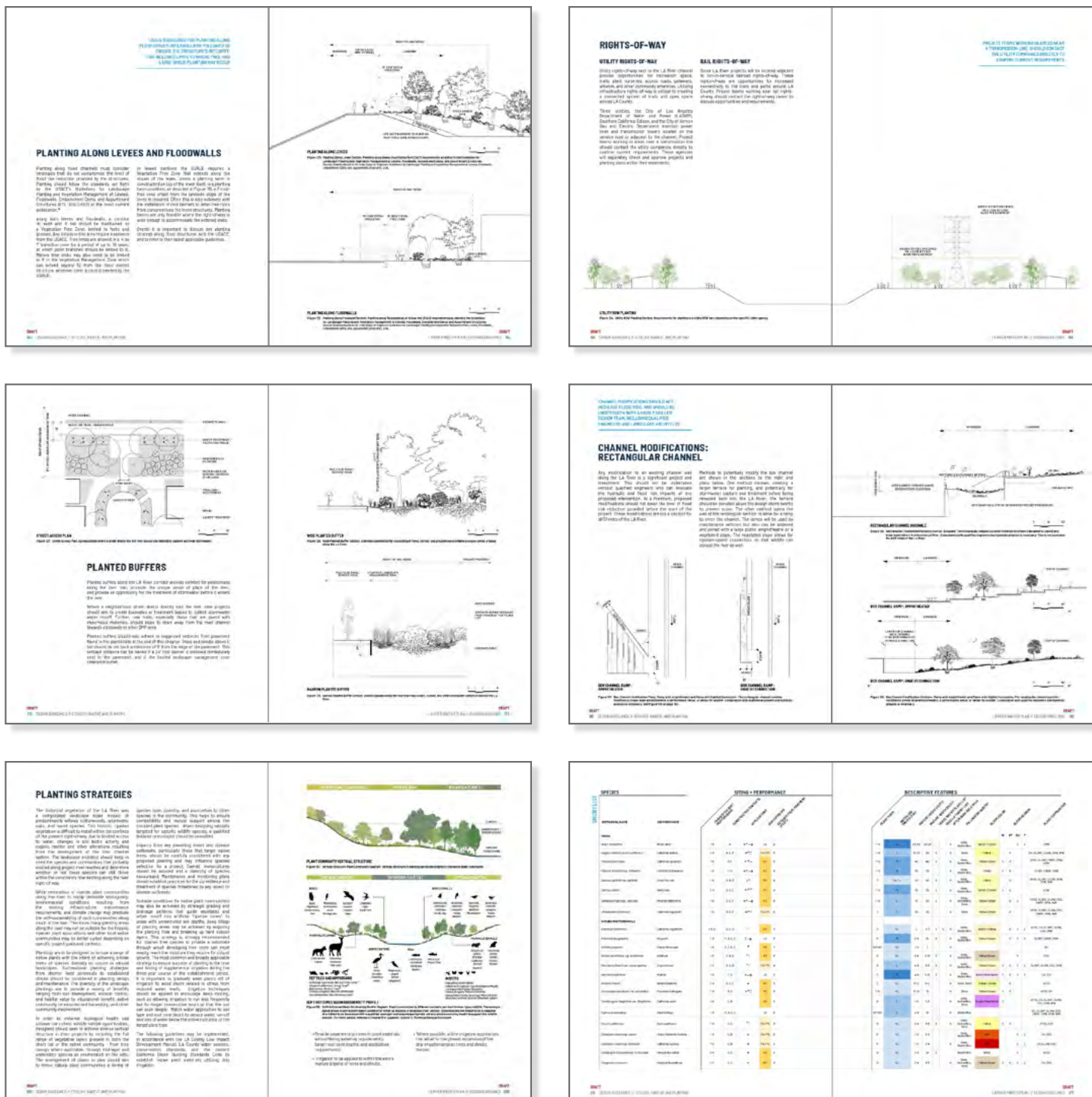


Figure 121. Chapter 5 of this document covers items related to ecology, habitat, and planting in and along the LA River.

## CONSIDERATIONS FOR ECOLOGICAL PROJECT SUCCESS

To ensure success in habitat and planting projects along the LA River, design considerations must include everything from site preparation to sourcing plant material to maintenance post installation. These guidelines put forward the following values for projects along the river:

- Plant species appropriate to the planning frame of the project.
- Provide successional development of plantings into communities of plants that are ultimately best suited to the conditions of their environment.
- Provide a continuous native tree and plant corridor along the river with linkages to riparian habitat and upland areas in close proximity to the river.
- Support nurseries and organizations that specifically collect and propagate indigenous native plant species for planting along the river corridor.
- Achieve healthy soil biology, not just chemistry, by providing the critical foundation for each stage of succession that will ultimately host a sound ecological system.
- Eradicate invasive species, and deter the use of non-native species that provide little or no habitat value.
- Encourage the use of permeable paving solutions, filtration and percolation of rainwater, and on site water retention/detention to mitigate/eliminate water pollution and to reduce runoff.
- Consider the resilience of the LA River system and the future effects of climate change in project planning and design.
- Ensure there is a maintenance plan for the installed landscape that is appropriate to the needs of the planted species.
- Provide opportunities for artwork through habitat creation and planting.

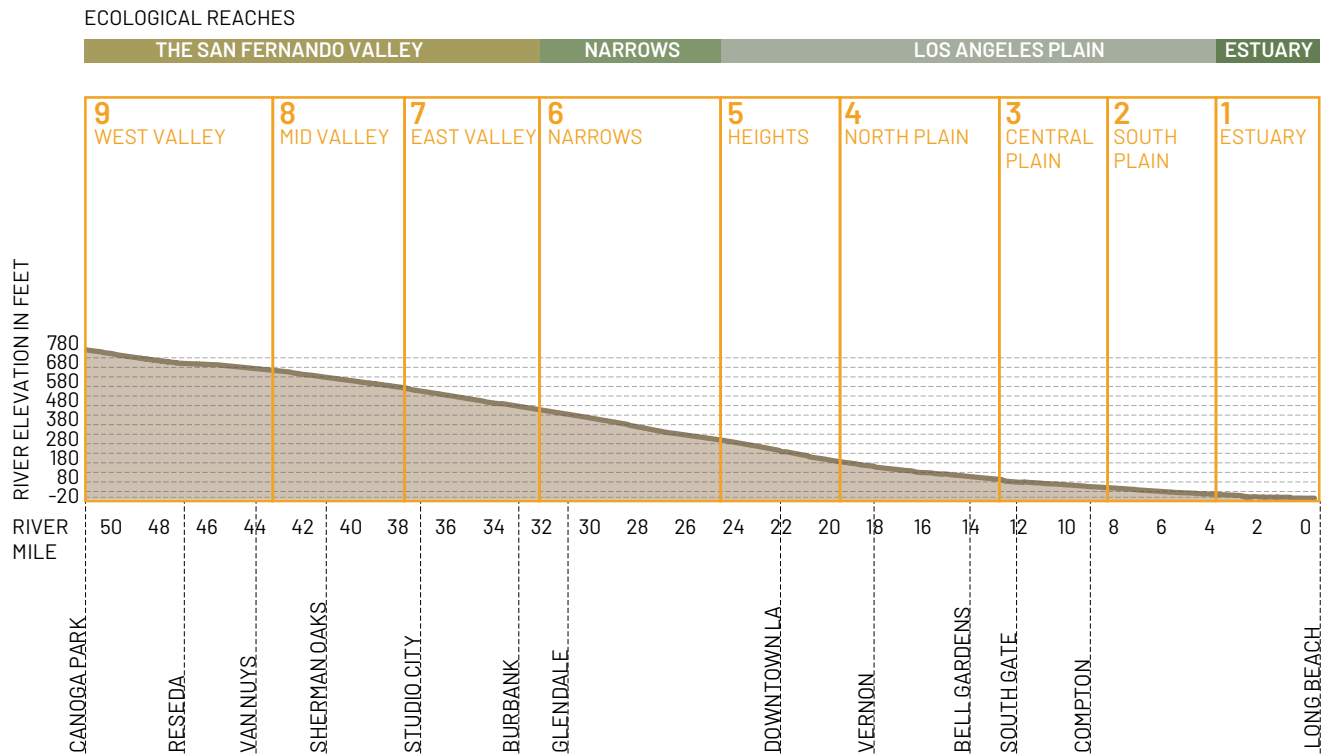


Figure 122. Depicted here with a 4x vertical exaggeration, the LA River changes approximately 780 feet in elevation over its course of 51 miles and passes through several distinct ecological reaches, from the San Fernando Valley to the Estuary.

THE LIMITED LANDSCAPE  
MANAGEMENT ZONE, SET 17' BACK  
FROM ANY ENTRENCHED CHANNEL  
WALL, LIMITS PLANTING IN THIS  
ZONE TO SHRUBS AND GROUND COVER  
NOT TO EXCEED 3-5' IN HEIGHT

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## SETBACKS AND BUFFERS

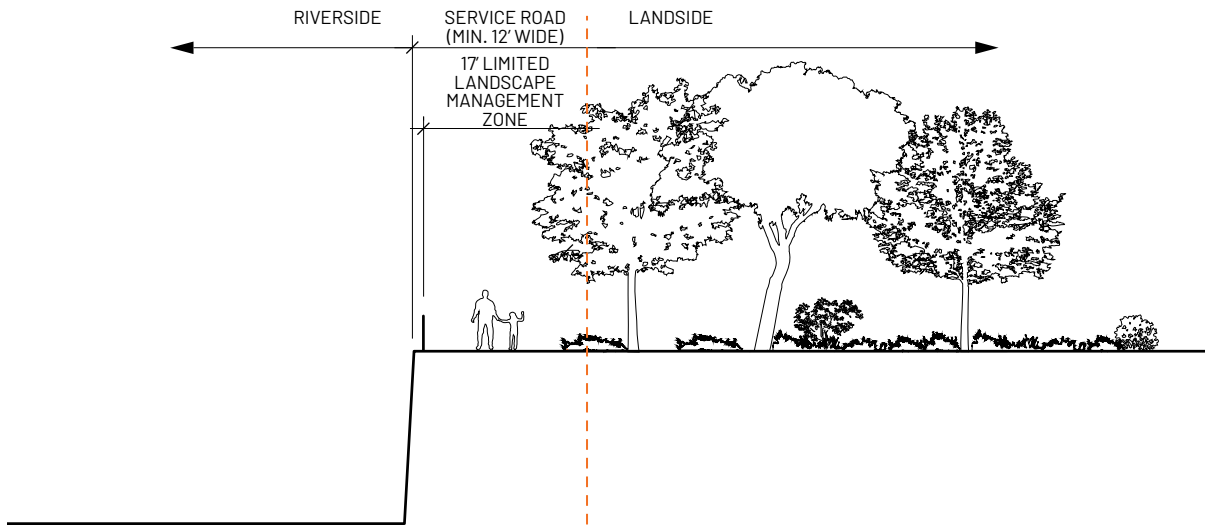
Planting along the LA River corridor is affected by various setback requirements necessary for the maintenance of its function as a flood channel. Additionally, there are opportunities for planting to serve as a buffer from the urban context of the LA River, including best management practices (BMPs) for the capture and treatment of stormwater runoff.

There are two types of buffers along the LA River channels, and further details on the USACE's Vegetation Free Zone requirements for buffers are located on the following pages. Although some existing conditions providing for maintenance along the top of the channels may not comply with those stated in this document, all proposed new projects shall comply with these guidelines. Any variance shall be reviewed and approved by the appropriate jurisdiction.

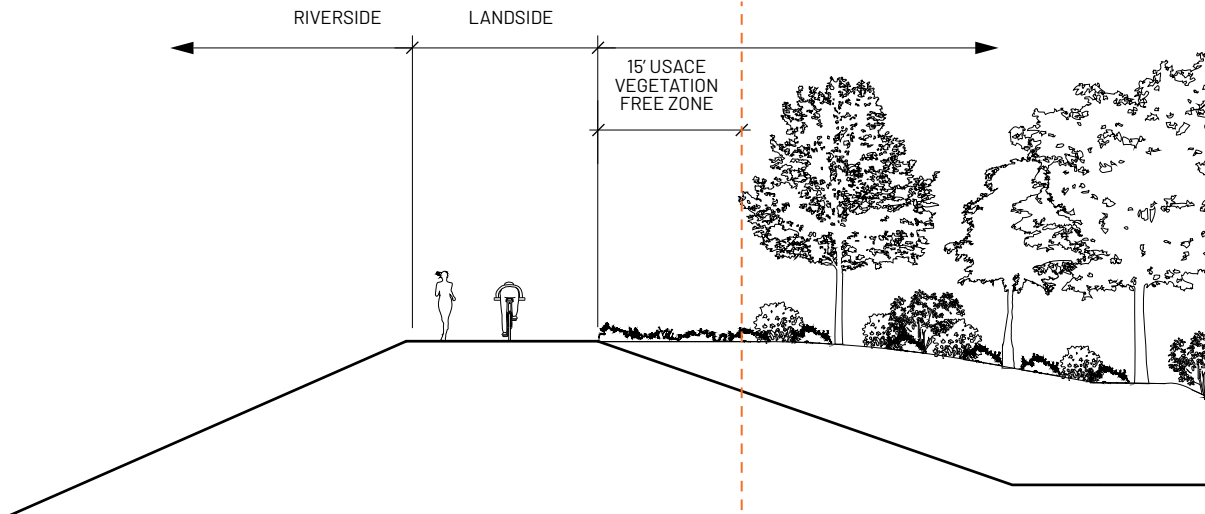
The Limited Landscape Management Zone is an important setback needed for any service road along the entrenched portions of the LA River channel to provide clearance for maintenance and emergency vehicle access (Figure 123). This zone is designated to extend 17' from the channel wall and prohibits any structures or obstructions. Plantings or structures in this zone may be heavily disturbed or removed if repair or emergency access is required. Plantings in this zone are restricted to low growing species, not to exceed 3-5' in height. Trees and shrubs outside this zone are not subject to these size restrictions. This zone also includes the required 12' minimum service road width.

Planting areas against the channel walls, such as the ones shown in Figure 123, may be considered if they are planted with low shrubs (18" or less), ground cover, and grasses (no trees or large woody shrubs). Further, these planting areas may be located between expansion joints but not directly behind one, at a minimum of five feet from an expansion joint.

### VEGETATION SETBACKS ALONG EXISTING ENTRENCHED PORTIONS OF THE RIVER



### VEGETATION SETBACKS ALONG EXISTING LEVEED PORTIONS OF THE RIVER



### VEGETATION SETBACKS ALONG EXISTING OR PROPOSED FLOODWALLS ADJACENT TO THE RIVER

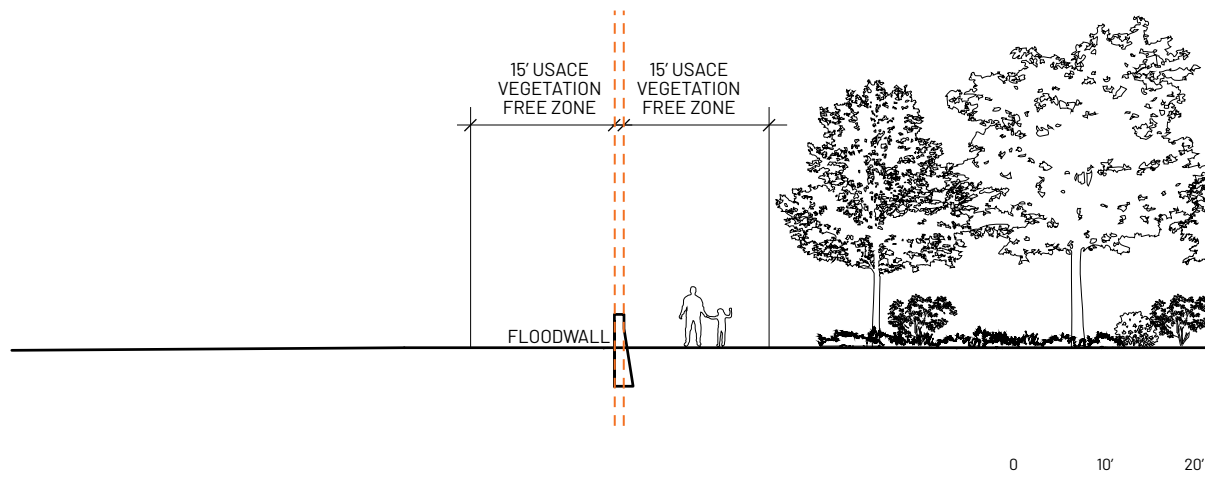


Figure 123. Along entrenched portions of the channel, the LACFCD requires a 17' Limited Landscape Management Zone that prohibits any structures and limits planting to shrubs and groundcovers up to 3-5' in height. The USACE guidelines require a 15' Vegetation Free Zone that limits planting to grasses and shallow-rooting perennials near levees or floodwalls. This distance is measured from either the landside edge of the levee, the top of a levee with a planting berm, or from the edge of a flood wall.

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USACE GUIDELINES FOR PLANTING ALONG  
FLOOD STRUCTURES SHOULD BE FOLLOWED TO  
ENSURE THE STRUCTURE'S INTEGRITY.  
THIS INCLUDES LIMITS TO WHERE TREE AND  
LARGE SHRUB PLANTING MAY OCCUR

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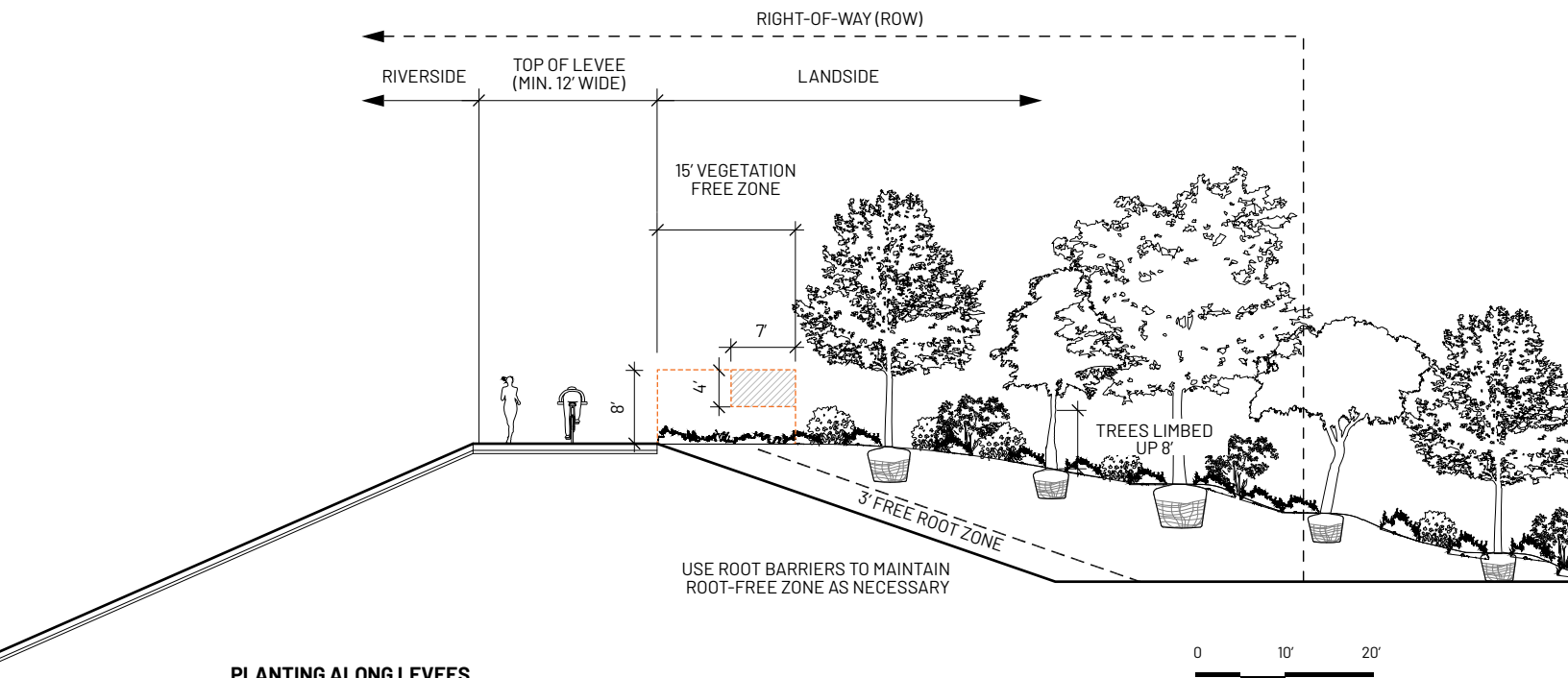
## PLANTING ALONG LEVEES AND FLOODWALLS

Planting along flood channels must consider strategies that do not compromise the level of flood risk reduction provided by the structures. Planting should follow the standards set forth by the USACE's Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures (ETL 1110-2-583) or the most current publication.<sup>19</sup>

Along both levees and floodwalls, a corridor 15' wide and 8' tall should be maintained as a Vegetation Free Zone, limited to forbs and grasses. Any shrubs in this area require a variance from the USACE. Tree limbs are allowed in a 4' by 7' transition zone for a period of up to 10 years, at which point branches should be limbed to 8'. Mature tree limbs may also need to be limbed to 8' in the Vegetation Management Zone which can extend beyond 15' from the flood control structure, wherever clear access is needed by the USACE.

In leveed sections the USACE requires a Vegetation Free Zone that extends along the slopes of the levee, unless a planting berm is constructed on top of the levee itself. In a planting berm condition, as depicted in Figure 124, a 3' root-free zone offset from the landside slope of the levee is required. Often this is also achieved with the installation of root barriers to deter tree roots from compromising the levee structures. Planting berms are only feasible where the right-of-way is wide enough to accommodate the widened levee.

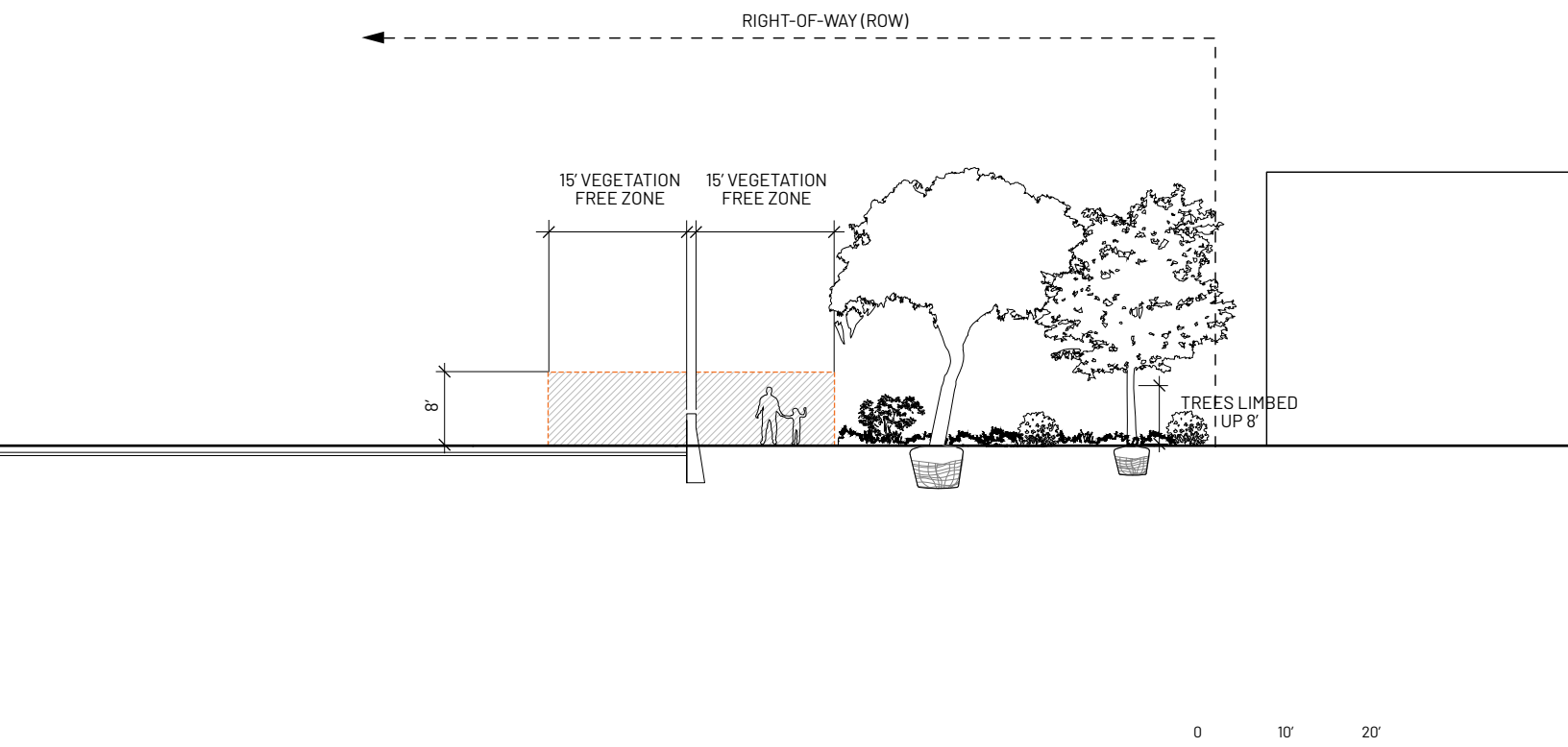
Overall it is important to discuss any planting strategy along flood structures with the USACE, and to refer to their latest applicable guidelines.



### PLANTING ALONG LEVEES

Figure 124. Planting along the landside of levees is achievable through the creation of a planting berm that includes a 3' root-free zone off the landside slope of the levee. This planting must follow the latest USACE requirements as stated in the Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures.

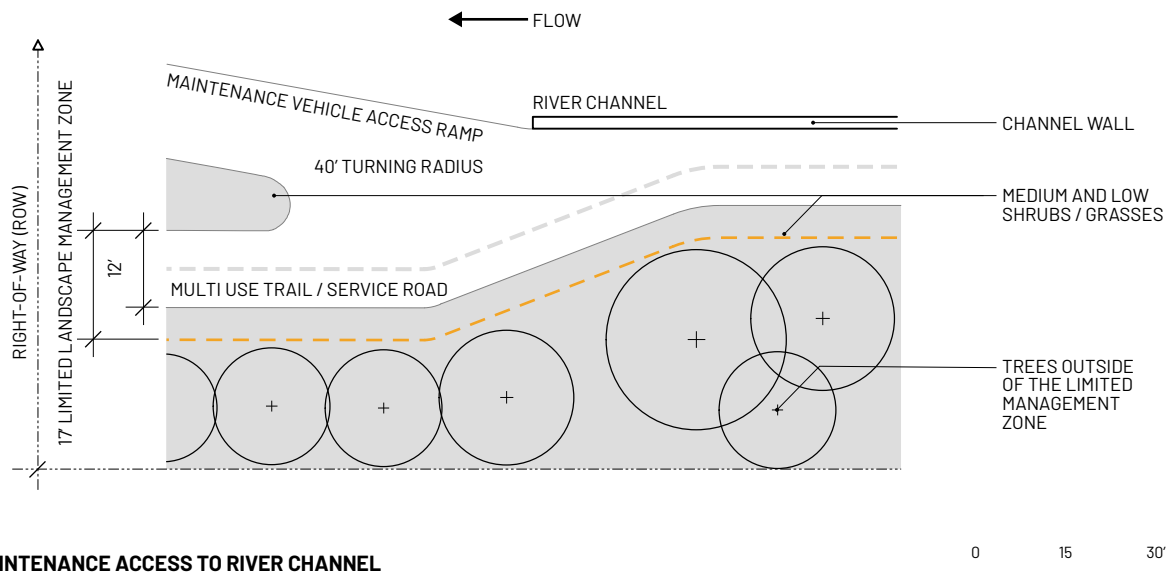
Source: Drawing based on US Army Corps of Engineers Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures, 2014.



### PLANTING ALONG FLOODWALLS

Figure 125. Planting along floodwalls is achievable as long as the vegetation-free is kept clear of shrubs and trees. Planting along floodwalls must follow the USACE requirements as stated in the Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures. Source: Drawing based on US Army Corps of Engineers Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures, 2014.

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**MAINTENANCE ACCESS TO RIVER CHANNEL**

Figure 126. Proper ingress and egress clearance must be allowed for maintenance vehicles. The above example considers requirements for a maintenance ramp into an entrenched portion of the river channel, which includes, but is not limited to, the turning radius, direction of flow, and the limited landscape management zone.

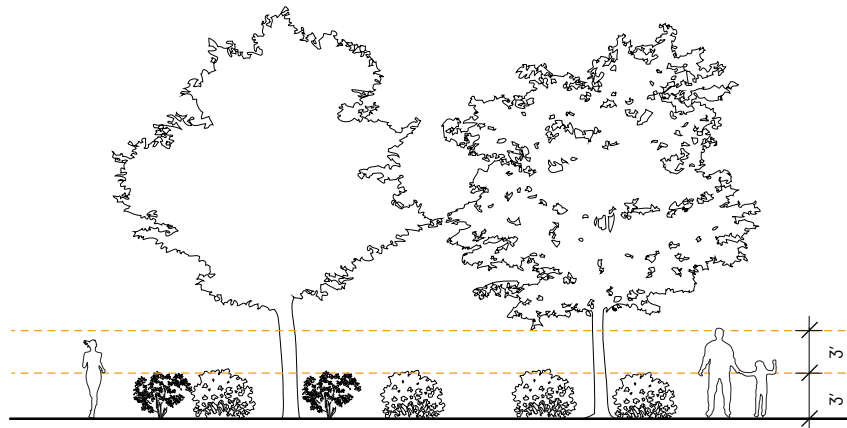
## MAINTENANCE BUFFERS AND CLEARANCES

Maintenance vehicles require adequate access and space to maneuver in order to service the flood channel. The following additional clearances should be followed in the absence of criteria from the local agency of jurisdiction:

- All maintenance vehicles must have ingress/egress clearance at all times.
- Any alteration/design of service roads must meet with county approval.
- 40 foot centerline turning radius for truck ingress and egress from arterial streets.
- A minimum 4' trees and tall shrub setback from the sidewalk adjacent to vehicular ingress/egress from arterial streets.
- Vehicular access gates are to be setback 20' from the arterial street curb when available and feasible.

Limbing-up mature trees also helps to provide maintenance access and recreational use. Where multiple limb heights apply, tree limbing should be coordinated so that the highest requirement is met where applicable. In general, trees should not be pruned during their establishment period. When the tree trunk reaches a 4" diameter at breast height, those trees that overhang the service road or trail may then be pruned up to provide clear access or sight lines. At access points and trails intersections, mature trees should be limbed up to a minimum of 6 ft. Trees that fall within the Vegetation Management Zone, or whose branches fall into the Vegetation-Free Zone as defined by the USACE standards (ETL 1110-2-583), should be limbed up to 8' at maturity.<sup>20</sup> Currently the USACE allows a maximum of 10 years for trees to mature without limbing. Any tree branches that directly overhang equestrian trails should be limbed up to a minimum of 12 ft.

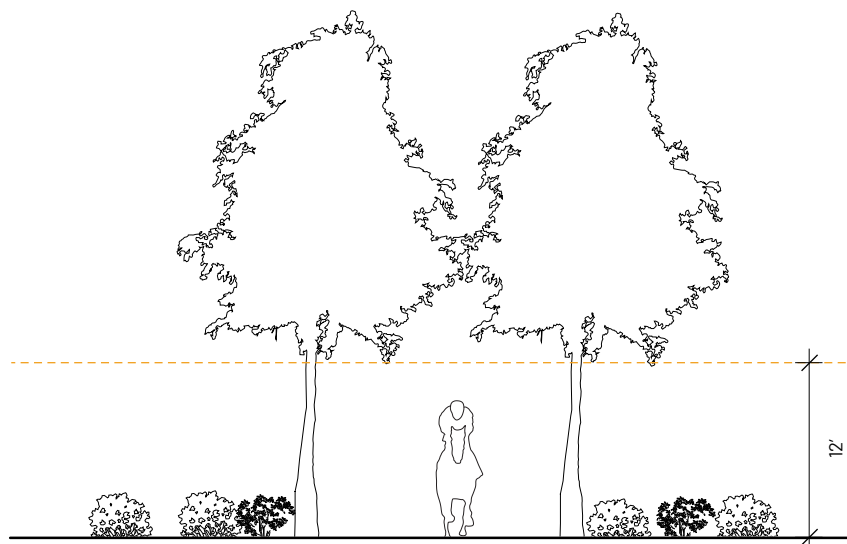
TREE LIMBING SHOULD BE COORDINATED SO THAT THE GREATEST APPLICABLE HEIGHT IS MET WHERE NEEDED OR WHERE OVERLAPPING REQUIREMENTS OCCUR. TREE LIMBING SHOULD NOT OCCUR BEFORE THE TREE HAS REACHED MATURITY



**SAFETY / VISIBILITY BEST PRACTICE**



**USACE MAINTENANCE REQUIREMENTS**



**ABOVE EQUESTRIAN TRAILS ONLY**

0 5' 10'

Figure 127. Tree limbing height requirements vary based on the location of the tree, the programmed use of the area, and visibility requirements. Young trees are exempt from these requirements and should not be limbed until they have reached maturity.

# RIGHTS-OF-WAY

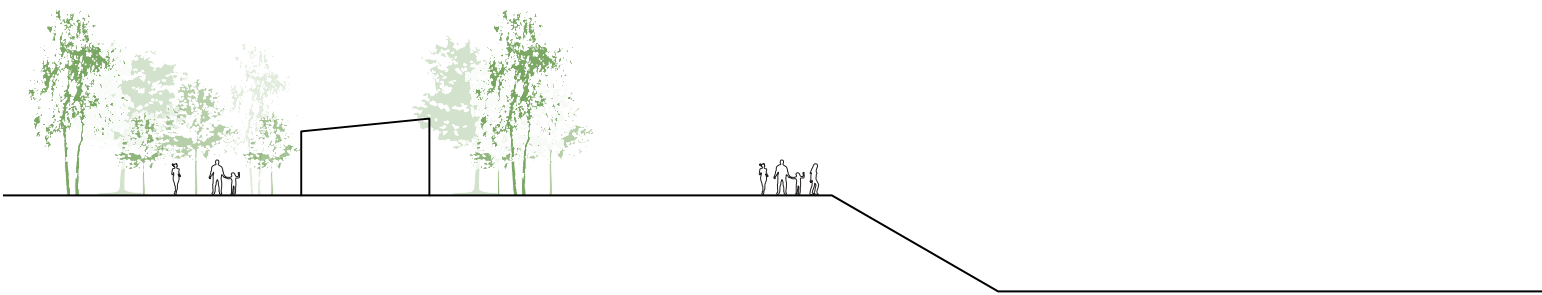
## UTILITY RIGHTS-OF-WAY

Utility rights-of-way next to the LA River channel provide opportunities for recreation space, trails, plant nurseries, access roads, gateways, artwork, and other community amenities. Utilizing infrastructure rights-of-way is critical to creating a connected system of trails and open space across LA County.

Three utilities, the City of Los Angeles Department of Water and Power (LADWP), Southern California Edison, and the City of Vernon Gas and Electric Department maintain power lines and transmission towers located on the service road or adjacent to the channel. Project teams working in areas near a transmission line should contact the utility companies directly to confirm current requirements. These agencies will separately check and approve projects and planting plans within their easements.

## RAIL RIGHTS-OF-WAY

Some LA River projects will be located adjacent to not-in-service railroad rights-of-way. These rights-of-way are opportunities for increased connectivity to the trails and paths around LA County. Project teams working near rail rights-of-way should contact the right-of-way owner to discuss opportunities and requirements.



### UTILITY ROW PLANTING

Figure 128. Requirements for planting in a utility ROW vary depending on the specific utility agency, but often include limitations on the installation of vegetation of a certain height or within a specified distance to the utility's infrastructure.

PROJECT TEAMS WORKING IN AREAS NEAR  
A TRANSMISSION LINE SHOULD CONTACT  
THE UTILITY COMPANIES DIRECTLY TO  
CONFIRM CURRENT REQUIREMENTS

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