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## SECTION 7 - LANDSCAPE ARCHITECTURE AND IRRIGATION SYSTEMS

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### PURPOSE

The purpose of these guidelines is to promote community health, safety and welfare by protecting natural vegetation, set development standards for landscaping and street trees, and reduce water consumption by using appropriate site design, plant materials, and irrigation technologies. These standards are in addition to and complement the Newport Municipal Code (NMC) Chapter 14.19. Requirements may also be stated in other chapters of the municipal code.

### APPLICABILITY

The City shall require submittal of Landscape and Irrigation plans for any system that is located within City right-of-way (ROW) and/or will become owned, operated and maintained by the City of Newport and require a licensed landscape architect, defined by the Oregon Revised Statutes, stamp and sign all landscape and/or irrigation plans for work within all public ROW. The Project Architect shall use the minimum general specifications for construction set forth in the Oregon Standard Specifications for Construction and these City of Newport Standards and Specifications.

Design standards include tree and existing plant habitat protection, removal of trees and landscaping materials, plant selection, tree spacing, as well as the safety of the public and City maintenance staff. City staff do not maintain landscape in the ROW and may remove landscaping if required to maintain City infrastructure.

Any proposed design including existing trees in the ROW shall be completed after receiving an approved Tree ROW Permit (see end of section for copy of permit application). Landscaping within the ROW is controlled NMC 9.10 ROW Permits and 9.15 Encroachment Permits.

### PARKS AND RECREATION

The Parks and Recreation Department of the City maintains not only parks, but also other green areas. They review Landscape Plan submittal to ensure those plans follow the Tree Manual criteria and other City standards. The Parks and Recreation Dept. may be involved in plan review for landscaping.

### TREE BOARD

The Parks and Recreation Committee acts as the City's Tree Board. The Tree Board has authority given in the NMC to approve or deny requests for removal of public trees not fitting the criteria described in Section 9.10.025(A)1-5) and other cases where the City chooses to refer the Tree ROW Permit application to the Board for consideration. Involvement of the Tree Board is discussed in several places of the NMC. Designers should be aware of the Board's authority and participation in maintaining the City's landscaping.

### LANDSCAPE PLAN SUBMITTALS

A landscape plan is required to include the following Submittal Requirements:

- A planting schedule containing the location, size, and species of the existing and proposed plant materials (at time of planting);
- Existing and proposed building and pavement outlines;
- Irrigation plans, written soil specifications at time of planting, and anticipated plant installation time line;

- The location of existing and proposed terraces, retaining walls, decks, patios, shelters, and play areas;
- Existing and proposed abutting street ROW landscaping;
- Other information as deemed appropriate by the Development Services Director. An arborist's report may be required for sites with mature, protected trees.

Refer to the NMC for more information about Landscape Plans.

## DESIGN PARAMETERS

The design criteria for public ROW projects shall conform to the current City of Newport specifications, codes and ordinances of the City of Newport. The following are the minimum design standards for the City of Newport. These standards apply to all public ROW projects unless the City of Newport approves a variance in writing.

### Stormwater Source Control Principles

The landscape plan shall adhere to current stormwater quality control principles including but not limited to identifying the development/building envelope, designing with the natural topography, minimizing impervious areas, working to minimize the volume and velocity of stormwater runoff through features such as canopy coverage and infiltration, where appropriate, and incorporating treatment through soils.

### Water Efficient Landscaping Principles

The landscape plan shall adhere to current water conservation principles for water efficient landscape design, including, but not limited to, addressing microclimatic conditions in the site design process, grading, plant selection, soil amendments, irrigation design, and other material selection. Consider also exposure to sun, shade and wind when determining plantings options.

## HYDROZONING

The landscape design shall select and group plants by implementing principles of "matched hydrozones" that is, grouping and watering plants based on their water needs.

The City of Newport recognizes four hydrozone classifications as outlined in the Oregon State University Extension Service publication Water-wise Gardening in Central Oregon. The four hydrozones are:

- Very Low - Most natives / may require supplemental water for plant establishment;
- Low - Perennials and some shrubs / some supplemental water required during the growing season (Apr - Oct);
- Moderate - Fruit trees, ornamental trees, and shrubs / regular amounts of supplemental water required during the growing season (Apr - Oct); and,
- High - Turfgrass and vegetable gardens / regular amounts of supplemental water required during the growing season (Apr - Oct). In addition, the following site-specific situations shall be considered for separating zones:
  - Separate zones for planting areas that have soil types that are significantly different as a result of being amended or disturbed;

- Separate zones for plants in raised planters, containers, tree wells, tree pits, or other limited spaces because those spaces dry out faster;
- Separate zones for plants on slopes, because they may require several short irrigation cycles to prevent runoff;
- Separate zones for landscape areas separated by physical barriers such as walls, fences, roads, sidewalks and driveways.

## LANDSCAPE CONSERVATION

Landscape Conservation prevents the indiscriminate removal of significant trees and other vegetation, including vegetation and features associated with streams, riparian areas, wetlands and other protected natural resource areas.

## TREE PROTECTION PLAN

Inventory significant trees during the site design process and protected during construction unless otherwise approved for removal through the site-plan review process. The City defines “significant trees” as individual trees, with a specific trunk diameter as measured four feet above the ground, known as diameter at breast height (DBH). City considers deciduous trees measuring six (6) inches or greater and coniferous trees measuring ten (10) inches or greater significant.

Retain significant trees unless City approves, in writing, removal for development. On a case-by-case review, the City may consider preservation impracticable when leaving the tree would prevent development of public streets, public utilities, needed housing, or land uses permitted by the applicable land use district. Define a protection area around the edge of all branches of each tree (drip-line) or strand of trees. Drip-lines may overlap between trees.

The tree protection plan shall include the following:

- Inventory of Significant Vegetation. Depict all significant vegetation by DBH and species, showing property lines, two (2) foot contours and rock outcroppings;
- Building Envelopes. The developer shall depict the buildable area of a lot that is consistent with the lot coverage area of the zone.
- Barriers. Show protection barriers on the site plan; locate and mark with flagging and/or signs all construction roads, parking places for workers, and areas for the storage of building materials, gravel and soil; stake out the exact locations of all utility trenches; erect physical barriers around all trees to be retained or groups of trees around the work site. Barriers that extend beyond the drip-line of the tree are preferred.
- Soil Compaction. The Tree Protection Plan shall depict typical details of methods for protecting the critical root zone. If barriers are not feasible to keep away vehicles and foot traffic, use six to eight inches of wood chips spread over the root zone or bridge root area overlaid by plates of steel or other suitable material.
- Grade Changes. If a grade change is unavoidable, use retaining walls to protect the root system.
- Severing Roots. Avoid cutting anchoring roots if possible. Tunneling for smaller household utility lines may be an option for tree preservation. When root cuts are unavoidable, make cuts with a pruning saw.
- Above Ground Injuries to Trees. Do not use trees for posting signs, electrical wires and pulleys. Keep trees free of nails, screws, and other fastening devices. Prevent trunk injuries by surrounding trunk with one (1) inch by four (4) inch wooden slats and securing in place with gauge wire around slats.

- **Soil Contamination.** Altering the soil chemistry can result in weakened trees, making them more susceptible to insects and disease. Prevent adverse effects on soil chemistry by spreading heavy plastic tarping where mixing concrete or cutting sheet rock; do not clean paintbrushes and tools over tree roots; dispose of chemical wastes properly and do not drain onto soil.
- **Altering the Natural Drainage Course.** When altering the natural drainage of a site, augment water for existing trees with an irrigation system. Prior to site grading, prepare a site drainage plan. Sometimes surface water containment can sustain existing stands of trees without artificial irrigation. Landscape plans or specifications shall note a requirement for the City to be notified within twenty-four (24) hours of any damage to existing trees within the project area that were not approved for removal or relocation. If damage occurs during construction, the contractor shall employ a certified arborist to determine whether it is possible to repair the damage or whether to replace the tree according to City standard mitigation procedures.

### TREE REMOVAL AND RELOCATION

Do not remove or relocate trees within the public ROW without prior written approval received by an approved ROW permit. The applicant shall submit a Tree Removal and Planting Permit application to the City of Newport that identifies the number, type of trees, and location of trees for removal, reason for removal, and proposed planting mitigations. See NMC 9.10.025 A and B. The Tree Board with input from the Engineering Dept shall approve removal/relocation of the tree based on the following criteria:

- the site cannot feasibly be developed, either by alternative site design or construction methods without removing or relocating existing trees;
- trees left in their present location will be so undermined by construction that their viability is threatened to the extent they become a danger in the future; or
- existing location interferes with the clear vision standards, intersection sight triangles, and intersection sight distances (for traffic, bicycles, and/or pedestrians and causes a safety concern that may not be resolved by appropriate pruning or thinning).

A licensed landscape architect or certified arborist shall provide City Engineer with recommendations for removal, pruning or thinning. Under no circumstances may a tree be “topped”. Clearly identify existing trees approved for removal or relocation on the landscape plan. Notify the City forty-eight (48) hours in advance of any approved tree removal activity.

### STREET TREES AND PLANTS

City requires street trees relocated and replanted with all public-ROW projects. They may be located within the ROW or located in the front yard setback or buffer area immediately adjacent to the ROW. Deviation from this standard shall require approval from the City Engineer.

Select trees and plant species for use in non-paved public ROW projects for their durability, drought tolerance, proportionality to site circumstances, low maintenance, and clearance standards for pedestrian, bicycle, and vehicular traffic safety.

All trees and plants considered shall be hardy to USDA Zone 8b.

City of Newport personnel do not maintain private landscaping installed in the ROW and may remove said landscaping if it interferes with infrastructure maintenance.

### TREE STAKING

Newly planted trees do not need staking if they are in a safe, gust-free location. If trees are planted in a location where they experience gusts or constant wind, or are in any other location where they could be damaged by vehicles or pedestrians, staking or other physical structures (i.e. bollards, temporary wind breaks or tree stakes) are required. Trees should be staked for one year only, loose enough to allow for movement in the wind. A minimum of two stakes per tree is required.

### APPROVED STREET TREE LIST

Submit proposed street trees with drawing submittal for approval.

### NON-APPROVED STREET TREES AND PLANTS

Turf and artificial turf is prohibited in public ROW projects, but will be assessed by the City Engineer on a case-by-case basis.

### HEIGHT STANDARDS FOR STREET TREES AND PLANTS

On public ROW landscape projects without existing sidewalks, trees shall be located to accommodate future sidewalk locations with consideration for existing and future utility corridors.

Do not install plants that will attain a mature height of two (2) feet or more in height in Clear Vision Areas, Intersection Sight Triangles, or Sight Distance Areas. Refer to Standard Drawing T-600, Clear Vision Areas. The height of the plant shall include the adjacent curb height and any earthwork or grading within the plant bed.

The City does not permit planting trees within the Clear Vision Area, Intersection Sight Triangles, nor Sight Distance Areas. Contractor shall limb existing trees to a minimum of eight (8) feet above the adjacent curb. This applies to center medians as well as roadside areas.

### Size of Street Trees and Plants

Minimum plant and tree sizes will be determined during plan review. Shrubs shall be planted from two-gallon containers or larger.

The minimum caliper size of street trees at planting shall be two and one-half (2.5) inches DBH (diameter at breast height, or four (4) feet above ground), based on the American Association of Nurserymen Standards. If the required caliper is not available, the Planning Director/Review Authority may accept replacement trees with an extended maintenance guarantee of two additional years depending on substituted size.

For more information on types of trees allowed within the City please refer to the *City of Newport Tree Manual, 2023*. The manual may be found on the [www.newportoregon.gov](http://www.newportoregon.gov) website under “City Parks”.

### STREET TREE LOCATION AND SPACING

Where the landscape strip and/or sidewalk is not wide enough to accommodate street trees, with the Community Development Director and City Engineer to determine potential tree locations.

Where practical, plant small stature trees no closer to the curb or sidewalk than five feet. Root barriers are required with street tree planting to protect the City’s curb, sidewalk, and pipes.

Base street tree spacing upon the type of tree(s) selected and the canopy size at maturity. Plant small canopy trees and columnar shaped trees no further than twenty-five (25) feet apart; medium and large canopy trees must be planted no further than thirty-five (35) feet apart, except where planting a tree would conflict with existing trees, retaining walls, utilities and similar physical barriers. The Community Development Director and Assistant City Engineer may approve a random spacing of street trees for the equivalent number of trees required for the length of the frontage.

Trees should be spaced no less than the following distances from existing or planned infrastructure:

- Stop signs: twenty (20) feet;
- Intersections: thirty-five (35) feet;
- Street lights: twenty-five (25) feet;
- Non-street light utility poles: five (5) feet;
- Overhead and underground utilities: ten (10) feet;
- Property lines: five (5) feet;
- Fire hydrants: ten (10) feet;
- Water meters or sampling manholes: five (5) feet;
- Driveways, sidewalks, curbs, or alleys: five (5) feet;
- Traffic signs: twenty (20) feet; and,
- Bus benches and shelters: five (5) feet.
- Designer responsible to call for locates and get proper survey information before designing.



Graphic taken from the City of Newport Municipal Code.

Trees shall not be planted within the following areas:

- Clear vision areas (see Standard Drawing T-600);
- Intersection sign triangles;
- Sight distance areas;
- City water or sewer easements, unless approved by the City Engineer;
- Public utility easements, unless written approval is obtained from the applicable agenc(ies); or,
- Medians less than four (4) feet wide.
- With drip line extending over catch basins/Curb inlets (see Standard Drawing L-130 for drip line



location to inlet specifications).

- Locations that restrict on-street parking access.

## EXEMPTIONS

The Assistant City Engineer will consider exceptions and/or exemptions to tree and plant location within the ROW on a case-by- case basis.

## STANDARD MATERIALS AND EQUIPMENT

Designs shall incorporate materials and equipment that comply with the City of Newport Standards and Specifications. Submit a request for alternative materials only when desiring a deviation from Standards and Specifications. City must grant approval before landscaper may use alternate materials.

## TREE WELLS

Install street trees planted within sidewalk tree wells within a pedestrian rated tree grate or surrounded by permeable pavers or pavement appropriate for pedestrian circulation. The minimum tree pit dimensions shall be a minimum of one-hundred-weight (108) cf four-by-nine feet (4' x 9'), minimum three (3) feet deep, and a minimum surface dimension of four-by-four feet (4' x 4'). See Standard Drawing L-140 for tree well grate requirements.

## SOIL AMENDMENTS

The City of Newport requires an agricultural soil analysis for all public works projects. Soil analysis shall include pH, N-P-K, SAR, ECe, boron levels, percolation rates and soil particle evaluation. The report shall include recommendations for amendments, fertilizers, application rates, and procedures for conditioning the soil. When soil analysis shows that the site has compacted soil, disturbed non-native fill or soil lacking in nutrients, the city of Newport will require the use of organic soil amendments to improve soil structure and increase aeration, water penetration, and water retention for plant hydration. In order to prevent a layering of soil types work/till soil amendments to an appropriate depth for the planting. Do not disturb existing native shrub zones soil amendment processes.

The City of Newport requires that trees are planted in planting holes appropriate for the root ball/root mass, and that planting holes are backfilled with native material, except in certain situations where the existing soil is determined to not be suitable (i.e. rubble or rocks, compacted, or poor and inadequate soil as shown by soil analysis report). The planting area is mulched and receives irrigation as required through the first three growing seasons. Whenever possible, planting occurs during the fall.

## Mulches

Apply organic mulch such as shredded bark or composted bark to all planting areas for moisture retention, weed control, and moderation of soil temperatures. See current OSS for mulch requirements.

The City prohibits impermeable weed barriers made of plastic under any mulches. City allows woven geotextile products under gravel or rock mulches.

The landscape plan shall identify the proposed type and recommended depth of installation for all proposed mulch materials and maintenance requirements.

## Fertilizers

The landscape plan or specifications shall specify any additional fertilization requirements that may be

necessary for the establishment of new plant material.

The landscape plan shall specify type and recommended application rate for each proposed use of any fertilizer recommendation that deviates from the Oregon Standards and Specifications, Section 10130-Seeding, and Section, 01040-Planting, for approval by the City.

## BARRIERS

### Weed Barrier

Landscape fabric (geotextile products) is usually used to discourage weeds while allowing for movement of moisture both in and out of the soil. It's best to use landscape fabric under inorganic materials such as rock, gravel, or sand. It's easiest to use in places where you don't want anything to grow, such as under landscape pavers. Landscape fabrics should be applied on bare soil where all weeds and other vegetation have been removed.

### Root Barrier

Root barriers can be either linear or surround the tree. Install when new tree is planted. See Standard Drawing L-100 for specifications.

Installing a plastic membrane vertical root barrier. This type of barrier is made from heavy-duty polypropylene and is between forty and sixty mil thick. The thick material is strong and impenetrable, and helps prevent excessive moisture from reaching the tree's roots. Place a three-inch space between the root ball and the barrier. City Engineer will consider other root barrier systems upon submittal of design.

Some of the most important keys to the proper design of root barriers include:

- Footprint of the barrier system. Will it be impacted by later road, sidewalk, or pipe excavation?
- Placing the tree root barrier before planting trees or when trees are new and immature with very minimal root systems at the time of installation.
- Preparing soil. Will there be enough room to loosen and till the soil, adding compost into the expected depth of the mature root system after sidewalk, curb, and pipes are installed?
- Expanding root barrier so it is at least the width of the "apron" area under the tree's projected trunk and branches. Will this fit into a green strip adjacent to sidewalks and roads?
- Installing root barrier at correct depth, leaving enough room for the tree roots to grow well but in a manner that is directed or controlled downward and away from the surface. Will there be utility conflicts during installation?
- Leaving some of the root barrier above the surface of the ground, compacting the soil around the base of the tree, then adding mulch. Who will maintain the mulch once it deteriorates?

## WHEEL STOPS, CURBS, BOLLARDS

Wheel stops, curbs, and bollards may be part of a landscape design. For landscaped areas in the ROW, the City has standard drawings to help in the design.

- Wheel stop requirements, see Standard Drawing T-605.
- Curb requirements, see Standard Drawing T-301.
- Bollard requirements, see Standard Drawing T-604.
- Xeriscape landscape islands, see Standard Drawing L-105.

## IRRIGATION PLAN SUBMITTALS

Landscape architect shall design efficient and uniform distribution irrigation systems. Consider specific criteria designs such as soil type, slope, root depth, plant materials, hydro-zones, microclimate conditions, water source, peak-precipitation rate demand, and watering windows.

To conserve and protect water resources, designs shall utilize appropriate equipment and components that meet the City of Newport Codes, Standards and Specifications. Irrigation designs should strive to design projects that are aesthetically pleasing, conserve water resources, and do not require maintenance by City staff.

For capital improvement and development projects, implement the following design requirements in all design deliverables and submittals presented to the City of Newport for review. An irrigation plan shall accompany the site/landscape plan and identify the location, type, and coverage of sprinklers, as well as drip lines, valves, zones, point(s) of connection and other equipment required to provide water as prescribed by the City of Newport as part of the submittal to the City for review and approval prior to installation. An irrigation plan is required for any public development where landscaping within the City of Newport ROW is part of the improvements, either new or existing. Irrigation plans shall comply with these standards and those set forth in the *Oregon Standard Specifications for Construction*, current edition, and in other City of Newport Standards and Specifications.

See SECTION 1 – General Specifications for plan submittal requirements and City of Newport CAD Standards.

### DESIGN PARAMETERS

Irrigation systems shall fully irrigate plant materials shown or specified on the site plan. System design should consider plant size and spacing at maturity to ensure long-term effectiveness.

Base the minimum supply water pressure on information supplied by the water utility, field-verified and noted on the drawings.

Design irrigation systems to maximize efficient water usage based on existing and proposed site-specific topography, soils, site orientation, prevailing wind conditions, and microclimates to eliminate the possibility of run-off and overspray, minimize evaporation, and increase the rate of infiltration. Overhead irrigation sprinklers shall be inset three to five (3-5) inches from hardscape, curbs and sidewalks to prevent irrigation overspray and runoff onto adjacent surfaces.

Irrigation designs shall not mix rotary, fixed spray, bubblers, micro-sprays, drip, or subsurface irrigation methods on the same zone.

Provide separate irrigation zones for trees shrubs and groundcovers, and turf. Landscape architect may use fixed spray or rotary head irrigation for “temporary irrigation zones”. Temporary irrigation is required to establish revegetation areas with drought-tolerant and native plant species. The City Engineer review temporary irrigation systems on a case-by-case basis. Remove temporary irrigation after establishing health vegetation. Irrigation designs shall identify location, number of zones, and irrigation types proposed for any areas determined to be temporary irrigation zones.

Separate zones are required for permanent and temporary irrigation lines.

### Safety

Eliminate run-off and/or over-spray from sprinkler heads on streets and sidewalks by use of proper design principles and installation practices.

To conserve and protect water quality, all landscapes and irrigation installations shall consider the conservation of resources, and protect native habitats and watersheds.

Irrigation designs shall utilize products that require the least amount of service, repair, and replacement. Buried vaults and valves should be located near areas with low pedestrian and vehicular traffic.

### Hydro-zones

The irrigation plan, in conjunction with the landscape plan, shall prevent over-watering and under-watering by implementing principles of "matched hydro-zones."

### Hydraulic Calculations

Irrigation designs shall supply complete calculations for all irrigation zones (drip zones and spray zones separately). Supply a table showing the total water required for each zone to ensure that the design has not exceeded the maximum for the meter, proposed pipe size, and zone watering times.

## DRIP IRRIGATION DESIGN

Use drip irrigation when practical and where potential for irrigation overspray and/or runoff is likely to occur. Design drip irrigation systems according to standards and engineering practices specified by the American Society of Agricultural and Biological Engineers or Irrigation Association. In addition, design systems to meet the changing water requirements of the landscape as it matures.

Drip irrigation is required where dimensions are less than six (6) feet in any direction. Overhead irrigation in areas greater than six (6) feet in dimension shall utilize low-precipitation rate sprinkler nozzles and have a precipitation rate of less than one (1) inch per hour.

Design drip irrigation systems with drip emitters having an 'Emission Uniformity' (relative flow rate between like emitters) of at least eighty (80) percent at time of installation.

## STANDARD MATERIALS AND EQUIPMENT

Designs shall incorporate materials and equipment that comply with City of Newport Standard Specifications and OSS for Irrigation Systems, Section 01120. Only use alternative materials after submitting and receiving an approved Deviation from Standards and Specifications. Use materials designated by trade name as per City of Newport Special Provisions or an approved equal, as verified from information in the manufacturer's catalogue and shown to contain comparable components.

### Irrigation Controllers

The City of Newport uses the current technology for programming and monitoring irrigation systems for landscape areas within the city to ensure the most efficient delivery of water to the public ROW. See Standard Drawing L-135 for tree well irrigation requirements.

Irrigation controllers shall be EPA WaterSense labeled smart irrigation controllers that automatically adjust irrigation run times in response to environmental conditions.

### Automatic Control Valves

Automatic electric solenoid remote control valves shall be slow acting diaphragm-type, as per Newport Standards and Specifications, 01120.17 Valves (h) Control Valves, (2) Automatic Control Valves.

### Sprinkler Heads

Sprinkler heads shall provide coverage as specified in the manufacturer's design literature. The use of high efficiency sprinklers or nozzles is encouraged wherever practicable.

### Pipe

ROW projects shall be entirely furnished with one pipe class or schedule type as per the Newport Standards and Specifications, and conforming to all other national and local standards.

### Blowouts

Install a blowout connection point to facilitate winterization by use of compressed air. Locate blowout connection immediately downstream from backflow device.

## BENCHES

City requires all benches installed in a developed site placed on a concrete pad. A developed site may include a city park, residential development, office buildings, outdoor structures such as a gazebo, picnic areas, recreational facility, etc. Bench are to be attached to the pad in a secure and permanent manner. The concrete pad shall be a minimum of four (4) inch deep and level to the surrounding grade. A concrete pad measuring seven feet by four feet (7' x 4') is required for a six (6) foot bench, and the bench shall be centered on the concrete pad. See Standard Drawing L-120 for construction requirements.

Bench requests are approved by Parks and Recreation Department.

## HANGING BASKETS, PLANTER BOXES, AND WINDOW BOXES

Landscape design requirement vary by location. When hanging baskets, planter boxes and window boxes extend in ROW, more particularly, pedestrian pathway, ROW requirements are consistent regardless of location. See Standard Drawing L-115 for height and walkway width minimums.

## DESIGN STANDARDS

### Root Barriers

Root barrier applications in ROW design. See Standard Drawing L-100 for installation requirements.

### Tree Wells

In wider areas where there is room for trees and sidewalk a tree well may be a design options. See Standard Drawing L-102 for construction details.

### Xeriscape Landscape island in public spaces

In public spaces where water may not be accessible, a xeriscape option may be possible. See Standard Drawing L-110 for construction specifications.

### Landscape islands in public spaces

Landscaping islands may be possible where there is a water available for irrigation. See Standard Drawing L-115 for construction requirements.

#### **Hanging Baskets, Planter Boxes and Window Boxes in ROW**

Portable landscaping in the ROW needs to be designed with pedestrian access in mind. See Standard Drawing L-120 for minimum widths and heights.

#### **Public benches**

Benches in public spaces require a concrete pad and marine grade steel fasteners. See Standard Drawing L-120 for construction standards.

#### **Drip line location to Curb Inlets**

Trees are to be planted down stream from curb inlets to avoid clogging inlet grates with falling leaves or needles. See Standard Drawing L-130 for specifications.

#### **Tree Well Irrigation**

Tree well irrigation shall be built into the design for the health and maintenance of the tree. See Standard Drawing L-135 for construction standards.

#### **Tree Well Grate**

Tree Well Grates must be compatible with sidewalks and ADA requirements. See Standard Drawing L-140 for required specifications.

END OF SECTION