



**DEPARTMENT OF TRANSPORTATION
POLICY / PROCEDURE BULLETIN**

SUBJECT: IRRIGATION POLICY FOR RIGHT-OF-WAY LANDSCAPING		NUMBER	PAGE	
			1 of 3	
		EFFECTIVE DATE: 7-1-09		
All Divisions		ParkWise	Transportation Director's Approval: 	Revised Date:
Director's Office		Traffic Engineering		
Management Services		Transit		APWA Management Practices: 18.01 and 18.18
Engineering	√	Streets & Traffic Maintenance		

1.0 Description and Purpose

The general purpose of this policy is to provide a guideline for conserving water and promoting healthy plant materials. The policy will guide the Tucson Department of Transportation (TDOT) Streets and Traffic Maintenance Division Staff in programming watering schedules for all landscape projects within the right-of-way (ROW). Each project site and irrigation design will vary and therefore Streets Staff and the City Landscape Architect shall review the irrigation programs as needed.

2.0 Procedure

2.1 General

In an effort to conserve water, reduce maintenance cost, and to promote healthy, long-living plant materials, watering schedules shall be reduced in frequency and increased in duration. As plant materials mature, the frequency shall continue to be reduced and the duration increased. Tree and shrub valves shall not be run on the same programming schedule. Shrubs require a higher frequency of watering than trees do because of the shallow root systems, and trees will receive some benefit from adjacent shrub watering. The shrub root zone will generally fall between 1 to 2 feet deep. The tree root zone will generally fall between 1 and 4 feet deep. In order to reach these root zones with drip irrigation, the systems must be on for several hours at a time. Because of changing soil conditions and slope changes throughout a project, the irrigation program schedule will need to be modified to work for the various site conditions.

2.2 Watering Guide

TDOT is adopting the "Landscape Watering by the Numbers" brochure as its guide for irrigation scheduling. This brochure is "A Guide for the Arizona Desert" and was created by Donna DiFrancesco of Mesa, Robyn Baker of Scottsdale with input from Andy Terrey and Steve Priebe of Phoenix, Dr. Jimmy Tipton, Terry Mikel, Dr. David Dopec, Dr. Paul Brown, and Dr. Thomas Thompson of the University of Arizona Cooperative Extension Agency.

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2.3 Plant Maturity

This guide is developed for mature plants. A shrub is considered mature after 2 years, and a tree is considered mature after 3 years.

2.4 Seasonal Change

Utilizing our Central Irrigation Control System, schedule changes shall be made four times a year. The following dates are given as general schedule changing dates, but it shall be the responsibility of Streets Division Staff to monitor the existing weather conditions and adjust accordingly.

Spring - March 16th Summer – May 16th
Fall – October 16th Winter – December 16th

2.5 Duration

Duration is the length of watering time. In order to get water to the proper depth during each cycle, it is important that the duration remain the same for all waterings. Utilizing “Table C – Gallons of water required to wet the root zone” and estimating an average tree sized ROW tree canopy diameter of 16’ the required water is 150 gallons. Our current design standard is for 1 six port–2 gallon per hour emitter per tree. This delivers 12 gallons of water per hour. To deliver 150 gallons of water, the duration for each tree watering should be 12.5 hours.

Utilizing “Table C” for shrubs and estimating an average sized shrub to be 3’ in diameter, the shrub will require 8 gallons of water per watering. Our current design standard is for 1 one-gallon emitter per shrub. To deliver 8 gallons of water the duration for each watering should be 8 hours.

2.6 Frequency

Frequency is the number of days between watering. In Spring (March 15 to May 14) trees should be watered once every 21 days; shrubs should be watered once every 14 days. During the Summer (May 15 to October 14) trees should be watered once every 14 days, and shrubs should be watered once every 7 days. The fall (October 15 through December 14) watering is the same as Spring. The winter schedule (December 15 through March 14) should be trees every 30 days and shrubs should be every 20 days.

2.7 Existing Projects

Drip irrigation projects that are 4 years old or older should be gradually changed during the next three summers to meet the new schedules.

For newly developed projects, the schedules must be adapted over the next 3 years, starting with the next winter schedule change.

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3.0 Distribution

Streets and Traffic Maintenance Division Administrator
TDOT Landscape Architect
City Landscape Planner (Planning Department)
Transportation Superintendent for Median Island Maintenance Section
Transportation Program Coordinator
Street Maintenance Supervisor for Median Island Maintenance Section
All Trades Specialists and Construction Maintenance Workers assigned to the Median Island
Maintenance Section
TDOT Policy Procedure Bulletin File
APWA Accreditation Coordinator

4.0 References

“A Guide for the Arizona Desert” created by Donna DiFrancesco of Mesa, Robyn Baker of Scottsdale with input from Andy Terrey and Steve Priebe of Phoenix, Dr. Jimmy Tipton, Terry Mikel, Dr. David Dopec, Dr. Paul Brown, and Dr. Thomas Thompson of the University of Arizona Cooperative Extension Agency; dated 02, 08.

AD1.06-1 Department of Transportation

TDOT PPB 7.03: Operations and Maintenance Procedures and Standards

5.0 Attachments

“A Guide for the Arizona Desert” created by Donna DiFrancesco of Mesa, Robyn Baker of Scottsdale with input from Andy Terrey and Steve Priebe of Phoenix, Dr. Jimmy Tipton, Terry Mikel, Dr. David Dopec, Dr. Paul Brown, and Dr. Thomas Thompson of the University of Arizona Cooperative Extension Agency; dated 02, 08.