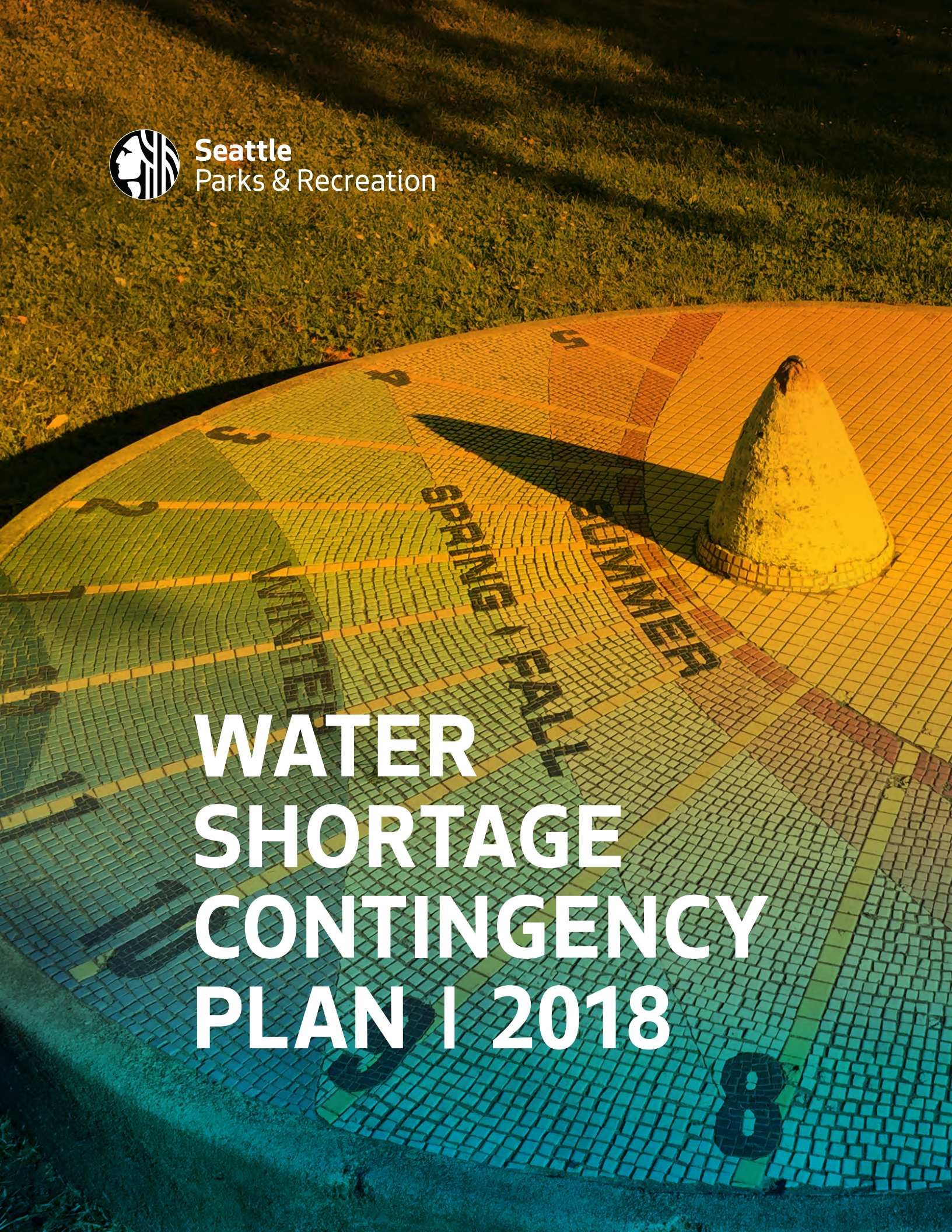

Seattle
Parks & Recreation
WATER
SHORTAGE
CONTINGENCY
PLAN | 2018

Dear Staff and Community,

In 2015, Washington state experienced the worst drought in recorded history. Before the summer was finished, Seattle Public Utilities (SPU) asked for voluntary water use reductions throughout the whole region.

For an organization responsible for keeping 6,400 acres of living assets healthy and thriving, the combination of hot, dry weather and water use reductions was a serious concern. Fortunately, at Seattle Parks & Recreation, we had already planned for such an event.

In the late 1990s, we wrote our first Water Shortage Contingency Plan. In the intervening years, we tested the plan, honed it based on lessons learned during testing, planted more drought-tolerant landscapes that rely less on irrigation, closely tracked water use, and installed technologies that help use less water.

The worst drought in our state's history taught us a few things about our water shortage plan.

"we tested the plan, honed it based on lessons learned during testing..."

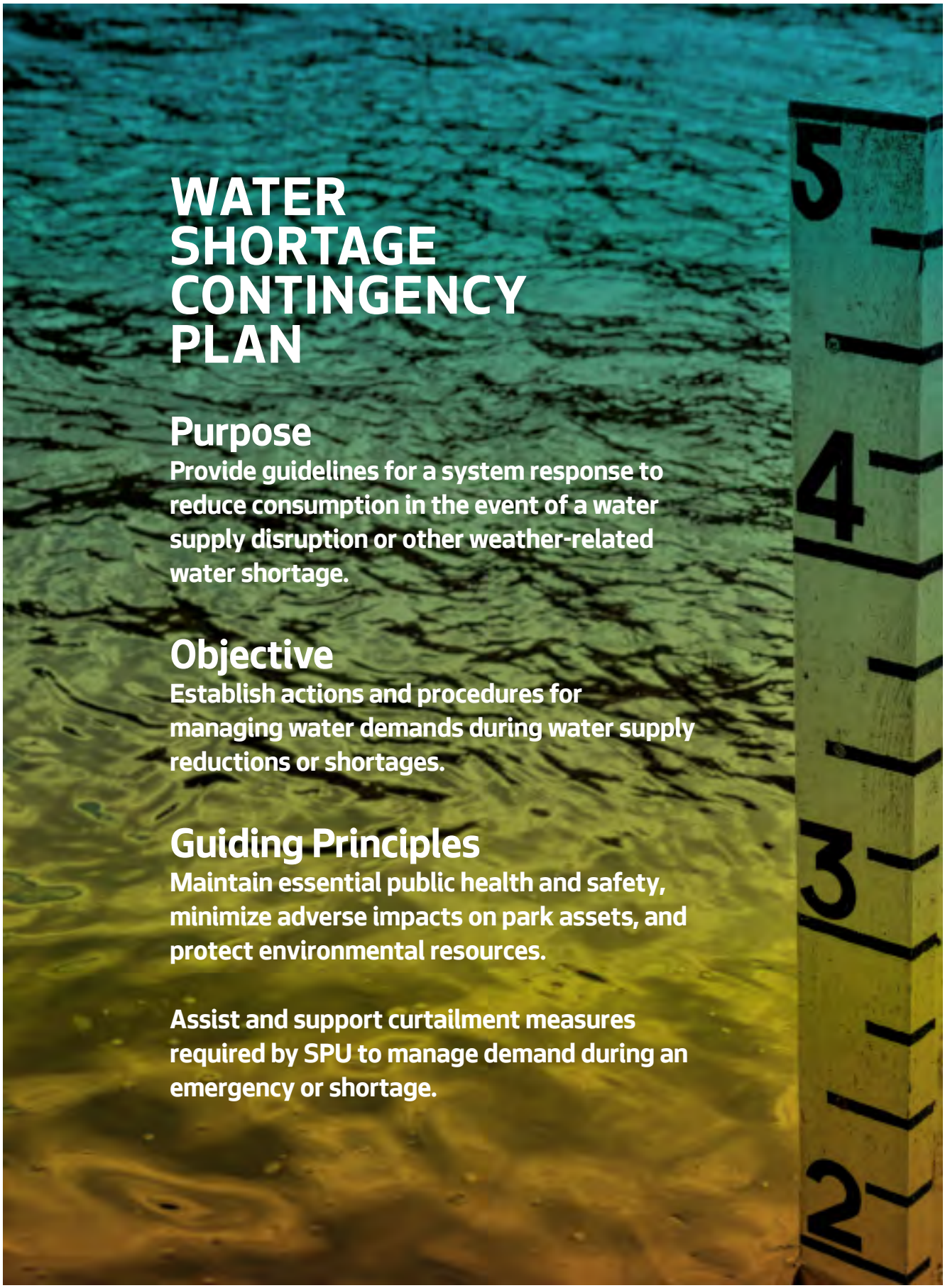
We learned that the basic outline of the plan stands the test time. It's general enough to flex with organizational changes, but specific enough to provide clear guidance. We also learned that we need a more user-friendly document with fewer redundancies. This updated version is filled with informative graphics and clear guidance.

Most importantly, we learned that the Water Shortage Contingency Plan needs to be a living, breathing document for you - our employees and our community. I encourage you to make notes in it. Bookmark it. Share it with others.

If you have a comment or a suggestion, we want to hear from you.
Please contact Water Management Coordinator Karen Galt with your thoughts at Karen.Galt@seattle.gov.

Together we can make our community both sustainable and resilient.

Sincerely,
Christopher Williams
Interim Superintendent



WATER SHORTAGE CONTINGENCY PLAN

Purpose

Provide guidelines for a system response to reduce consumption in the event of a water supply disruption or other weather-related water shortage.

Objective

Establish actions and procedures for managing water demands during water supply reductions or shortages.

Guiding Principles

Maintain essential public health and safety, minimize adverse impacts on park assets, and protect environmental resources.

Assist and support curtailment measures required by SPU to manage demand during an emergency or shortage.

Valuable Resource

Seattle is in the enviable position of sourcing our water from two large protected watersheds in the Cascade Mountains. The Cedar River Watershed provides about 70 percent of the region's water needs, and the Tolt River Watershed provides the rest.

Together these two watersheds comprise more than 100,000 acres, and supply 1.4 million people with drinking water.

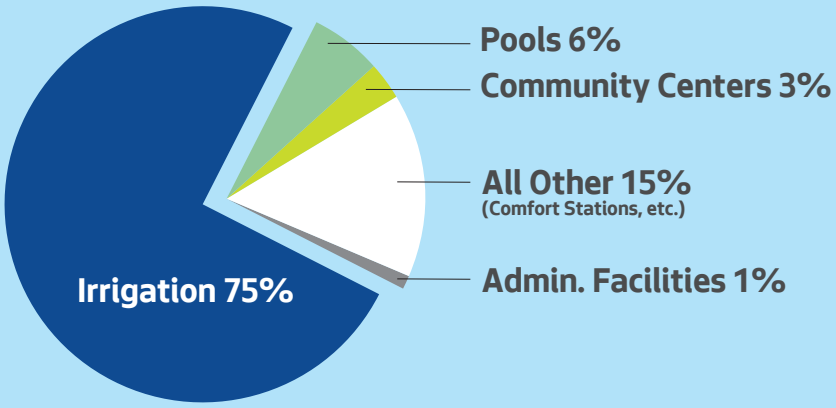
Melting snow and rain are gathered and stored in reservoirs. In the Cedar River Watershed, the water is held behind a hydroelectric dam that supplies electricity to Seattle.

These water sources are pure, clean and renewable. They are also vulnerable to climate change, which is why Seattle Parks and Recreation (SPR) has partnered with Seattle Public Utilities (SPU) to create and update this plan.

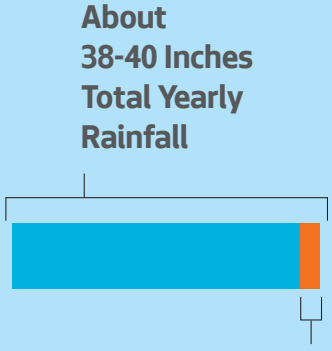
Most of the guidance provided here has to do with reducing water in irrigation. That's because 75% of the water that SPR consumes is used for irrigation.

Where Does Our Water Go?

2008-2017 Cumulative Water Use by Type



Summers in Seattle are relatively dry. Only about 5 of our 38-40 inches of annual precipitation fall during the summer months.



What Causes A Shortage?

While water supply disruption can occur for a variety of reasons, a weather-related water shortage – or drought – is the most likely reason.

The Seattle water system operates with an annual refill and drawdown cycle of its water supply storage reservoirs. Highly unusual weather events affect this cycle and can cause potential shortages.

Past Water Supply Disruptions:

- **Less than normal winter snowpack**, which results in an inability to adequately fill Seattle's storage reservoirs for peak season demands, and for fish and wildlife habitat needs
- **Unusually warm spring weather**, resulting in early snowpack melt and earlier drawdown of reservoirs
- **Unusually warm and dry summer weather** which increases peak season demands, and creates low-flow conditions in tributary streams and rivers
- **A delayed return of fall rains**, or a dry winter, which delays the fall and winter reservoir refill cycle, and extending low-flow conditions in the streams and rivers

The specific cause of any supply disruption will affect the department's response, strategy and timing.

Other possible scenarios include natural disasters, such as an earthquake or major landslide, or a man-made disaster, such as an act of terrorism. If any of these scenarios occur, the Mayor and SPU will direct what level of shortage response is needed.

Learning from History

Droughts are naturally occurring but unpredictable. In the area served by the Seattle water system, available data indicates a very low probability of a multi-year drought, but the region has experienced short-term droughts.

1992 Drought

Seattle experienced a drought in 1992 due to unusually warm weather at the same time that snowpack and flows into the storage reservoirs were at record-low levels. In late February of that year, it was evident that there was insufficient snowpack to fill the storage reservoirs and that the likelihood of recovery by June 1 due to rainfall was minimal.

In late February of 1992, it was evident that there was insufficient snowpack to fill the storage reservoirs

IMPACT

In May, SPU implemented a number of mandatory curtailment actions, including a ban on turf watering. This reduced average consumption by 25 to 30 percent.

SPR lost some turf assets, mostly impacting our golf courses and athletic fields. This loss of assets affected revenues and scheduling far beyond the duration of the drought event.

LESSONS LEARNED

After the damage was done, it was clear that this level of asset loss was not required for SPR to be in compliance with the water-use cutbacks.

OUTCOMES

This drought reminded us that we need to have a clear understanding of which operations will be curtailed, when, and to what extent, in order to conserve water resources.

Normal Levels

Drought Conditions

At winter's end, the state's snowpack was just 8 percent of average, and the weather was already unseasonably dry and warm.

2015 Drought

A snowpack drought in the winter of 2014-2015 was the first sign that trouble lay ahead. At winter's end, the state's snowpack was just 8 percent of average, and the weather was already unseasonably dry and warm. Gov. Jay Inslee declared a drought state of emergency in May.

IMPACT

In August, SPU activated the Voluntary Stage of curtailment, or Stage 2, that resulted in an average consumption reduction of 10%.

SPR was able to maintain nearly normal operations through the end of September, when the rains returned. Timing of this event was just weeks before we had planned to close wading pools for the season which meant we did not have to consider reducing wading pool operations.

LESSONS LEARNED

Connect Experts to Ground Operations

Participation on a Citywide Interdepartmental Team Water Shortage Advisory Group with SPU, kept the Landscape Irrigation Specialist in close contact with all SPR gardeners in the field. She reminded them of BMPs, offered tips, tools and online resources to help them manage their water use.

Prioritize Using Site Specific Data

We developed a list of high- and low-priority landscapes within each park and compiled 8 years of site-by-site water use consumption data. Armed with this information, we knew which landscapes needed to be preserved most, like athletic fields, play areas and specialty gardens, and which could tolerate short-term reductions like low-priority landscape areas such as general turf, unscheduled spaces and well-established shrubs.

OUTCOMES

Our most important outcome was a deeper understanding of the importance of frequent and clear communication, both internally with staff, and externally with the public.

Updated Guiding Principles

SPR has incorporated numerous changes in our water shortage plan, including updating the required responses for each phase of SPU's curtailment plan, and adopting updated guiding principles.

- To best preserve assets and programs, SPR should be the driver in determining where to curtail water and by how much.
- Complying with voluntary, rather than mandatory, measures is the preferred method to reach reduction goals.
- Because each drought is unique, a flexible plan is best.
- It is important to distinguish between short-term curtailment measures due to water supply disruption, and conservation measures that SPR promotes in its Best Management Practices (BMP)
- Conservation focuses on efficiencies that do not affect the quality of life.
- Curtailment involves short-term actions that can negatively impact quality of life.

The 1992 drought reminded us that we need to have a clear understanding of which operations will be curtailed, when, and to what extent, in order to conserve water resources.

- Maintain or reduce consumption in order to meet SPU-identified reduction goals.
- Minimize disruption to SPR's projects and programs while meeting target consumption goals.
- Minimize impact on revenue producing programs.
- Continue facility use and maintain valuable assets.

OPERATIONAL OBJECTIVES

The Four Stages of Water Shortage Response

1

ADVISORY STAGE

Customers are informed as early as meaningful data is available that a possible shortage may occur.

2

VOLUNTARY STAGE

If supply conditions worsen, the plan moves to the "Voluntary" stage which relies on voluntary cooperation and support of residential and commercial customers to meet target consumption goals.

3

MANDATORY STAGE

If the Voluntary Stage does not result in the reduction needed, the Mandatory Stage prohibits or limits certain actions and is accompanied by an enforcement plan, which could include fines for repeated violation.

4

EMERGENCY CURTAILMENT

This addresses the most severe need for demand reduction and could include a combination of mandatory measures and rate surcharges. This could be used as the last stage of a progressive situation, such as a drought of increasing severity, or to address an immediate crisis, such as a facility failure.

The goal of each stage is to prevent the need to progress to the next stage.

1

Advisory Stage

The Advisory Stage does not have any specific restrictions associated with it. This is a time of preparation and planning. The most important step for the department to take at this time is to convene the SPR Water Shortage Advisory Group (WSAG) so that planning for possible future water curtailment phases can begin.

Triggers

Total reservoir storage and predicted inflows are significantly below historical "normal" for the current time of year and supply modeling indicates that expected demands may not be met if this trend continues or worsens.

COMMUNICATIONS

Internal Communication Actions

The Parks and Environment Division Director and the Facilities Maintenance Division Director, in consultation with the Sustainable Operations Manager and Water Management Coordinator, will call together a Water Shortage Advisory Group.

External Communication Actions

At this early stage, it is highly unlikely that a public message from SPR will be necessary. If one is, the following should be communicated:

PUBLIC MESSAGE

"Seattle Public Utilities tells us there could be a water shortage this year. We have a tested Water Shortage Contingency Plan. We are taking steps to ensure we maintain the highest level of service to our community."

CONSULTATION WITH SPU

The Sustainable Operations Manager and/or Water Management Coordinator should reach out to their counterpart staff at SPU. Establishing a connection as soon as possible will aide communications, if the water shortage persists.

Water Shortage Advisory Group

Evaluates conditions, determine actions and establishes communications network for department. This group continues to meet until the water shortage is called off, and operations return to normal.

- Division Director(s)
- Public Information Officer
- Aquatics Manager
- Environmental Stewardship Manager
- Golf Manager
- Horticulture Manager
- Maintenance Services Manager
- Parks Resources Manager(s)
- Sustainable Operations Manager
- Aquatics Technical Supervisor
- Resource Conservation Coordinator
- Water Management Coordinator

ACTIONS

Operating Actions

Initiate planning and preparation for next Voluntary Stage actions, including:

- ✓ **Consult the plan for Voluntary Phase/Stage 2 actions.**
- ✓ **Assess training needs for staff.**
- ✓ **Review and update internal and external communications messaging.**
- ✓ **Focus attention on Best Management Practices for water conservation.**
- ✓ **Are there any planned repairs that could be prioritized?**
- ✓ **Ensure landscape beds have approximately 3-4" of mulch to help retain moisture.**
- ✓ **Ensure turf has been aerated within a relevant time interval.**
- ✓ **Ensure mowing heights for most turf is not less than 1.5-2".**
- ✓ **Review proposed landscape additions and projects.**
- ✓ **Make a list of projects that could be postponed, using criteria in Appendix A.**
- ✓ **Review Aquatics Unit programs and schedules with an eye toward possible scheduling reductions for water conservation, if needed.**
- ✓ **Review landscape irrigation priorities.**

2

Voluntary Stage

This is perhaps the most important phase for SPR because it is the place where we have the most control and flexibility before SPU implements Mandatory and Emergency phases.

During this phase SPU will typically set a reduction goal. Data shows that the reduction goal can be met by focusing primarily on irrigation (75 percent of SPR water consumption) without sacrificing our living assets.

Triggers

The "Voluntary Stage" is implemented when supply conditions identified in the Advisory Stage have not improved and/or demand levels indicate the need for a more systematic response to manage the situation.

PARTNERSHIP

CONSULTATION WITH SPU

SPU will likely convene a Water Shortage Advisory Group (WSAG). They may invite the Park Maintenance Division Director, the Facilities Maintenance Division Director, the Sustainable Operations Manager and/or the Water Management Coordinator.

The citywide WSAG will meet frequently to re-evaluate the situation and to determine the appropriate actions and strategies. Meetings will include:

- Informational status reports from SPU experts.
- Public information materials explaining the WSCP stages.
- Group sharing on what their agency or organization is doing to respond to the curtailment.
- Collection of feedback each agency or organization is receiving.

The team may be asked to identify and review potential next steps to further reduce consumption, including which restrictions will be imposed. As needed, the group will meet with other City/industry representatives to discuss compliance strategies.

COMMUNICATIONS

Internal Communication Actions

- ✓ The SPR WSAG should continue to meet on a regular basis.
- ✓ Members of the group need to to have systematic and regular communications with their teams.
- ✓ The Parks and Environment Division Director is responsible for keeping the Superintendent informed about water shortage developments.
- ✓ This is an important time for members of the SPR WSAG to get feedback from staff in the field on the effectiveness of water curtailment actions particularly in the form of data collection (eg. temperatures, plant health, customer comments, pictures, user impacts).

SPU Contact

Having already established a line of communication with a specific SPU staffer(s) during the Advisory Phase will be helpful in expediting the establishment of this team. If you do not hear from your SPU contact at this stage, reach out to her/him.

External Communication Actions

PUBLIC AWARENESS

It is likely that the public will be well aware of a water shortage at this point. Community members will have a heightened awareness of their own water use, as well as the water use of others, including public agencies.

MESSAGING

SAMPLE MESSAGING

IRRIGATION:

"We are focused on meeting the voluntary water reduction consumption goals. We have prioritized irrigation at large, regional parks and on maintaining our living assets for the future. You may notice that the grass in your neighborhood park is brown. It has simply gone dormant, and will become green again when the rains return."

POWER WASHING:

"Our highest priority is the health and safety of our park visitors and employees. We have curtailed all unnecessary hard-surface cleaning and vehicle washing; however, you may see some hard-surface power-washing and vehicle washing. Because we collect trash and sometimes clean and remove organic matter (human and/or animal), we need to wash our hard surfaces and vehicles from time to time. This is done for health and safety reasons."

AQUATIC RECREATION:

"Help our community conserve water. We fill our wading pool so you don't have to. Come and enjoy one of the many wading pools, sprayparks, swimming pools or swimming beaches near you."

GOLF:

"At our public golf courses, we are working to meet the City's voluntary water reduction goals. We are doing this by reducing irrigation in out-of-play areas, general turf and established landscape beds. You may notice turf in these areas is dormant, but it will become green again when the rain returns."

External communication at this phase is very important. Keep postings direct and to the point.

ACTIONS

Parks' Internal Operating Actions

- ✓ **Continue actions listed in the Advisory Stage.**
- ✓ **Establish agreed upon methodologies for measuring water savings to ensure compliance with SPU-generated percentage reduction required. Savings can be estimated using historic monthly water use information and by applying irrigation priorities site by site, with the goal of protecting landscape assets and maintaining access to public green space throughout the city. Refer to the periodically updated Site List of Irrigated Area Types and Priority, available through Parks and Recreation's Sharepoint pages.**
- ✓ **Eliminate all water uses determined to be non-essential to maintaining living assets, maintain the health of valuable assets and ensure public safety.**
- ✓ **Continue department projects and/or programs and review for potential reductions if shortage stage moves to Mandatory.**
- ✓ **Propose and/or implement staffing reassignments and schedules as needed, and plan staffing changes that may be needed for the Mandatory Stage.**
- ✓ **Evaluate ability to accelerate or enhance or expand long-term conservation programs; implement as appropriate.**
- ✓ **See Actions Table in Appendix B.**

*EXEMPTIONS

SPECIAL EXEMPTIONS

In general, plantings take place in the cooler spring and fall months; however, maintaining plantings is essential in the hot summer months. There are a few areas where special exceptions to water reductions should be made. (See Appendix A: "Water Shortage Contingency Plans for Newly Established and Planned Landscapes").

- **Green Seattle Partnership (GSP) Forest Restoration Projects:**
  Urban forests have several positive effects on urban metabolism, including reducing the heat island that a city creates. The long-term effects of a healthy urban forest outweigh the need for short-term water-reduction activities.

- **Capital Projects:**
  Review project schedules; postpone landscape projects if appropriate.

- **Tree Replacements:**
  Similar to the GSP Program, maintaining and restoring urban forest and woodland tree canopy is an important long-term strategy for mitigating climate change and keeping Seattle liveable. These long-term effects outweigh the need for short-term water-reduction activities.

3

Mandatory Stage 3

It should be noted that Seattle Public Utilities has never had to implement this phase of water reduction. Should this phase be activated, SPR will need to undertake even more stringent water reduction strategies and will work more closely with SPU to identify those actions.

Triggers

The SPU Director would approve progression to this stage, as recommended by the SPU Water Shortage Advisory Group, if goals established in the "Voluntary Stage" have not been met and additional action is needed.

PARTNERSHIP

Consultation with SPU

WSAG Meets

The WSAG will continue to meet frequently to re-evaluate the situation based on information provided by SPU and feedback from Voluntary Stage actions to determine appropriate actions and strategies. The group will determine a target consumption goal to be achieved on a mandatory basis that may be revised as necessary.

Identify Exemptions

Any exemptions from restrictions will be clearly identified in communicating mandatory restrictions to the public, a clear distinction will be made between turf watering and watering gardens and ornamental plantings. Also, the unique watering needs of the golf courses will be clearly identified. The type and amount of watering allowed will be clearly defined.

Enhanced Communications

Communication actions from the Advisory and Voluntary stages will be continued and enhanced.

Next Stage Planning

Plans will be made to move into the fourth stage - Emergency Curtailment - and to begin preparatory measures as appropriate.

COMMUNICATIONS

Internal Communication Action

The SPR WSAG should continue to meet on a regular basis, and continue its communications with all levels of the organization.

External Communication Actions

Public messaging will change, depending on the water reduction actions required. Messaging about irrigation and water use should be adapted from Voluntary Stage 2.

PUBLIC MESSAGE

"Seattle Parks and Recreation is working closely with Seattle Public Utilities to conserve water. Our top priorities are to keep our parks and facilities open and inviting, to protect public safety and to preserve our living assets."

The specific restrictions imposed during the mandatory stage would be determined based on the season of the year, targeted demand levels, and other considerations previously mentioned.

Variations of the specific restrictions may be applied based on water supply conditions. For example, turf-watering restrictions may simply consist of time-of-day restrictions; or, if conditions warrant, turf watering could be restricted to certain times of day and/or allowed only once a week.

ACTIONS

Operating Actions

- ✓ **Continue appropriate actions from previous stages.**
- ✓ **Finalize and implement procedures for exemptions from restrictions. (Referenced in next section)**
- ✓ **Evaluate ability, resources and plans to move into Emergency Curtailment Stage; begin preparatory actions as appropriate.**
- ✓ **Refer to Appendix B Actions Table.**

POSSIBLE ADDITIONAL IRRIGATION RESTRICTIONS

Overall, the SPU shortage advisory group, in evaluating which restrictions to impose, will consider supply conditions. If supply conditions continue to deteriorate, before moving to the Emergency Curtailment Stage, and if irrigation is still occurring, turf watering will be banned (except for golf greens and tees and athletic fields, and possibly newly installed turf).

WATERING RESTRICTIONS

The following are several possible approaches to watering restrictions. The nature of the restrictions will depend on the severity of the situation, and may change as severity of the situation changes.

- Prohibit all watering during the warmest hours of the day, for example between 10 a.m. and 7 p.m.
- Limit all watering to a specific number of days per week or per month. This choice will depend on target consumption goals, the time of year and the extent to which watering is occurring, and how much demands have already decreased. For example, if demand has already been reduced by 15% through other measures during July and August, limiting turf watering to two days a week on a region-wide basis would further reduce average daily demand by approximately 15 million gallons. Limiting turf watering to one day a week will yield an additional average daily reduction of 15 to 20 million gallons. (These figures are based on experience during 1992.)
- Ban turf watering (see exemptions on next page), with other watering prohibited during the warmest hours of the day, for example, between 10 a.m. and 7 p.m.

*EXEMPTIONS

EXEMPTIONS FROM WATER-USE RESTRICTIONS

Turf-Watering Ban Exemption:

Newly installed turfs may be exempted from a ban if the irrigation system exemption procedures listed below are followed. The procedures relating to the exemption and the requirements of the exemption would be clearly outlined at the time of the ban. For purposes of this exemption, "new turf" refers to a turf newly installed during the current year only. Over-seeding or other turf programs would not be exempt.

In the event that the shortage continues to worsen and the Emergency Curtailment Stage is invoked, these special turf exemptions could be revoked. It could also be revoked on a case-by-case basis if the rules stated above are not followed, or in the case of a water system emergency.

Automatic Irrigation System Exemption

Users of automatic irrigation systems may be exempt from certain mandatory watering restrictions if proper procedures are followed. This approach allows an alternate path to achieving savings due to the precision with which such systems can be operated.

For example, if only 30 minutes of turf watering is allowed per week, automatic irrigation systems which meet the criteria would be allowed to water based on a certain percentage of evapotranspiration (ET), such as 50%, instead of the time-limit based restriction. [Note: ET is a factor calculated according to climatic data, which is commonly used in commercial applications; ET data is documented by Parks' Maxicom™ and Golf central control systems. Additionally, Golf course superintendents use soil moisture density sensors to ensure they only irrigate when needed.

In the event of a total watering ban, these users would also be prohibited from watering unless watering is required to ensure park patron safety. An example might include watering the dirt infields at baseball fields to prevent unhealthy levels of dust.

4

Emergency Stage 4

At this stage, SPU recognizes that a critical water situation exists. Without additional significant curtailment actions, a shortage of water for public health and safety will be imminent. As of 2018, this has never happened in Seattle's history.

Triggers

Increasingly stringent water-use restrictions are established and enforced. Significant rate surcharges are used to encourage customer compliance. Surcharges are a key component to the success of this stage and may be increased if appropriate.

EMERGENCY

Short-term Emergency

Although many of the demand reduction measures employed would be similar to those used during a progressive, weather-related shortage, short-term emergencies are unique because of a lack of preparation time and the urgency of immediate, large-scale demand reductions. Each emergency scenario is different, but most of them require major curtailment actions by customers. Also, unlike drought, some emergencies would be localized, requiring demand reduction for only a limited geographic area.

Strategies for dealing with emergencies have been developed based on lessons learned from previous water utility events, other utility experiences, and a sorting of measures based on specific criteria. There are several criteria by which to decide which demand management measures are appropriate to initially reduce demand during an emergency:

- **Timing:** can the measure(s) or action(s) deliver the necessary savings in the necessary timeframe? In other words, are immediate savings needed or can the system support a gradual reduction in demand?
- **Magnitude of Savings**: will the measure produce enough savings to make a meaningful difference?
- **Season:** does the action make any impact at the time of year that the emergency occurs? For instance, banning turf watering will have little impact in November.
- **Costs:** how severe are the cost implications of the measure to the customer, including local business and industry?

EMERGENCY

Supply and Demand Management During Emergencies

No single strategy can be created which will meet SPR's needs for all emergency scenarios. The criteria listed on the previous page create a framework for decision-making. Emergencies initially require quick and immediate response. Once an assessment is made as to how long it will take to restore the system, the immediate response strategy may change if it appears that the repair process will be lengthy.

The strategy for most emergencies can be narrowed to measures having the most immediate impact on water supply and consumption. SPU would activate any needed and available back-up supplies during an emergency: interties, well-fields, off-loading wholesale customers who have other sources, etc.

COMMUNICATIONS

Communication Actions

Continue all previous, applicable actions.

The Water Shortage Advisory Group defines the problem to staff and the public as an emergency. Staff and customers are informed of possible pressure reductions and problems that this may entail.

ACTIONS

Department's Internal Operating Actions

- ✓ **Continue actions listed in prior stages.**
- ✓ **Refer to Appendix B Actions Table.**

Appendix A

Water Shortage Plans for:

NEWLY ESTABLISHED OR PLANNED LANDSCAPES

New landscape installations shall be defined as those trees, planting beds, and turf plantings that are substantially complete and were installed within the last 12 months. These landscapes will be exempt from irrigation restrictions during their establishment period as defined below. This ensures that the City's landscape asset investment is properly managed and maintained for long-term health.

NEW LANDSCAPES

SPR's best management practices identify the critical need for regular irrigation of new landscapes, be they trees, shrubs, perennials or turf. New landscapes need to be adequately irrigated to fully ensure asset survival and establishment. It is well documented that the future health of plants is directly tied to post-construction cultural care, especially regular irrigation. Therefore:

- New landscapes are exempt from irrigation restrictions and shall be watered as needed for establishment.
- The establishment period for new landscapes is generally considered to be three years.
- New planting areas shall be mulched to retain moisture .
- Weed control shall be consistently employed to maximize the use of available water by the desired landscape plant.

Appendix A (continued)

Water Shortage Plans for:

PROPOSED LANDSCAPES

Proposed landscapes shall be defined as those that are scheduled to be installed during the remainder of the current year. These include various capital and maintenance projects. In order to conserve water the department shall determine whether these projects can/should be postponed.

Criteria for consideration shall include:

- Contractual concerns - will delaying the project result in problems with in-place contracts (such as the sequencing of work)?
- Budget concerns - will delaying the project increase costs to the project?
- Timing - have the plant materials already been purchased and are ready for installation? (If the answer is yes, it is recommended that these projects be installed as planned to avoid the possibility of stressing the plants and lowering the chances for healthy plant establishment.)
- Community/partnership commitments - does the project have multiple partners? Might postponement cause one or more partners to have to drop out?

A "no" answer to the above questions should result in serious consideration of project postponement.

"Yes" answers are an indication that the project might need to proceed as planned. In addition, consideration should be given to partial project implementation;

- Can the new landscape site be prepared now with planting delayed until fall/winter?
- Can the major trees/shrubs be planted now (for hand watering) with ground covers and turf plantings delayed until fall/winter?

Landscape/project managers should assess all of the new and planned landscape installations to determine the irrigation management required for each, and plan according to the above guidelines.

Appendix B

Recommended Water Shortage Actions by Facility or Equipment Type

	In this Stage, do this:		
	Voluntary	Mandatory	Emergency**
Developed Park Landscapes			
Maintain normal irrigation for prominent or high visibility turf	X	X	
Reduce irrigation for prominent or high visibility turf			X
Reduce irrigation for general turf and landscape beds	X	X	X
Athletic Fields			
Maintain normal irrigation	X	X	
Water infields for dust control	X	X	X
Maintain normal irrigation on sand-based athletic field turf	X	X	X
Specialty Gardens, High Visibility And Regional Parks, Lawn Bowling Greens			
Maintain normal irrigation	X	X	X
Greenhouses, Nursery, Food Gardens			
Maintain normal irrigation	X	X	X
New Turf, Landscapes And Tree Plantings			
Maintain normal irrigation for duration of establishment	X	X	X
Green Seattle Partnership			
Maintain normal watering program for forest restoration projects	X	X	X
Maintain normal planting programs (fall, winter timing)	X	X	X
Golf Turf			
Maintain normal irrigation on tees, greens, most fairways, new turf	X	X	X
Reduce irrigation to out-of-play areas, general turf, established shrub beds and mature trees	X		
Stop irrigating out-of-play areas, roughs, selected areas of fairways, and par3 courses except greens		X	
Further reduce irrigation to out of play areas, fairways, general turf, established shrub beds and mature trees		X	X
Golf Carts			
Wash golf carts as needed	X		
Wash golf carts for health and safety		X	
Stop washing golf carts			X

Appendix B (continued)

Recommended Water Shortage Actions by Facility or Equipment Type

	Voluntary	Mandatory	Emergency**
Comfort Stations			
Pressure wash routinely	X		
Reduce frequency of pressure washing where possible, to health and safety reasons only		X	X
Facilities, Hard Surfaces*, Docks			
Pressure wash for health and safety reasons only	X	X	X
Vehicle fleet (see also Golf Carts)			
Wash for health and safety reasons only	X	X	X
Equipment			
Stop washing, except for cutting units, or to prevent noxious weed transmission	X	X	X
Decorative fountains			
Turn off all decorative fountains that do not recirculate	X		
Turf off all decorative fountains		X	X
Spray parks and wading pools			
Maintain normal operations	X	X	X
Outdoor swimming pools			
Maintain normal operations	X	X	X
Implement saltwater backwash at Colman Pool		X	X
Indoor swimming pools			
Use pool water to power wash decks during maintenance closures	X		
Postpone preventative maintenance and maintenance fills		X	X
Close saunas		X	X
Construction sites/capital projects			
Water for dust control (use reclaimed water where possible)	X	X	X
Postpone landscaping, if possible	X	X	X

*It is anticipated that hard surfaces in downtown parks will need to maintain a normal pressure washing schedule since they generally need to be washed for health and safety reasons

**Depending on the scale and nature of a shortage in an Emergency Stage, some of these recommended actions may need to be adjusted

DEFINITIONS

Athletic field turf: Turf areas characterized by scheduled sports play.

All-weather athletic field: Athletic fields with a well-drained playing surface; often non-turf but can include artificial turf composition surfacing.

Floral beds: A landscaped bed for floral display, containing herbaceous plants such as perennials, annual and bulbs.

General landscape bed areas: Non-turf planted areas that include woody plant material such as shrubs, trees and ground covers.

General park turf: Turf areas of various types where irrigation is available.

Greenhouse: A house of glass or polymer plastic construction that is used for the propagation, growing and care of plants.

Golf green: The part of the course where play ends for each hole, typically 500-9,000 square feet of a mix of Poa Annua grass and Perennial Ryegrass, mowed between 0.5"-0.75", constructed of varying layers of sand on native soil.

Golf tee: The part of the course where play begins for each hole, typically 5-7,000 square feet of Poa Annua grass, mowed between 0.12"-0.14", and constructed of varying layers of sand on native soil.

High-visibility public facility landscapes: Landscaped areas in a high-visibility or high-use, prominent location. These landscapes include woody and /or herbaceous plant material, and occasionally turf areas. Examples: Community Centers or park entrances.

New turf, landscape or trees: Landscapes, trees and turf planting that were installed within the last 12 months.

Prominent turf: High visibility or high-use turf areas. Examples: community centers or neighborhood parks where the turf is the major amenity, high-use areas such as near play areas and wading pools.

Sand-based athletic field: Athletic fields with substrates composed entirely of imported sand.

Soil-based athletic field: Athletic fields with substrates generally composed of native soil formed onsite with minimal amendment.

Specialty garden: A high visibility, highly maintained landscape display area containing a collection of valuable, unique and rare plants.

Specialty gardens
Japanese Garden
Kubota Garden
Parson's Garden
Washington Park Arboretum
Woodland Park Rose Garden

Greenhouses
Jefferson Horticulture Greenhouse
Volunteer Park Conservatory
Volunteer Park Greenhouse

Seattle
Parks & Recreation