



### LANDSCAPING DESIGN GUIDELINES

#### 1.0 INTRODUCTION

##### 1.1 Purpose

- 1.1.1 The Southern California Regional Rail Authority (SCRRA) Board Members have asked its staff to develop Landscaping Guidelines to provide uniform and consistent standards for landscaping design, construction and maintenance on the commuter and/or freight railroad right-of-ways. SCRRA staff worked together with the Member Agencies staff in preparing and finalizing these guidelines. These proposed guidelines are intended to provide minimum standards and general requirements for the design, construction and maintenance of landscaping in a manner compatible with safe operation of railroad corridors and with the rail capacity expansions envisioned for most corridors.
- 1.1.2 Landscaping can be an important addition to the right-of-way as an aesthetic enhancement that blends with the surrounding environment. However, landscaping in the right-of-ways must always be considered in the context of the important primary role of safe, maintainable rail transportation corridor. Landscaping must not affect SCRRA's ability to provide commuter and freight rail transportation and meet its obligations to the freight railroads under the Purchase and Sale and Shared Use agreements. These guidelines seek to balance opportunities for the aesthetic enhancement of the right-of-way with SCRRA's and Member Agencies' mandate to provide safe and efficient rail transportation to the public and the ability to meet interstate freight obligations.
- 1.1.3 SCRRA is the designated track owner of the Metrolink railroad system under the Code of Federal Regulations (CFR), Title 49 "Transportation", Subtitle B "Other Regulations Relating To Transportation", Chapter II "Federal Railroad Administration, Department of Transportation", part 213 "Track Safety Standards", Section 5 "Responsibility of Compliance" (49 CFR 213.5). As per part 213, SCRRA is required to provide minimum safety requirements for operation and maintenance of railroad tracks that are part of the general railroad system of transportation. The minimum requirements include roadbed, track geometry, track structure, track-related devices and inspection. These guidelines are meant to be consistent with these requirements.
- 1.1.4 SCRRA employs an Integrated Pest Management (IPM) program for vegetation control to comply with local fire agency standards, Federal Railroad Administration Rules and the California Public Utilities Commission Orders for vegetation control. The goal of the program is to maintain the railroad properties in a way that meet all applicable regulations in the most environmentally sensitive manner using cost effective methods. Third Party should take into consideration the effect of SCRRA vegetation program and the effect of wind and rain when designing a landscape project.



### 1.2 Scope

These guidelines apply to the SCRRA and its Member Agencies operated and maintained right-of-ways that are owned wholly or in part by the county transportation Member Agencies. These guidelines do not apply to right-of-ways fully owned by the BNSF Railway Company or the Union Pacific Railroad, where SCRRA has entered into joint use agreements to operate Metrolink commuter rail service.

### 1.3 Definitions

1.3.1 **Third Party** - an individual, firm, partnership or corporation, or combination thereof, private or public requesting and sponsoring a landscaping project. Third Party also includes the federal government and any agencies, departments or subdivisions thereof; the State of California; and any county, city, city and county district, public authority, joint powers agency, municipal corporation, or any other political subdivision or public corporation therein requesting and sponsoring a landscaping project.

1.3.2 **Member Agency** – Any specific county transportation agency(s), whose Property is directly affected by this project. The SCRRA Member Agencies are the Los Angeles County Metropolitan Transportation Authority (METRO), the Orange County Transportation Authority (OCTA), the Riverside County Transportation Commission (RCTC), the San Bernardino Associated Governments (SANBAG), and the Ventura County Transportation Commission (VCTC).

### 1.4 Referenced Standards

Landscaping shall also comply with the Right-of-Way Preservation Guidelines adopted by SCRRA specific Member Agency(s). Technical details of planting and irrigation design shall be done as per commercially available publications.

## 2.0 REAL ESTATE REQUIREMENTS

### 2.1 Existing Facilities

2.1.1 The Third Party should design the project in a manner that avoids any displacement of existing billboards, bus stops, leases and licenses on the right-of-ways. If the Member Agency agrees that the displacement is unavoidable, the Third Party shall coordinate proper disposition, including associated costs to be incurred by the Third Party, with the affected Member Agency and in accordance to the applicable conditions contained in the existing license or lease agreements.

### 2.2 Proposed Agreement

2.2.1 Third Party shall obtain a license or lease agreement for the landscaping from the Member Agency whose right-of-way is directly affected by the project. The license or lease agreement shall include requirements, terms and conditions related to indemnification, license fees and compensations, assumption of risk and waiver,



insurance, tests and inspections, maintenance and repair, breach, abandonment, reimbursement, construction, relocation, payments, hazardous/toxic materials, compliance with laws etc. The Third Party shall contact the affected Member Agency to request all information related to the real estate agreement. The Member Agency will be the sole authority on the fees and compensations due from the Third Party for the rights granted.

- 2.2.2 License or easement agreement shall also include requirements that provide for the removal and modification of the landscaping to meet SCRRA's and Member Agency's mission to provide passenger rail transportation and their obligations to the freight railroads to provide rail freight service. At the request of SCRRA or Member Agency, the Third Party shall remove, relocate, or modify, at its own expense, the landscaping to accommodate additional track or tracks or other railroad related facilities in the right-of-way.

### **2.3 Permits**

Third Party shall obtain and comply with any and all approvals, permits, licenses and other authorizations required by applicable laws, regulations, rules and ordinances for landscaping project within the right-of-way.

### **3.0 CONCEPTUAL DESIGN**

Third Party shall prepare a concept report and submit it for SCRRA and Member Agency review and approval. The report shall include existing conditions (topography, utilities, railroad facilities, soil conditions), existing and future transportation, environmental setting, land ownership including rail right-of-ways, future needs, plant material selection, identify and evaluate alternatives and concept level cost estimates. SCRRA and Member Agency will review the report and inform the Third Party if the project is viable and acceptable for further consideration and if it conforms to the Member Agencies Preservation Guidelines.

### **4.0 DESIGN**

#### **4.1 Submittal**

After review and approval of the conceptual design by SCRRA and affected Member Agency, the Third Party should prepare design drawings and submit two sets each to SCRRA and Member Agency for review and approval. Any and all changes or modification during the design and construction that affect the rail right-of-way should also be submitted to SCRRA and Member Agency for review and approval.

#### **4.2 Clearances**

- 4.2.1 Ground covers, shrubs and hedges are permitted only within an area ten (10) foot along the outer edges of the right-of-way to the property line. Small trees are permitted only within five (5) foot of each edge of the right-of-way to the property line. Large trees must be approved by SCRRA and/or Member Agency for use on the right-of-way. The landscaping shall not be installed closer than 25 feet



from the centerline of the nearest existing or proposed railroad track.

- 4.2.2 Ground cover, shrubs and hedges within 150 feet of grade crossings shall be limited to a height of 36 inches, with thinning as may be required to provide safe clear vision for trains, pedestrians and vehicular traffic approaching the grade crossings.
- 4.2.3 Plants should not be planted within three (3) feet of or block visibility of an existing sign (regulatory, warning, guide, emergency, parking, railroad and others) unless the regulatory agency agrees to relocate the sign and if approved by the Member Agency. The Third Party may be required to pay for the relocation cost, if necessary.
- 4.2.4 If approved by SCRRA and Member Agency, large trees planted on the right-of-way shall be selected such that the outer foliage of any tree shall not be closer than 20 feet from the nearest rail when the trees mature.
- 4.2.5 A buffer zone, five feet in width, between the zero growth herbicide treated operating railroad right-of-ways and the landscaping area must be provided.

### **4.3 Highway-Rail Grade Crossings**

Mountains, trees, vegetation, foliage or crops, natural or man-made embankments or man-made structures may play a significant role in a vehicle driver's overall perception of the grade crossing and may become important in the geometric design process. The vehicle driver must determine the presence of the grade crossing, the type of traffic control devices at the crossing and if a train is occupying the crossing. In order to assist the driver, small and large trees shall not be allowed at the highway-rail grade crossing approaches and medians. Ground covers or shrubs not exceeding 36" in height shall be allowed with regular periodic maintenance.

### **4.4 Utilities**

- 4.4.1 Third Party shall locate on their plans the existing SCRRA signal and track facilities on their plans during the design phase at Third Party costs and expenses. The project should be designed to avoid any relocation of the existing SCRRA facilities.
- 4.4.2 After the acceptance of plans by SCRRA and Member Agency, the Third Party shall submit and obtain written approval of design drawings from telecommunications, fiber optic, gas, oil or other companies that have prior use of the right-of-way under easement or license agreements. The design and construction of the landscaping may affect the existing utilities and may require the landscaping to be changed to accommodate utilities.
- 4.4.3 The existing utilities shall be located prior to commencing any excavations. Approval of the project by SCRRA does not constitute a representation as to the accuracy or completeness of location or the existence or non-existence of any utilities or structures within the limits of this project. The appropriate regional notification center [Underground Service Alert (USA) at (800) 227-2600], railway



companies, and utility companies shall be notified prior to performing any excavation close to any underground pipeline, conduit, wire, or other structure. Refer to SCRRA's website [www.metrolinktrains.com](http://www.metrolinktrains.com) to ensure proper contracts and phone numbers. SCRRA is not a member of USA and the Third Party shall request locations of SCRRA utilities from SCRRA. It is therefore necessary to call SCRRA's signal department phone number (refer to SCRRA's website) to mark, at the Local Agency(s) or Contractor's expense, signal and communication cables and conduits; in case of signal emergencies or Highway-Rail Grade Crossing problems, the Contractor shall call SCRRA's 24-hour signal emergency number. If utilities cannot be located, potholing shall be done to locate the utilities. SCRRA and appropriate utility owners shall be notified immediately when utility lines not known or indicated on the drawings are encountered. No service shall be disrupted until the utility owner and SCRRA have determined the required action on such lines.

### 4.5 Fencing

- 4.5.1 If there is no existing fence, the Third Party, at its sole cost and expense, shall install tubular steel fencing or welded wire mesh fencing as per SCRRA Engineering Standard ES5104 or ES5105 respectively. The fence shall be located at the edge of the landscaping. Exceptions may be granted by SCRRA, if the landscaping project design includes mitigation measures that include best practices to ensure safe rail operations, as per Section 10.0 of these guidelines. Third Party shall install gates having SCRRA locks to access the right-of-way for maintenance purposes at locations provided by SCRRA. Third Party should install "No Trespassing" warning signs as per SCRRA Engineering Standard ES5214.
- 4.5.2 A three rail split-rail fence in combination with landscaping which can serve both as a visual and physical barrier between the track and the landscaping may be used in rural or environmentally sensitive areas if approved by SCRRA and Member Agency. Since newly planted landscaping may take a few years before they become effective barriers, suitable temporary measures may be required until the landscaping has sufficiently matured.
- 4.5.3 The height of the fence within 150 feet of at-grade crossings shall be four (4) feet. The height of the fence for the balance of the right-of-way shall be at least six (6) feet.

### 4.6 Drainage

- 4.6.1 Third Party, at its sole cost and expense, shall provide and maintain suitable facilities for draining the landscaping area and shall not permit storm and irrigation water to flow or collect upon the right-of-way. The Third Party should not have the sole responsibility to correct any existing drainage deficiencies on the right-of-way, however, the Third Party shall not make the conditions any worse than existing prior to the construction on the right-of-way.
- 4.6.2 The landscaping and the area located between the landscaping and the nearest



railroad track should be graded to flow over the curb and onto the street, when the railroad track is at the higher elevation than the surrounding ground and the street. When the railroad track is at a lower elevation than the surrounding ground and the street, a flat bottom swale (ditch) properly sized and flowing towards an existing or proposed stormwater facility, such as inlet, underground pipe, swale, creek, wash or channel shall be constructed.

- 4.6.3 Mounding of earth on the right-of-way may be permitted only if it shall not adversely affect access, railroad maintenance activities, visibility and drainage on the right-of-way. The Third Party should submit drawings showing the existing and proposed contour elevations to SCRRRA and Member Agency. The final contour elevations shall be approved solely by SCRRRA and Member Agency. If allowed, imported soil shall meet the Member Agencies' specifications for clean backfill material.

### **4.7 Access**

- 4.7.1 SCRRRA and Member Agency must be able to readily access, inspect, repair and maintain drainage systems, bridges, tie and track replacement, tunnel and trestle, signal and communications equipments and grade crossing equipments from existing roadways. Utility companies must be able to readily access their facilities for maintenance and operation purposes.
- 4.7.2 The landscaping shall be subject to and subordinate to the rights of all current and future tenants and licensees of Member Agencies, including the rights of reasonable access over the landscaped area.

## **5.0 MATERIAL**

### **5.1 Plant Selection**

- 5.1.1 Plantings to be considered for placement within the right-of-way should have as many of the following characteristics as possible: non-poisonous; resistant to insects (bees, white flies or rodents) and diseases; free from sharp thorns, needles or pointed sword-like leaves; adaptable to variable soil conditions; adaptable to drought conditions; free from noxious odors; free from messy fruits or leaves; non-aggressive root system that can damage pavement and sidewalks and low to moderate maintenance.
- 5.1.2 Plants selected for use on the right-of-way should be sufficiently durable and drought resistant to maintain themselves without regular, supplemental irrigation once they have been established. Plants should be adaptable to the harsh conditions of a railroad environment because of compacted soils and residual chemicals. Plants selected should fit within their intended location without impairing safety or maintenance access at maturity. Plants that are susceptible to limb breakage under adverse conditions should be avoided. Plants that produce large or popular fruits are not suitable for the right-of-way since they may entice pedestrians onto the right-of-way.



- 5.1.3 Integration with the existing acceptable plant materials in adjacent areas should be emphasized.
- 5.1.4 Fire prevention needs should be addressed in areas that exhibit a high fire danger or risk.
- 5.1.5 Plants selected for slope areas should be deep-rooted varieties commonly used for erosion control.
- 5.1.6 Plants shall not be placed in a way to hinder a train operator's view of the right-of-way facilities. Placement of trees, planting shrubbery and other landscaping items shall consider vehicle driver, pedestrian, and maintenance safety. The vehicle driver must be provided unobstructed visibility of all traffic movements at intersections, crossovers, and turn lanes.
- 5.1.7 Soil testing should be done as necessary to determine soil suitability to ensure proper plant selection and/or acceptable amendments to accommodate the selection of plants.

## 5.2 Plant Spacing

- 5.2.1 Spacing between trees and shrubs should be governed by the ultimate spread of the species at maturity and by the environmental condition present at each location. The placement of large trees or shrubs should be staggered and should not conflict with the location of existing or proposed tracks, sidewalk/bike path, drainage facility, and underground or overhead utility lines or any other usage of the Member Agency. Ease of surveillance for police personnel should be considered when selecting and locating plants along the right-of-ways. Spacing of plants should be such that the plants do not create security hazards and provide shelter for humans by providing locations of concernment and adversely affect the safety on the right-of-way and the surrounding community.

## 5.3 Plant Material

Third Party shall select ground covers, shrubs, hedges, small trees or large trees based on these guidelines and Member Agency guidelines. Third Party shall submit a list of selected plants for SCRRRA and Member Agency approval. Third Party shall submit all available information on the plants to SCRRRA and Member Agency that may assist in the approval of the plant material.

### 5.3.1 Ground Covers

Grass species commonly used as lawn shall not be used as ground cover on the right-of-way. The use of ground cover to form a weed-eliminating blanket and provide soil erosion control is acceptable. Ground cover plants shall be selected based on its suitability to the soil and drainage of the particular area to be covered. Noxious plants materials or invasive plants sold as ground covers shall not be permitted.

### 5.3.2 **Shrubs**

Shrubs are woody plants that can be deciduous or evergreen. Shrubs can be used for foundation planting and borders, interplanted with flowers and used as ground cover. Shrubs with bulky flowers, thorns, berries, and noxious odor shall not be permitted.

### 5.3.3 **Hedges**

A hedge is a row of shrubs planted in a line, closely enough to form a uniform texture. Hedges shall be shockproof, tough and preferably evergreen. Hedges that bear attractive berries or play host to a rich fauna of insects and birds shall not be permitted.

### 5.3.4 **Small Trees**

Small trees are plants with smaller trunks or plants usually considered shrubs, but trained in tree form, which would not develop 4-inch diameter trunks within 10 years. Most small trees shall be acceptable for use on the right-of-way. Root barriers are to be provided for all trees.

### 5.3.5 **Large Trees**

Large trees are plants which at maturity, or within 10 years, have trunks 4 inches or greater in diameter, measured 4 feet above the ground. Large trees must be approved by SCRRRA and Member Agency individually for use on the right-of-way.

The large trees with following criteria shall not be approved for installation on the right-of-way: (a) trees which are granted protective status by the State or Federal Government, (b) trees that produce aggressive root systems that can radiate laterally through the soil and potentially under track ballast to ultimately damage the railroad track or structures and (c) fruit bearing trees. Root barriers are to be provided for all trees.

### 5.3.6 **Organic Mulch**

Exposed soil surfaces of non-planted areas within the developed landscape area shall be mulched with a minimum two-inch deep layer of weed free, composted organic material.

## 5.4 **Irrigation**

5.4.1 The Third Party shall determine the need for the irrigation of the landscaping. If the Third Party chooses not to irrigate, a temporary system should be installed to water the landscaping materials for the first two years and/or as necessary.

5.4.2 All costs of the irrigation system shall be the responsibility of the Third Party including, but not limited to installation materials and labor, water supply and



maintenance.

- 5.4.3 Irrigation system should not impede access to adjacent properties in any way for tenants of the Member Agencies.
- 5.4.4 Irrigation systems if required should be required to use automatic, electronic controllers. Irrigation system should be designed so that no parts of the water supply system are above ground in order to prevent vandalism or unauthorized use. Low flow or drip irrigation system is the preferred method.
- 5.4.5 Soil types and infiltration rate should be considered when designing irrigation systems. Irrigation systems should be designed to avoid runoff, low head drainage, overspray, or other similar conditions. Water shall be prohibited from flowing onto railroad tracks, ballast, adjacent property, non-irrigated areas, walks, roadways or structures. Proper irrigation equipment and schedules should be used to closely match application rates to infiltration rates, therefore minimizing runoff. Anti-drain (check) valves should be installed in strategic points to minimize or prevent low head drainage.
- 5.4.6 Landscape irrigation should be scheduled to operate between 7 p.m. and 7 a.m.

## 6.0 CONSTRUCTION

- 6.1.1 Third Party shall comply with the rules and regulations contained in the current editions of the following SCRRA documents during the construction of the landscaping project: (i) Temporary Right-of-Entry agreement (SCRRA Form No. 6), (ii) Rules and Requirements for Construction on Railroad Property (SCRRA Form No. 37), (iii) General Safety Regulations for Third Party Construction and Maintenance Activity on SCRRA Member Agency Property, and (iv) Applicable SCRRA Engineering Standards.
- 6.1.2 SCRRA and Member Agencies do not allow any approved parties to cause or permit any hazardous materials to be brought upon, stored, used, generated, or treated on or about the right-of-way. The Third Party shall not bring in or use any imported soils unless it has been tested and the results reviewed by Member Agency for acceptability.

## 7.0 MAINTENANCE

- 7.1.1 Third Party shall maintain the landscaping, fence, gates, signs and any other improvements that are part of the licensed landscaped area, in good order and condition to the satisfaction of SCRRA and Member Agency, at its own cost and expense.
- 7.1.2 Third Party shall notify SCRRA five (5) working days in advance of any maintenance activity that shall occur within the right-of-way. Third Party shall be responsible to reimburse SCRRA the actual cost and expense incurred by SCRRA for all services and work performed in connection with the project including a computed surcharge representing SCRRA's costs for administration



and management.

- 7.1.3 Pruning of the plant material should be performed to preserve the health and structure of trees and shrubs, for the prevention of damage to adjacent property, and to provide safety for train, vehicular and pedestrian traffic. Tree pruning practices shall follow the current ANSI A-300 standards.
- 7.1.4 Maintenance should include, but not be limited to, watering, fertilizing, pruning, spraying for insects and diseases, removal of debris and any other practices necessary to maintain the planting in acceptable condition. Maintenance should also include control or removal of weeds or vegetation within and on the crossing easement area so that it does not become a fire hazard; obstruct visibility of railroad signs and signals along the right-of-way and at highway-rail crossings; prevent proper functioning of signal and communication lines or prevent railroad employees from visually inspecting moving equipment from their normal duty stations. If the Third Party does not perform the control or removal work, SCRRA will serve notice upon the Third Party to provide proper maintenance. If the Third Party fails to do so, SCRRA will remove the offending material at the sole expense of the Third Party.
- 7.1.5 Weeds and grasses must be removed so they do not damage ornamental plants, ground cover, shrubs and trees or present a fire hazard.
- 7.1.6 Any dead plant materials including but not limited to trees and shrubs within the right-of-way shall be promptly removed within a week of identification or notification by SCRRA or Member Agency.

## **8.0 VEGETATION MANAGEMENT PROGRAM**

### **8.1 Program Goals**

- 8.1.1 SCRRA employs an Integrated Pest Management (IPM) program for vegetation control to comply with local fire agency standards, Federal Railroad Administration Rules and the California Public Utilities Commission Orders for vegetation control. All herbicides employed are California Department of Pesticide Regulation (DPR) registered herbicides for Right of Way use, applied in accordance with the Manufactures Labels by a State of California Certified Applicator under the supervision of a Licensed Pest Control Advisor using a written Pest Control Recommendation approved by the Local County Agricultural Commissioner where required.
- 8.1.2 The goals of the program are to maintain the railroad properties in a way that meet all applicable regulations in the most environmentally sensitive manner using cost effective methods.
- 8.1.3 The program consists of the following elements:

A yearly one-time pre-emergent herbicide application scheduled during the months of December to February just prior to an expected rainfall event of at



least ½ inch. This application is timed to prevent noxious weed seed germination in the spring.

A yearly one-time post-emergent herbicide spot treatment program applied on an as needed basis from July to September. This application is site specific and based on the intensity of noxious weed breakthrough.

### **8.2 Application**

8.2.1 When applying herbicides on the right-of-way, SCRRA will prevent damage to landscaping located on the right-of-ways as much as possible. However, there is a possibility of wind causing drift of the spray mix materials, which could cause damage to ornamental plants adjacent to the right-of-way. Third Party should take into consideration the effect of SCRRA vegetation program and the effect of wind and rain when designing a landscape project. Third Party shall be responsible for the restoration of any damaged area at its own cost and expense.

8.2.2 A buffer zone, five feet in width, between the zero growth herbicide treated operating railroad right-of-ways and the landscaping area shall be provided. Bark or wood chip mulching ground cover, pavement or decorative rock or stone covers are recommended.

### **9.0 FUNDING**

SCRRA does not provide funding for landscaping projects on the right-of-way.

### **10.0 EXCEPTIONS**

10.0.1 Topography, environment, right-of-way widths, obstructions, utilities etc., may make it difficult to follow all the requirements of these guidelines. In order to strike a balance between SCRRA and Member Agencies' mandate to provide safe and efficient transportation to the public and the ability to meet interstate freight obligations and aesthetic benefits offered by the landscaping, SCRRA may grant deviations or variances from these guidelines provided that the project as a whole is consistent with the overall intent of the guidelines.

10.0.2 The Third Party shall prepare an engineering report showing in precise details the changes and deviations and provide support for their position.

### **10.1 Minor Deviations**

The SCRRA Director of Maintenance and Engineering may permit minor deviations from these guidelines. Minor deviations, which would be considered, are as follows:

- Vertical separation between the tracks and the landscaping, which could enhance safety and railroad operations, maintenance and construction issues and activities.
- Locations where a minor deviation granted for a short segment or segments of the landscaping would enable successful development of a lengthier segment of the landscaping in accordance with these guidelines.



- Circumstances where short or minor deviations from the guidelines would produce significant benefits for the landscaping.
- Other approved measures, which could enhance safety and railroad operations, maintenance and construction issues and activities.

### **10.2 Major Deviations**

SCRRRA Chief Executive Officer with affected Member Agency concurrence on a case-by-case basis may permit major deviations consistent with the overall intent of these Guidelines. Major deviations are those that require the entire landscaping to deviate from the most important safety and rail related requirements of these guidelines.