CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

THE CITY OF SIGNAL HILL
WELCOMES YOU TO A REGULAR
PLANNING COMMISSION MEETING
September 8, 2015

The City of Signal Hill appreciates your attendance. Citizen interest provides the Planning Commission with valuable information regarding issues of the community. Meetings are held on the 2nd Tuesday of every month.

Meetings commence at 7:00 p.m. There is a public comment period at the beginning of the regular meeting, as well as the opportunity to comment on each agenda item as it arises. Any meeting may be adjourned to a time and place stated in the order of adjournment.

The agenda is posted 72 hours prior to each meeting on the City's website and outside of City Hall and is available at each meeting. The agenda and related reports are available for review online and at the Community Development office and Library on the Friday afternoon prior to the Commission meeting. Agenda and staff reports are also available at our website at www.cityofsignalhill.org.

During the meeting, the Community Development Director presents agenda items for Commission consideration. The public is allowed to address the Commission on all agenda items. The Chair will announce when the period for public comment is open on each agenda item. The public may speak to the Commission on items that are not listed on the agenda. This public comment period will be held at the beginning of the public portion of the meeting. You are encouraged (but not required) to complete a speaker card prior to the item being considered, and give the card to a City staff member. The purpose of the card is to ensure speakers are correctly identified in the minutes. However, completion of a speaker card is voluntary, and is not a requirement to address the Commission. The cards are provided at the rear of the Council Chamber. Please direct your comments or questions to the Chair.

CALL TO ORDER

ROLL CALL

CHAIR FALLON
VICE-CHAIR AUSTIN
COMMISSIONER BENSON
COMMISSIONER MURPHY
COMMISSIONER RICHÁRD

PLEDGE OF ALLEGIANCE

The Chair will lead the audience in reciting the Pledge of Allegiance.

PUBLIC BUSINESS FROM THE FLOOR ON ITEMS NOT LISTED ON THIS AGENDA

COMMUNITY DEVELOPMENT DIRECTOR REPORTS

(1) Roadmap for Adoption of the State Mandated Water Efficient Landscape Ordinance and Commercial Turf Replacement Regulations

Summary: In response to current drought conditions, the State mandate to conserve more water and the City's priority of conserving at all times, the City is considering whether revised landscape regulations are merited. As a first step, a public workshop was held to gather community preferences for turf replacement alternatives. In addition, the Planning Commission has conducted three previous study sessions to consider best practices and a potential ordinance amendment to establish regulations for turf replacement. The last study session focused on residential turf replacement regulations. The focus of this session will be on commercial turf replacement regulations. The goal is to adopt a Zoning Ordinance Amendment to establish turf replacement regulations for all land use types.

At this fourth study session, staff will provide:

- An overview of the mandated State Water Efficient Landscape Ordinance and a roadmap for adoption by the required deadline of December 1, 2015.
- Considerations for turf replacement regulations at commercial industrial properties

Recommendations: 1. Receive and file an overview and roadmap for adoption of the State Water Efficient Landscape Ordinance. 2. Provide direction on proposed regulations for commercial turf replacement.

CONSENT CALENDAR

The following Consent Calendar items are expected to be routine and non-controversial. Items will be acted upon by the Commission at one time without discussion. Any item

may be removed by a Commissioner or member of the audience for discussion.

(2) Minutes of the Following Meeting

Regular Meeting of August 11, 2015

Recommendation: Approve.

(3) City Council Follow-up

Summary: Attached for review is a brief summary on the City Council's action from the August 18, 2015 and September 1, 2015 meetings.

Recommendation: Receive and file.

(4) Development Status Report

Summary: Attached for review is the monthly Development Status Report which highlights current projects.

Recommendation: Receive and file.

(5) In the News

Summary: Articles compiled by staff that may be of interest to the Commission.

Recommendation: Receive and file.

COMMISSION NEW BUSINESS

COMMISSIONER RICHÁRD
COMMISSIONER MURPHY
COMMISSIONER BENSON
VICE-CHAIR AUSTIN
CHAIR FALLON

ADJOURNMENT

Adjourn tonight's meeting to the next regular meeting to be held Tuesday, October 13, 2015 at 7:00 p.m. in the Council Chambers located at City Hall.

CITIZEN PARTICIPATION

If you need special assistance beyond what is normally provided to participate in City meetings, the City will attempt to accommodate you in every reasonable manner. Please call the City Clerk's office at (562) 989-7305 at least 48 hours prior to the meeting to inform us of your particular needs and to determine if accommodation is feasible.


september
1

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

September 8, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **COLLEEN DOAN**
SENIOR PLANNER

SUBJECT: **DIRECTOR'S REPORT – ROADMAP FOR ADOPTION OF THE STATE MANDATED WATER EFFICIENT LANDSCAPE ORDINANCE AND COMMERCIAL TURF REPLACEMENT REGULATIONS**

Summary:

In response to current drought conditions, the State mandate to conserve more water and the City's priority of conserving at all times, the City is considering whether revised landscape regulations are merited. As a first step, a public workshop was held to gather community preferences for turf replacement alternatives. In addition, the Planning Commission has conducted three previous study sessions to consider best practices and a potential ordinance amendment to establish regulations for turf replacement. The last study session focused on residential turf replacement regulations. The focus of this session will be on commercial turf replacement regulations. The goal is to adopt a Zoning Ordinance Amendment to establish turf replacement regulations for all land use types.

At this fourth study session, staff will provide:

- An overview of the mandated State Water Efficient Landscape Ordinance and a roadmap for adoption by the required deadline of December 1, 2015.
- Considerations for turf replacement regulations at commercial industrial properties.

Recommendations:

1. Receive and file an overview and roadmap for adoption of the State Water Efficient Landscape Ordinance.
2. Provide direction on proposed regulations for commercial turf replacement.

Background:

In 1990, the State adopted AB325, the Water Conservation in Landscaping Act, to promote the conservation and efficient use of water in landscape irrigation. The law required local jurisdictions to adopt water efficient landscape ordinances or enforce the State's model ordinance. On February 16, 1993, the City Council adopted Signal Hill Municipal Code (SHMC) Chapter 13.10, Water Conservation in Landscaping.

In 2006, the Act was updated with the passage of AB 1881. The update recognized that California is a leader in water use efficiency but reflected the need to promote further efficiency improvements to meet future water demands. Under the Act, local jurisdictions had to adopt new water conservation ordinances. On December 15, 2009, the City Council adopted an updated ordinance for Water Efficient Landscapes based on the State's model ordinance.

In 2014, the Governor declared a state of drought in California and called for a reduction of water use and mandated water use reductions.

In April 2015, the Governor signed an executive order directing the State Department of Water Resources to prepare a model ordinance to reduce outdoor water use and assist with the drought (Attachment A).

On June 9, 2015, the Planning Commission participated in a study session on water conservation to consider best practices and a potential ordinance amendment to establish regulations for turf replacement. The Commission expressed concerns about some hardscape materials, design applications, proportions and maintenance. The Commission directed staff to conduct a public workshop to engage the community and obtain feedback on turf replacement alternatives prior to developing an ordinance amendment (Attachment B).

On July 14, 2015, the City conducted a public workshop to further educate residents about drought conditions, the State mandate to conserve more water and to engage the public and obtain feedback on alternative turf replacement materials and design applications (Attachment C).

On July 14, 2015, the Planning Commission participated in a second study session regarding turf replacement, alternative landscape materials and existing code requirements for landscape and hardscape in residential yards. The Commission expressed support for maintaining a variety of choices and for simplified regulations as well as for permeable materials and on-site water retention. Concern was expressed about excessive hardscape. Commission direction was to consider zoning regulations to limit hardscape materials and to develop flexible guidelines for preferred landscape materials (Attachment D).

On July 15, 2015, the California Water Commission approved the revised Model Water Efficient Landscape Ordinance which has a deadline for adoption of December 1, 2015 and an added requirement for all local agencies to report the status of implementation

and enforcement by December 31, 2015. Cities that have not adopted their own ordinance by the deadline are required to enforce the State's Model Ordinance.

On August 11, 2015, the Planning Commission participated in a third study session to review public input from the turf replacement workshop and consider regulations for residential turf replacement. The regulations focused on limiting hardscape in front yard setbacks while maximizing off-street parking opportunities. The Commission approved of the proposed regulation scenarios and direction was given to proceed with consideration of commercial regulations (Attachment E).

Analysis:

State Water Efficient Landscape Ordinance

SHMC Chapter 13.10 regulates landscaping for new commercial and residential development and replacement of large existing landscape areas. Many new projects in the City have been subject to these regulations, including the Fresh & Easy market which does not include any turf.

The City's regulations will be amended to comply with the State's new Model Water Efficient Landscape Ordinance by December 1, 2015. The new regulations will further reduce water use for outdoor landscapes and increase irrigation efficiency for new development (Attachments F & G).

Highlights of the new standards include:

- 20 percent overall water reduction.
- New residential landscape standards reduce the amount of landscaped area that can be turf to 25%.
- New commercial landscape standards do not allow for turf.
- Reduced threshold for compliance for all new construction from 2,500 sq. ft. to 500 sq. ft. and rehabilitated landscape projects of 2,500 sq. ft.
- Landscaped areas less than 10 ft. in width must be irrigated with subsurface drip or other technology that produces no over spray or runoff.
- Turf will not be allowed in medians or parkways, unless the parkway is next to a parking strip and a flat surface is required to enter and exit vehicles.
- More efficient irrigation systems and encouraged use of greywater.

The ordinance requires the City to submit annual reports to the State Department of Water Resources on the implementation and enforcement of the ordinance.

Commercial Landscape Regulations

The City's zoning regulations require a minimum 10'-20' front setback on all commercial properties. The regulations do not specifically mention turf – it is neither required nor prohibited. Historically, however, turf has been the preferred landscape material for commercial setbacks.

Commercial Regulations (including specific plans) – Turf <u>not</u> required

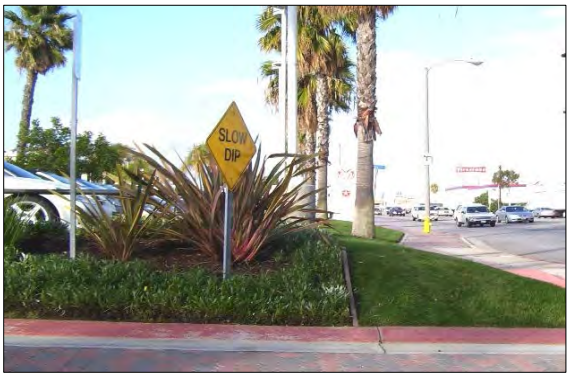
- 10 – 20 foot setbacks.
- All required yards shall be fully landscaped and irrigated, except for required driveways.
- No hardscape standards.

Commercial Driveways - Allowed in setbacks and yards

- Yards shall extend the full depth and width of the lot and shall be open from ground to sky, however driveways and walkways are an exception.

Landscape Overlay District – Cherry/Spring/Willow Corridor Guidelines

In 1989, the City adopted a Landscape Overlay District (SHMC Chapter 20.46) which was applicable to the Cherry Avenue, Spring Street and Willow Avenue corridors. The purpose of the Overlay District was to encourage upgraded and consistent landscape treatment in front setbacks for all properties in the corridor. The Overlay District Landscape Guidelines call for the use of turf in 50% of the front setbacks along each of the streets (Attachment H). These guidelines have set the standard for much of the contemporary commercial development, including the Auto Center and Town Center Specific Plans. Although the Landscape Guidelines were an effective tool to establish a



Overlay District Guidelines call for 50% turf

Overlay District Guidelines call for 50% turf

unique identity and improved look for properties along the corridor, the result of todays increased emphasis on water conservation in landscaping regulations has been for new development to exclude turf. As an example, the landscaping for the Fresh & Easy market on Cherry Avenue has no turf.

Fresh & Easy has 0% turf

Fresh & Easy has 0% turf

Considerations for Commercial Turf Replacement Regulations

Development of commercial turf replacement regulations is an additional City water conservation effort that goes above and beyond the State required regulations for new development. The following considerations for commercial turf replacement regulations are presented for consideration:

- Repeal the Landscape Overlay District and associated Landscape Guidelines for the Cherry/Spring/Willow Corridors.
- Prepare new commercial turf replacement regulations for front and street side setbacks that limit allowed hardscape to driveways and walkways only (hardscape = paved materials, both permeable and non-permeable).
- Maintain flexibility and choice of landscape materials.
- Note that landscape can be a combination of water efficient and drought tolerant plant and non-plant materials such as bark, mulch or gravel.
- Emphasize that turf is not a required or preferred plant material.
- Prepare a “sufficient plant materials” exhibit to demonstrate the acceptable proportions of plant to non-plant materials in setbacks.

Roadmap for Adoption of Ordinances

Ordinance Amendments

Staff will prepare two Ordinance Amendments for adoption by December 1, 2015. This would mean consideration by Planning Commission at the October 13, 2015 meeting.

1. Updated Water Efficient Landscape Ordinance (Repeal and Replace SHMC Chapter 13.10).
2. Turf replacement regulations for commercial and residential properties.

Turf Replacement Alternative Guidelines

The Commission has expressed support for development of Turf Replacement Alternative Guidelines. Staff will prepare draft guidelines for Commission consideration at a future date.

Approved:

_____
Scott Charney

Attachments

Executive Department
State of California

EXECUTIVE ORDER B-29-15

WHEREAS on January 17, 2014, I proclaimed a State of Emergency to exist throughout the State of California due to severe drought conditions; and

WHEREAS on April 25, 2014, I proclaimed a Continued State of Emergency to exist throughout the State of California due to the ongoing drought; and

WHEREAS California's water supplies continue to be severely depleted despite a limited amount of rain and snowfall this winter, with record low snowpack in the Sierra Nevada mountains, decreased water levels in most of California's reservoirs, reduced flows in the state's rivers and shrinking supplies in underground water basins; and

WHEREAS the severe drought conditions continue to present urgent challenges including: drinking water shortages in communities across the state, diminished water for agricultural production, degraded habitat for many fish and wildlife species, increased wildfire risk, and the threat of saltwater contamination to fresh water supplies in the Sacramento-San Joaquin Bay Delta; and

WHEREAS a distinct possibility exists that the current drought will stretch into a fifth straight year in 2016 and beyond; and

WHEREAS new expedited actions are needed to reduce the harmful impacts from water shortages and other impacts of the drought; and

WHEREAS the magnitude of the severe drought conditions continues to present threats beyond the control of the services, personnel, equipment, and facilities of any single local government and require the combined forces of a mutual aid region or regions to combat; and

WHEREAS under the provisions of section 8558(b) of the Government Code, I find that conditions of extreme peril to the safety of persons and property continue to exist in California due to water shortage and drought conditions with which local authority is unable to cope; and

WHEREAS under the provisions of section 8571 of the California Government Code, I find that strict compliance with various statutes and regulations specified in this order would prevent, hinder, or delay the mitigation of the effects of the drought.

NOW, THEREFORE, I, EDMUND G. BROWN JR., Governor of the State of California, in accordance with the authority vested in me by the Constitution and statutes of the State of California, in particular Government Code sections 8567 and 8571 of the California Government Code, do hereby issue this Executive Order, effective immediately.

IT IS HEREBY ORDERED THAT:

1. The orders and provisions contained in my January 17, 2014 Proclamation, my April 25, 2014 Proclamation, and Executive Orders B-26-14 and B-28-14 remain in full force and effect except as modified herein.

SAVE WATER

2. The State Water Resources Control Board (Water Board) shall impose restrictions to achieve a statewide 25% reduction in potable urban water usage through February 28, 2016. These restrictions will require water suppliers to California's cities and towns to reduce usage as compared to the amount used in 2013. These restrictions should consider the relative per capita water usage of each water suppliers' service area, and require that those areas with high per capita use achieve proportionally greater reductions than those with low use. The California Public Utilities Commission is requested to take similar action with respect to investor-owned utilities providing water services.

3. The Department of Water Resources (the Department) shall lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes. The Department shall provide funding to allow for lawn replacement programs in underserved communities, which will complement local programs already underway across the state.

4. The California Energy Commission, jointly with the Department and the Water Board, shall implement a time-limited statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices.

5. The Water Board shall impose restrictions to require that commercial, industrial, and institutional properties, such as campuses, golf courses, and cemeteries, immediately implement water efficiency measures to reduce potable water usage in an amount consistent with the reduction targets mandated by Directive 2 of this Executive Order.

6. The Water Board shall prohibit irrigation with potable water of ornamental turf on public street medians.

7. The Water Board shall prohibit irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems.

8. The Water Board shall direct urban water suppliers to develop rate structures and other pricing mechanisms, including but not limited to surcharges, fees, and penalties, to maximize water conservation consistent with statewide water restrictions. The Water Board is directed to adopt emergency regulations, as it deems necessary, pursuant to Water Code section 1058.5 to implement this directive. The Water Board is further directed to work with state agencies and water suppliers to identify mechanisms that would encourage and facilitate the adoption of rate structures and other pricing mechanisms that promote water conservation. The California Public Utilities Commission is requested to take similar action with respect to investor-owned utilities providing water services.

INCREASE ENFORCEMENT AGAINST WATER WASTE

9. The Water Board shall require urban water suppliers to provide monthly information on water usage, conservation, and enforcement on a permanent basis.

10. The Water Board shall require frequent reporting of water diversion and use by water right holders, conduct inspections to determine whether illegal diversions or wasteful and unreasonable use of water are occurring, and bring enforcement actions against illegal diverters and those engaging in the wasteful and unreasonable use of water. Pursuant to Government Code sections 8570 and 8627, the Water Board is granted authority to inspect property or diversion facilities to ascertain compliance with water rights laws and regulations where there is cause to believe such laws and regulations have been violated. When access is not granted by a property owner, the Water Board may obtain an inspection warrant pursuant to the procedures set forth in Title 13 (commencing with section 1822.50) of Part 3 of the Code of Civil Procedure for the purposes of conducting an inspection pursuant to this directive.

11. The Department shall update the State Model Water Efficient Landscape Ordinance through expedited regulation. This updated Ordinance shall increase water efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and by limiting the portion of landscapes that can be covered in turf. It will also require reporting on the implementation and enforcement of local ordinances, with required reports due by December 31, 2015. The Department shall provide information on local compliance to the Water Board, which shall consider adopting regulations or taking appropriate enforcement actions to promote compliance. The Department shall provide technical assistance and give priority in grant funding to public agencies for actions necessary to comply with local ordinances.

12. Agricultural water suppliers that supply water to more than 25,000 acres shall include in their required 2015 Agricultural Water Management Plans a detailed drought management plan that describes the actions and measures the supplier will take to manage water demand during drought. The Department shall require those plans to include quantification of water supplies and demands for 2013, 2014, and 2015 to the extent data is available. The Department will provide technical assistance to water suppliers in preparing the plans.

13. Agricultural water suppliers that supply water to 10,000 to 25,000 acres of irrigated lands shall develop Agricultural Water Management Plans and submit the plans to the Department by July 1, 2016. These plans shall include a detailed drought management plan and quantification of water supplies and demands in 2013, 2014, and 2015, to the extent that data is available. The Department shall give priority in grant funding to agricultural water suppliers that supply water to 10,000 to 25,000 acres of land for development and implementation of Agricultural Water Management Plans.

14. The Department shall report to Water Board on the status of the Agricultural Water Management Plan submittals within one month of receipt of those reports.

15. Local water agencies in high and medium priority groundwater basins shall immediately implement all requirements of the California Statewide Groundwater Elevation Monitoring Program pursuant to Water Code section 10933. The Department shall refer noncompliant local water agencies within high and medium priority groundwater basins to the Water Board by December 31, 2015, which shall consider adopting regulations or taking appropriate enforcement to promote compliance.

16. The California Energy Commission shall adopt emergency regulations establishing standards that improve the efficiency of water appliances, including toilets, urinals, and faucets available for sale and installation in new and existing buildings.

INVEST IN NEW TECHNOLOGIES

17. The California Energy Commission, jointly with the Department and the Water Board, shall implement a Water Energy Technology (WET) program to deploy innovative water management technologies for businesses, residents, industries, and agriculture. This program will achieve water and energy savings and greenhouse gas reductions by accelerating use of cutting-edge technologies such as renewable energy-powered desalination, integrated on-site reuse systems, water-use monitoring software, irrigation system timing and precision technology, and on-farm precision technology.

STREAMLINE GOVERNMENT RESPONSE

18. The Office of Emergency Services and the Department of Housing and Community Development shall work jointly with counties to provide temporary assistance for persons moving from housing units due to a lack of potable water who are served by a private well or water utility with less than 15 connections, and where all reasonable attempts to find a potable water source have been exhausted.

19. State permitting agencies shall prioritize review and approval of water infrastructure projects and programs that increase local water supplies, including water recycling facilities, reservoir improvement projects, surface water treatment plants, desalination plants, stormwater capture, and greywater systems. Agencies shall report to the Governor's Office on applications that have been pending for longer than 90 days.

20. The Department shall take actions required to plan and, if necessary, implement Emergency Drought Salinity Barriers in coordination and consultation with the Water Board and the Department of Fish and Wildlife at locations within the Sacramento - San Joaquin delta estuary. These barriers will be designed to conserve water for use later in the year to meet state and federal Endangered Species Act requirements, preserve to the extent possible water quality in the Delta, and retain water supply for essential human health and safety uses in 2015 and in the future.

21. The Water Board and the Department of Fish and Wildlife shall immediately consider any necessary regulatory approvals for the purpose of installation of the Emergency Drought Salinity Barriers.

22. The Department shall immediately consider voluntary crop idling water transfer and water exchange proposals of one year or less in duration that are initiated by local public agencies and approved in 2015 by the Department subject to the criteria set forth in Water Code section 1810.

23. The Water Board will prioritize new and amended safe drinking water permits that enhance water supply and reliability for community water systems facing water shortages or that expand service connections to include existing residences facing water shortages. As the Department of Public Health's drinking water program was transferred to the Water Board, any reference to the Department of Public Health in any prior Proclamation or Executive Order listed in Paragraph 1 is deemed to refer to the Water Board.

24. The California Department of Forestry and Fire Protection shall launch a public information campaign to educate the public on actions they can take to help to prevent wildfires including the proper treatment of dead and dying trees. Pursuant to Government Code section 8645, $1.2 million from the State Responsibility Area Fire Prevention Fund (Fund 3063) shall be allocated to the California Department of Forestry and Fire Protection to carry out this directive.

25. The Energy Commission shall expedite the processing of all applications or petitions for amendments to power plant certifications issued by the Energy Commission for the purpose of securing alternate water supply necessary for continued power plant operation. Title 20, section 1769 of the California Code of Regulations is hereby waived for any such petition, and the Energy Commission is authorized to create and implement an alternative process to consider such petitions. This process may delegate amendment approval authority, as appropriate, to the Energy Commission Executive Director. The Energy Commission shall give timely notice to all relevant local, regional, and state agencies of any petition subject to this directive, and shall post on its website any such petition.

26. For purposes of carrying out directives 2–9, 11, 16–17, 20–23, and 25, Division 13 (commencing with section 21000) of the Public Resources Code and regulations adopted pursuant to that Division are hereby suspended. This suspension applies to any actions taken by state agencies, and for actions taken by local agencies where the state agency with primary responsibility for implementing the directive concurs that local action is required, as well as for any necessary permits or approvals required to complete these actions. This suspension, and those specified in paragraph 9 of the January 17, 2014 Proclamation, paragraph 19 of the April 25, 2014 proclamation, and paragraph 4 of Executive Order B-26-14, shall remain in effect until May 31, 2016. Drought relief actions taken pursuant to these paragraphs that are started prior to May 31, 2016, but not completed, shall not be subject to Division 13 (commencing with section 21000) of the Public Resources Code for the time required to complete them.

27. For purposes of carrying out directives 20 and 21, section 13247 and Chapter 3 of Part 3 (commencing with section 85225) of the Water Code are suspended.

28. For actions called for in this proclamation in directive 20, the Department shall exercise any authority vested in the Central Valley Flood Protection Board, as codified in Water Code section 8521, et seq., that is necessary to enable these urgent actions to be taken more quickly than otherwise possible. The Director of the Department of Water Resources is specifically authorized, on behalf of the State of California, to request that the Secretary of the Army, on the recommendation of the Chief of Engineers of the Army Corps of Engineers, grant any permission required pursuant to section 14 of the Rivers and Harbors Act of 1899 and codified in section 48 of title 33 of the United States Code.

29. The Department is directed to enter into agreements with landowners for the purposes of planning and installation of the Emergency Drought Barriers in 2015 to the extent necessary to accommodate access to barrier locations, land-side and water-side construction, and materials staging in proximity to barrier locations. Where the Department is unable to reach an agreement with landowners, the Department may exercise the full authority of Government Code section 8572.

30. For purposes of this Executive Order, chapter 3.5 (commencing with section 11340) of part 1 of division 3 of the Government Code and chapter 5 (commencing with section 25400) of division 15 of the Public Resources Code are suspended for the development and adoption of regulations or guidelines needed to carry out the provisions in this Order. Any entity issuing regulations or guidelines pursuant to this directive shall conduct a public meeting on the regulations and guidelines prior to adopting them.

31. In order to ensure that equipment and services necessary for drought response can be procured quickly, the provisions of the Government Code and the Public Contract Code applicable to state contracts, including, but not limited to, advertising and competitive bidding requirements, are hereby suspended for directives 17, 20, and 24. Approval by the Department of Finance is required prior to the execution of any contract entered into pursuant to these directives.

This Executive Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given to this Order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 1st day of April 2015.

EDMUND G. BROWN JR.
Governor of California

ATTEST:

ALEX PADILLA
Secretary of State

Attachment B
Attachments to Staff Report
not included

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

June 9, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **COLLEEN DOAN**
ASSOCIATE PLANNER

SUBJECT: **DIRECTOR'S REPORT – STUDY SESSION FOR WATER CONSERVATION & OPTIONS FOR TURF REPLACEMENT**

Summary:

This is the first in a series of study sessions to consider options for turf replacement in yards and setbacks. For many years, the public has expressed a preference for turf in landscaped setbacks and front yards. Turf consumes large amounts of water and in recognition of current drought conditions and the fact that such conditions are cyclical, water conservation is a priority for the City. There are a variety of options for turf replacement ranging from partial to complete replacement, using hardscape or alternative landscaping, or a combination of these materials. Staff will provide an overview of the current code requirements for landscape and hardscape in yards and setbacks areas and will introduce some examples and best practices for alternative treatments.

Recommendation:

Receive and file.

Background:

The Typical Scenario - Turf

The public's preference for large front yards with turf holds true in both residential and commercial development:

Typical Residential

Typical Commercial

Landscape and Hardscape Regulations

The City's development regulations require large, fully landscaped front yards. The regulations do not specifically mention turf – it is neither required nor prohibited. Given that the preference for turf is so deeply engrained, however, it is typical.

Residential Regulations (including specific plans) – Turf not required

- 20 foot setbacks
- Shall be fully landscaped and irrigated
- No hardscape standards

Commercial Regulations (including specific plans) – Turf not required

- 10 – 20 foot setbacks
- All required yards shall be fully landscaped and irrigated, except for required driveways
- No hardscape standards

Driveways (Residential and Commercial) - Allowed in setbacks and yards

- Yards shall extend the full depth and width of the lot and shall be open from ground to sky, however driveways and walkways are an exception
- No standards for driveway length or width
- No standards for permeable versus non-permeable materials

Water Conservation Regulations

In 2009, the City adopted the Water Conservation in Landscaping Ordinance (Chapter 13.10) acknowledging the following:

- The waters of the state are of limited supply and are subject to ever increasing demands;

- The continuation of California's economic prosperity is dependent on the availability of adequate supplies of water for future uses;
- It is the policy of the state to promote the conservation and efficient use of water and to prevent the waste of this valuable resource;
- Landscapes are essential to the quality of life in California, by providing areas for active and passive recreation, and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development; and
- Landscape design, installation, maintenance and management can and should be water efficient; and
- The right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.

Limited Reach

For new development and when landscape areas of 2500 sf or larger are being replaced, the code requires that a detailed landscape package be submitted. The package includes a water efficient landscape worksheet and documentation package for water efficient plants, water use, irrigation design, drainage and runoff.

It is important to highlight a few points about the requirements:

- Do not apply to existing development or small area landscape replacement
- They require use of more drought tolerant materials
- Turf is not necessarily prohibited but the area dedicated to turf is limited
- Use of artificial turf is neither required nor prohibited
- Compliance has generated no significant public interest

Commercial – No turf

Commercial – Limited turf

Residential – Artificial turf

Residential – Limited turf (parkway)

Current Water Restrictions

Level 2 Water Supply Shortage

The State of California is in the fourth year of a serious drought and water conservation is both recommended and mandated. The City recently declared a level 2 water supply shortage in accordance with the water conservation section of the City code (Section 13.03) and is restricting watering outdoor landscape areas to two days per week for limited amounts of time. Excessive runoff and washing down hard surfaces is also restricted.

Parkway Design Guide

In May 2014, the City adopted guidelines for alternative parkway landscaping that incorporate water efficient landscape and permeable hardscape alternatives in parkways. This was an initial step to provide guidance and encourage replacement of water hungry turf. Some of these guidelines may be applicable for front yards and setback areas (Attachment A).

Early Adopters

Many property owners have realized that turf requires a great deal of water to keep green and the alternative of not watering creates an aesthetically displeasing street frontage and contributes to dust and erosion. Many of these “early adopters” have replaced their parkways and some have replaced their front yards with water efficient alternative landscape and hardscape.

It is important to note that without standards or guidelines from the City, the results are varied. The most successful results achieve water conservation, are aesthetically pleasing and comply with stormwater run-off regulations. These often incorporate a combination of permeable hardscape and drought tolerant/native plant materials. The least successful have replaced large areas of turf with non-permeable hardscape such as cement or asphalt which is less aesthetically pleasing and increases runoff conditions that do not comply with low impact development and stormwater regulations.

Non-permeable

Permeable

Analysis:

Staff will present standards and guidelines for alternative and drought tolerant landscape and hardscape treatments developed by other municipalities and review elements of the City Parkway Design Guide to begin a discussion to develop turf replacement policies or standards appropriate for the City.

Approved:

Scott Charney

Attachment

Attachment C

City of Signal Hill
Workshop on Community Preferences for Alternatives to Turf

SAVE THE DATE!

Alternatives to Turf Workshop

Tuesday
July 14, 2015
6:00 pm - 7:00 pm

Signal Hill City Hall
Council Chambers
2175 Cherry Avenue

For more information, please contact Ginny Hellerud
(562) 989-7340

City of Signal Hill

You are invited ….

The City is conducting a workshop to solicit public input on drought tolerant landscaping. The State has mandated that *all* communities reduce outdoor water use and the City must adopt new standards to minimize or eliminate turf for *new development*. The City would also like to promote minimizing or eliminating turf at *existing properties*. Come share your ideas before revised regulations are drafted.

Workshop topics include:

- **State mandate to be water wise**
- **Preferences for drought tolerant plant materials — including artificial turf**
- **Preferences for hardscape materials (pavers, rocks, etc.)**
- **Maintenance responsibilities**
- **Low-flow irrigation options**

Attachment D

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

July 14, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **COLLEEN DOAN**
SENIOR PLANNER

SUBJECT: **DIRECTOR'S REPORT – WATER CONSERVATION & OPTIONS FOR TURF REPLACEMENT ON RESIDENTIAL PROPERTIES**

Summary:

Drought conditions in Southern California are recurring events. The State is in the fourth year of current drought conditions. Water conservation and water quality are a continued priority for the City. Recently the Governor issued an executive order mandating a further reduction in water use and the City has declared a level 2 water supply shortage. Data shows that more than half of outdoor water is used for turf, therefore many residents are replacing their turf with lower water use landscape materials. Staff will review the current code requirements for landscape and hardscape in residential yards and present options for regulating the proportions of hardscape to landscape materials.

Recommendation:

Provide direction as deemed appropriate.

Background:

Current Water Restrictions

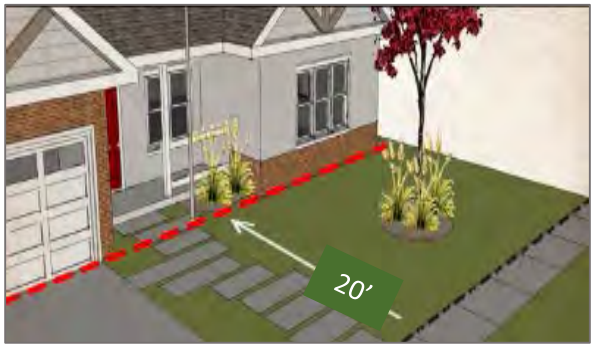
In response to recurring water conservation and water quality concerns the City has adopted the following regulations and guidelines:

Year	Regulations/Guidelines	Description
2009	Water Conservation Program	Establish a water conservation and supply shortage program
2009	Water Conservation in Landscaping regulations	New development and large landscape regulations
2013	Low Impact Development (L.I.D.) regulations	Reduce stormwater runoff and protect water quality
2014	Level 1 Water Supply Shortage Reinstated	Restricts watering in outdoor landscape areas and excessive runoff
2014	Parkway Landscape Guidelines	Replacement of turf within the public right-of-way
2015	Level 2 Water Supply Shortage	Further restricts watering in outdoor landscape areas and excessive runoff

Analysis:

Landscape and Hardscape Regulations

The City's residential development regulations typically require a 20' building setback from the front property line, creating a large front yard. The front yard is required to be fully landscaped with the exception of driveways and walkways. The regulations do not specify the type of landscaping materials, but the overwhelming public preference has been turf. Driveways have minimal regulations but are typically located in the front setback and provide access to either a one or two car garage.



Setback = Front Yard

Typical Front Yards

Residential Regulations (including specific plans) – Turf not required

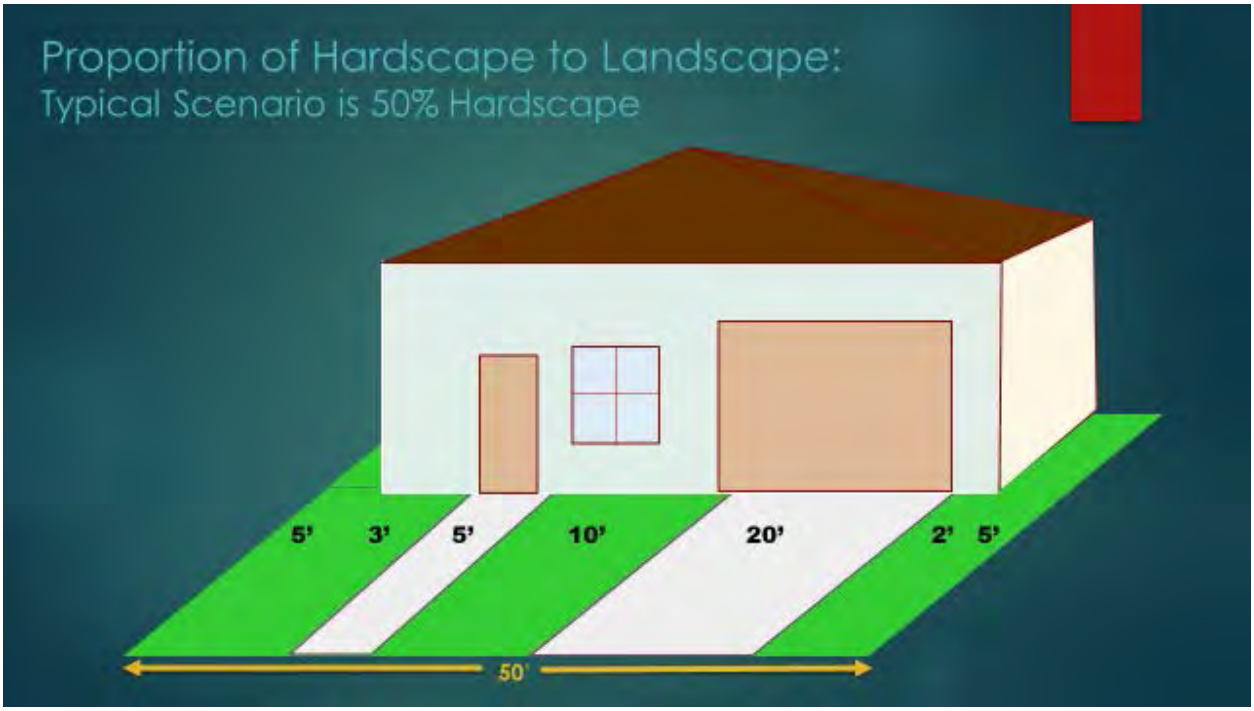
- 20 foot setbacks
- Shall be fully landscaped and irrigated
- No hardscape standards

Driveways (Residential and Commercial) – Allowed in setbacks and yards

- Yards shall extend the full depth and width of the lot and shall be open from ground to sky, however driveways and walkways are an exception
- No standards for driveway length or width
- No standards for permeable versus non-permeable materials

<u>Proportion of Landscape to Hardscape</u>

A typical residential property has a 50' wide frontage with a two car driveway and a walkway to the front door. Driveways and walkways are usually made of non-permeable hardscape material such as cement and make up approximately 50% of the property frontage.



The most extreme alternative for replacing turf in front yards is to replace the entire landscape area with non-permeable hardscape. This is not the most aesthetically pleasing alternative and it increases stormwater runoff. A more common scenario is to replace turf with a mix of alternative landscape and hardscape materials.

At the meeting staff will present the following topics for discussion:

- An overview of alternative landscape materials (plants, mulch, rock).
- An overview of hardscape materials (permeable and non-permeable).
- Scenarios for a mix of landscape and hardscape materials.
- Options for limiting the maximum allowed area for hardscape.

Approved:

_____

Scott Charney

Attachment E
Attachments to Staff Report
not provided

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

August 11, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **COLLEEN DOAN**
SENIOR PLANNER

SUBJECT: **DIRECTOR'S REPORT – RESIDENTIAL TURF REPLACEMENT REGULATIONS**

Summary:

In response to the City's priority of conserving water, the Planning Commission has conducted two study sessions. In addition, the City conducted a public workshop to provide information about drought conditions, the cyclical nature of droughts and the Governor's mandate to conserve more water. The main focus was to reduce outdoor water use by replacing turf with drought tolerant materials. Although the Commission is supportive of the concept of turf replacement, concerns about excessive use of hardscape materials were expressed at the previous study sessions. Staff will provide an overview of potential regulations to establish limits on the use of hardscape in front yard setbacks and provide a summary of the recent public workshop.

Recommendation:

Provide direction on proposed regulations to be included in a Zoning Ordinance Amendment to establish limits on the use of hardscape in residential front yard setbacks.

Background:

On June 9, 2015, the Planning Commission participated in a study session on water conservation to consider best practices and a potential ordinance amendment to establish regulations for turf replacement. The Commission expressed concerns about some hardscape materials, design applications, proportions and maintenance. The Commission directed staff to conduct a public workshop to engage the community and

obtain feedback on turf replacement alternatives prior to developing an ordinance amendment (Attachment A).

On July 14, 2015, the City conducted a public workshop to further educate the residents about drought conditions, the State mandate to conserve more water and to engage the public and obtain feedback on alternative turf replacement materials and design applications (Attachment B).

On July 14, 2015, the Planning Commission participated in a second study session regarding turf replacement, alternative landscape materials and existing code requirements for landscape and hardscape in residential yards. The Commission expressed support for maintaining a variety of choices and having simplified regulations as well as for permeable materials and on-site water retention. Concern was expressed about excessive hardscape. Commission direction was to consider zoning regulations to limit hardscape materials and flexible guidelines for preferred landscape materials (Attachment C).

Analysis:

Data tells us that most of the water used in residential households is used to irrigate the historically preferred, large yards with turf. Therefore, the workshop focused on the options for replacing turf with drought tolerant materials. Staff also presented data regarding the drought and reinforced the fact that while droughts are cyclical, water conservation and protection of the resource are good practices and a priority for the City. With the recent Governor's mandate to conserve even more water, staff reviewed existing City water regulations and guidelines. It was noted that existing regulations only apply to new development. In consideration of regulations applicable to existing development; specifically residential turf replacement, the workshop was designed to seek public input on alternative materials and design applications.

Summary of Workshop Preferences and Concerns

A review of the input from the workshop shows that the majority of participants preferred a variety and mixture of landscape and hardscape materials. There was an overwhelming dislike for yards completely paved with non-permeable hardscape and for planted driveway materials. The following preferences and concerns on materials, design applications and proportions are worth noting:

Natural and Synthetic Plant Materials

- *Preference* - Low maintenance, drought tolerant and flowering, trees, shrubs, grasses, groundcover.
- *Preference* - High quality synthetic turf materials and installation methods.
- *Concern* - Low quality synthetic turf and installation methods.
- *Preference* - Synthetic turf integrated with natural landscape and hardscape materials.

- *Preference* - Non-invasive, smaller, grasses and plants.
- *Concern* - Invasive plants and grasses.
- *Preference* - A variety of perennials, including vegetables.
- *No Preference* - No strong preference for trees in yards.
- *Preference* - Traditional looking trees with large canopies and shade.
- *No Preference* - No strong preference for native versus non-native plants.
- *Preference* - Slow the Flow, capture and reuse water applications.
- *Preference* - Good maintenance (contain materials, eliminate trash and weeds).

Hardscape Materials

- *Preference* - Enhanced and permeable hardscape materials.
- Preference - A mix of hardscape and landscape over 100% hardscape materials.
- *Preference* - Contain stones, rock, bark and mulch to eliminate material loss.
- *Concern - E*rosion and dust from decomposed granite.

Design Applications and Proportions

- *Preference* - Lush design applications over barren or desert designs.
- *Preference* - Variety and mix of plants and materials.
- *Concern - Large amounts* of hardscape materials whether permeable or non-permeable.

Proposed Residential Turf Replacement Regulations

Since replacing turf with alternative landscape and hardscape materials is becoming the new normal, consideration should be given to new regulations. Feedback from the public workshop and the recent Planning Commission study sessions emphasized the need to maintain flexibility and choice for landscape materials, but to establish limits for the maximum allowable hardscape materials in front yard setbacks. Staff believes it is important to balance the desire for attractive front yards with the need to maximize off-street parking opportunities.

Two regulations for establishing limitations on use of hardscape in front yard setbacks are presented for consideration as follows:

1. Establish hardscape limits.

   Maximum % Hardscape Area – With the exception of the established Driveway Allowance, limit the maximum area of hardscape material (permeable, non-permeable, or planted) to 25% of the front setback area (includes walkways, patios and courtyards, but excludes driveways).

   - area of front setback – area of driveway = remaining front setback area
   - remaining front setback area x 25% = total allowed hardscape area

2. Establish a driveway allowance.

   Driveway Allowance – Driveways serving garages, or providing on-site parking (for properties without garages) are excluded from the maximum allowed 25% of hardscape material in front yard setbacks.

   - Driveway Allowance is based on garage capacity and size.

Garage Capacity	*Driveway Allowance*
0-1 car garage	10’ (max. width)
2 car garage	20’ (max. width)
3 or more car garage	30’ (max. width)

Encourage Permeable Hardscape Materials

The Commission has expressed support for stormwater regulations to limit run-off and retain and reuse on-site water. Staff will incorporate “slow the flow” best practices for water retention and encourage permeable hardscape materials in the development of water conservation and turf replacement alternatives guidelines.

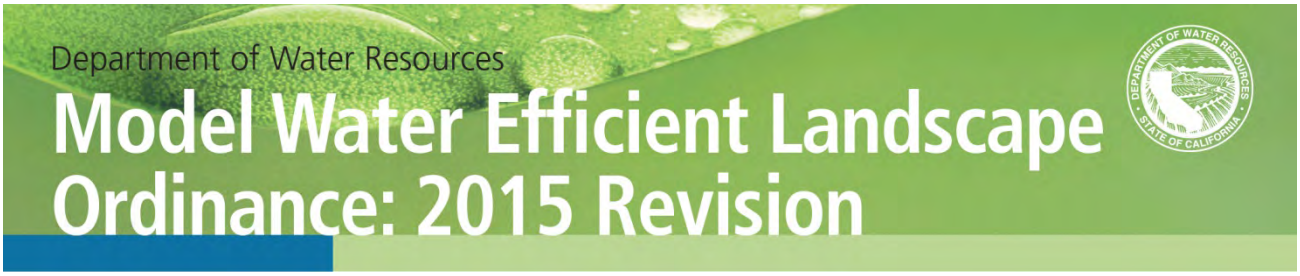
Next Steps

- Proceed with analysis of commercial turf replacement alternatives and regulations.
- Prepare associated ordinance amendments and guidelines for turf replacement.

Approved:

_____
Scott Charney

Attachments



Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the State's Model Water Efficient Landscape Ordinance (Ordinance) through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015.

Which Projects are Subject to the Ordinance?

New development projects that include landscape areas of 500 sq. ft. or more are subject to the Ordinance. This applies to residential, commercial, industrial and institutional projects that require a permit, plan check or design review. The previous landscape size threshold for new development projects ranged from 2500 sq. ft. to 5000 sq. ft.

The size threshold for existing landscapes that are being rehabilitated has not changed, remaining at 2500 sq. ft. Only rehabilitated landscapes that are associated with a building or landscape permit, plan check, or design review are subject to the Ordinance.

When Does the Ordinance Go into Effect?

Local agencies (cities and counties) have until December 1, 2015 to adopt the Ordinance or adopt their own ordinance, which must be at least as effective in conserving water as the State's Ordinance. Local agencies working together to develop a regional ordinance have until February 1, 2016 to adopt, but they are still subject to the December 2015 reporting requirements (see *Reporting Requirements* below). If a local agency does not take action on a water efficient landscape ordinance by the specified dates, the State's Ordinance becomes effective by default.

What are the Significant Revisions?

More Efficient Irrigation Systems

- Dedicated landscape water meters or submeters are required for residential landscapes over 5000 sq. ft. and non-residential landscapes over 1000 sq. ft.
- Irrigation systems are required to have pressure regulators and master shut-off valves.
- All irrigation emission devices must meet the national standard stated in the Ordinance to ensure that only high efficiency sprinklers are installed.
- Flow sensors that detect and report high flow conditions due to broken pipes and/or popped sprinkler heads are required for landscape areas greater than 5000 sq. ft.
- The minimum width of areas that can be overhead irrigated was changed from 8 feet to 10 feet; areas less than 10 feet wide must be irrigated with subsurface drip or other technology that produces no over spray or runoff.

Incentives for Graywater Usage

Landscapes under 2500 sq. ft. that are irrigated entirely with graywater or captured rainwater are subject only to the irrigation system requirements of Appendix D, Prescriptive Compliance Option.

Improvements in Onsite Stormwater Capture

Friable soil is required in planted areas to maximize water retention and infiltration. Four yards of compost per 1000 sq. ft. of area must be incorporated. Other recommended measures for increasing onsite stormwater retention are listed in the Ordinance.

Limiting the Portion of Landscapes that can be Planted with High Water Use Plants

The maximum amount of water that can be applied to a landscape is reduced from 70% of the reference evapotranspiration (ETo) to 55% for residential landscape projects, and to 45% of ETo for non-residential projects. This water allowance reduces the landscape area that can be planted with high water use plants such as cool season turf. For residential projects, the coverage of high water use plants is reduced from 33% to 25% of the landscaped area. In non-residential landscapes, planting with high water use plants is not feasible. However, unchanged in the Ordinance is the extra water allowance made for non-residential areas when used for specific functional areas, such as recreation and edible gardens. Extra water allowance is also made for landscapes irrigated with recycled water, as was the case in the previous ordinance.

The irrigation efficiency of devices used to irrigate landscapes is one of the factors that goes into determining the maximum amount of water allowed. Rather than having one default irrigation efficiency for the entire site, the revised Ordinance allows the irrigation efficiency to be entered for each area of the landscape. The site-wide irrigation efficiency of the previous ordinance was 0.71; the revised Ordinance defines the irrigation efficiency of drip as 0.81 and that of overhead spray as 0.75.

Median strips cannot be landscaped with high water use plants, precluding the use of cool season turf. Also because of the requirement to irrigate areas less than ten feet wide with subsurface irrigation or other means that produces no runoff or overspray, the use of cool season turf in parkways is limited.

Reporting Requirements

All local agencies will report on the implementation and enforcement of their ordinances to DWR by December 31, 2015. Local agencies developing a regional ordinance will report on their adopted regional ordinance by March 1, 2016. Reporting for all agencies will be due by January 31st of each year thereafter.

Prescriptive Checklist Option for Landscapes under 2500 sq. ft.

Projects with landscape areas under 2500 sq. feet may comply with the performance requirements of the Ordinance or conform to the prescriptive measures contained in Appendix D. Many will find that the Appendix D checklist simplifies compliance.

How Much Water Will Be Saved?

DWR estimates that a typical California landscape will use 12,000 gallons less a year, or 20 percent less than allowed by the 2009 ordinance. Commercial landscapes will cut water use by 35%. Over the next three years, it is predicted that 472,000 new homes associated with 20,000 acres of landscape will be built in California. With proper implementation and enforcement by local agencies, the Ordinance will lead to substantial water savings.

How Can I Get Additional Assistance?

In Fall 2015, DWR will release a guidance document to accompany the Ordinance. Training workshops for local agency staff and landscape professionals will be held throughout the State.

Contact Information:

Julie Saare-Edmonds, DWR Senior Environmental Scientist at Julie.Saare-Edmonds@water.ca.gov or (916) 651-9676

Model Water Efficient Landscape Ordinance

~~**September 10, 2009**~~

July 9, 2015 (Draft to California Water Commission)

California Code of Regulations
Title 23. Waters
Division 2. Department of Water Resources
Chapter 2.7. Model Water Efficient Landscape Ordinance

§ 490. Purpose.

(a) The State Legislature has found:

(1) that the waters of the state are of limited supply and are subject to ever increasing demands;

(2) that the continuation of California's economic prosperity is dependent on the availability of adequate supplies of water for future uses;

(3) that it is the policy of the State to promote the conservation and efficient use of water and to prevent the waste of this valuable resource;

(4) that landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development; ~~and~~

(5) that landscape design, installation, maintenance and management can and should be water efficient; and

(6) that Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.

(b) Consistent with these legislative findings, the purpose of this model ordinance is to:

(1) promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water; ~~landscapes while recognizing the need to invest water and other resources as efficiently as possible;~~

(2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects by encouraging the use of a watershed approach that requires cross-sector collaboration of industry, government and property owners to achieve the many benefits possible;

(3) establish provisions for water management practices and water waste prevention for existing landscapes;

(4) use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount;

(5) promote the benefits of consistent landscape ordinances with neighboring local and regional agencies;

(6) encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered-rate structure; and

(7) encourage local agencies to designate the necessary authority that implements and enforces the provisions of the Model Water Efficient Landscape Ordinance or its local landscape ordinance.

(c) Landscapes that are planned, designed, installed, managed and maintained with the watershed based approach can improve California's environmental conditions and provide benefits and realize sustainability goals. Such landscapes will make the urban environment resilient in the face of climatic extremes. Consistent with the legislative findings and purpose of the Ordinance, conditions in the urban setting will be improved by:

(1) Creating the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and esthetic benefits.

(2) Minimizing energy use by reducing irrigation water requirements, reducing reliance on petroleum based fertilizers and pesticides, and planting climate appropriate shade trees in urban areas.
(3) Conserving water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment.
(4) Protecting air and water quality by reducing power equipment use and landfill disposal trips, selecting recycled and locally sourced materials, and using compost, mulch and efficient irrigation equipment to prevent erosion.
(5) Protecting existing habitat and creating new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants. Utilizing integrated pest management with least toxic methods as the first course of action.

.

Note: Authority cited: Section 65593, Government Code. Reference: Sections 65591, 65593, 65596, Government Code.

§ 490.1 Applicability

(a) After ~~January 1, 2010~~ December 1, 2015, and consistent with Executive Order No. B-29-15, this ordinance shall apply to all of the following landscape projects:

(1) new development projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review;
(2) rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;
~~(1) new construction and rehabilitated landscapes for public agency projects and private development projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review;~~
~~(2) new construction and rehabilitated landscapes which are developer-installed in single-family and multi-family projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;~~
~~(3) new construction landscapes which are homeowner-provided and/or homeowner-hired in single-family and multi-family residential projects with a total project landscape area equal to or greater than 5,000 square feet requiring a building or landscape permit, plan check or design review;~~
(3) ~~(4)~~ existing landscapes limited to Sections 493, 493.1 and 493.2; and
(4) ~~(5)~~ cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 492.4, 492.11 and 492.12; and existing cemeteries are limited to Sections 493, 493.1 and 493.2.

(b) For local land use agencies working together to develop a regional water efficient landscape ordinance, the reporting requirements of this ordinance shall become effective December 1, 2015 and the remainder of this ordinance shall be effective no later than February 1, 2016.
(c) Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this ordinance or conform to the prescriptive measures contained in Appendix D.
(d) For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2500 sq. ft of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D section (5).
(~~b~~e) This ordinance does not apply to:

(1) registered local, state or federal historical sites;
(2) ecological restoration projects that do not require a permanent irrigation system;

(3) mined-land reclamation projects that do not require a permanent irrigation system; or
(4) existing plant collections, as part of botanical gardens and arboretums open to the public.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 491. Definitions.

The terms used in this ordinance have the meaning set forth below:

(a) "applied water" means the portion of water supplied by the irrigation system to the landscape.

(b) "automatic irrigation controller" means a~~n automatic~~ timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

(c) "backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

(d) "Certificate of Completion" means the document required under Section 492.9.

(e) "certified irrigation designer" means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.

(f) "certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.

(g) "check valve" or "anti-drain valve" means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

(h) "common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.

(i) "compost" means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

(~~i~~j) "conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year.

(k) "distribution uniformity" means the measure of the uniformity of irrigation water over a defined area.

(~~j~~l) "drip irrigation" means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

(~~k~~m) "ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

(~~l~~n) "effective precipitation" or "usable rainfall" (Eppt) means the portion of total precipitation which becomes available for plant growth.

(~~m~~o) "emitter" means a drip irrigation emission device that delivers water slowly from the system to the soil.

(~~n~~p) "established landscape" means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

(~~o~~q) "establishment period of the plants" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.

(~~p~~r) "Estimated Total Water Use" (ETWU) means the total water used for the landscape as described in Section 492.4.

(~~q~~s) "ET adjustment factor" (ETAF) means a factor of ~~0.7~~0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. ~~A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. For purposes of the ETAF, the average irrigation efficiency is 0.71. Therefore, the ET Adjustment Factor is (0.7)=(0.5/0.71).~~ The ETAF for ~~a~~ new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.

(~~r~~t) "evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

(~~s~~u) "flow rate" means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

(v) "flow sensor" means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

(w) "friable" means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.

(x) "Fuel Modification Plan Guideline" means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

(y) "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.

(~~t~~z) "hardscapes" means any durable material (pervious and non-pervious).

~~(u) "homeowner-provided landscaping" means any landscaping either installed by a private individual for a single family residence or installed by a licensed contractor hired by a homeowner. A homeowner, for purposes of this ordinance, is a person who occupies the dwelling he or she owns. This excludes speculative homes, which are not owner-occupied dwellings.~~

(aa) ~~(v)~~ "hydrozone" means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.

(bb) ~~(w)~~ "infiltration rate" means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

(cc) ~~(x)~~ "invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. ~~"Noxious weeds" means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list.~~ Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

(dd) ~~(y)~~ "irrigation audit" means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency "Watersense" labeled auditing program.

(ee) ~~(z)~~ "irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates

of irrigation system characteristics and management practices. The ~~minimum average~~ irrigation efficiency~~ies~~ for purposes of this ordinance are 0.75 for overhead spray devices and 0.81 for drip systems. ~~is 0.71. Greater irrigation efficiency can be expected from well designed and maintained systems~~.

(ff) ~~(aa)~~ "irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.

(gg) ~~(bb)~~ "irrigation water use analysis" means a review of water use data based on meter readings and billing data.

(hh) ~~(cc)~~ "landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

(ii) ~~(dd)~~ "landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

(jj) ~~(ee)~~ "landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

(kk) ~~(ff)~~ "Landscape Documentation Package" means the documents required under Section 492.3.

(ll) ~~(gg)~~ "landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 490.1.

(mm) "landscape water meter" means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.

(nn) ~~(hh)~~ "lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

(oo) ~~(ii)~~ "local agency" means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible for the enforcement of this ordinance, including but not limited to, approval of a permit and plan check or design review of a project.

(pp) ~~(jj)~~ "local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.

(qq) ~~(kk)~~ "low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

(rr) ~~(ll)~~ "main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

(ss) "master shut-off valve" is an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.

(tt) ~~(mm)~~ "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 492.4. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0. MAWA = (ETo) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)],

(uu) "median" is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

(vv) ~~(nn)~~ "microclimate" means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.
(ww) ~~(oo)~~ "mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.
(xx) ~~(pp)~~ "mulch" means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, ~~and~~ or decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.
(yy) ~~(qq)~~ "new construction" means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.
(zz~~xx~~)"non-residential landscape" means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.
(aaa) ~~(rr)~~ "operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.
(bbb) ~~(ss)~~ "overhead sprinkler irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).
(ccc) ~~(tt)~~ "overspray" means the irrigation water which is delivered beyond the target area.
(ddd) ~~(uu)~~ "permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.
(eee) ~~(vv)~~ "pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.
(fff) ~~(ww)~~ "plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is ~~0~~0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the ~~Department of Water Resources 2000~~ publication "Water Use Classification of Landscape Species". Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).
~~(xx) "precipitation rate" means the rate of application of water measured in inches per hour.~~
(ggg) ~~(yy)~~ "project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 492.3 to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee.
(hhh) ~~(zz)~~ "rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.
(iii) ~~(aaa)~~ "record drawing" or "as-builts" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.
(jjj) ~~(bbb)~~ "recreational area" means areas, excluding private single family residential areas, ~~dedicated~~ designated ~~to~~ for active play, recreation or public assembly ~~such as~~ in parks, sports fields, picnic grounds, amphitheaters ~~and~~ or golf course~~s~~ tees, fairways, roughs, surrounds and greens.
(kkk) ~~(ccc)~~ "recycled water", "reclaimed water", or "treated sewage effluent water" means treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.
(lll) ~~(ddd)~~ "reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Appendix A ~~Section 495.1~~, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as

the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.
(mmm) Regional Water Efficient Landscape Ordinance" means a local Ordinance adopted by two or more local agencies, water suppliers and other stakeholders for implementing a consistent set of landscape provisions throughout a geographical region. Regional ordinances are strongly encouraged to provide a consistent framework for the landscape industry and applicants to adhere to.
(nnn) ~~(eee)~~ "rehabilitated landscape" means any re-landscaping project that requires a permit, plan check, or design review, meets the requirements of Section 490.1, and the modified landscape area is equal to or greater than 2,500 square feet~~. is 50% of the total landscape area, and the modifications are completed within one year.~~
(ooo) "residential landscape" means landscapes surrounding single or multifamily homes.
(ppp) ~~(fff)~~ "runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.
(qqq) ~~(ggg)~~ "soil moisture sensing device" or "soil moisture sensor" means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.
(rrr) ~~(hhh)~~ "soil texture" means the classification of soil based on its percentage of sand, silt, and clay.
(sss) ~~(iii)~~ "Special Landscape Area" (SLA) means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water ~~and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface~~.
(ttt) ~~(jjj)~~ "sprinkler head" means a device which delivers water through a nozzle.
(uuu) ~~(kkk)~~ "static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.
(vvv) ~~(lll)~~ "station" means an area served by one valve or by a set of valves that operate simultaneously.
(www) ~~(mmm)~~ "swing joint" means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.
(xxx) "submeter" means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.
(yyy) ~~(nnn)~~ "turf" means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.
(zzz) ~~(ooo)~~ "valve" means a device used to control the flow of water in the irrigation system.
(aaaa) ~~(ppp)~~ "water conserving plant species" means a plant species identified as having a very low or low plant factor.
(bbbb) ~~(qqq)~~"water feature" means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.
(cccc) ~~(rrr)~~ "watering window" means the time of day irrigation is allowed.
(dddd) ~~(sss)~~ "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension~~,~~ and the Department of Water Resources ~~and the Bureau of Reclamation, 2000~~ 2014.

Note: Authority Cited: Section 65595, Government Code. Reference: Sections 65592, 65596, Government Code.

§ 492. Provisions for New Construction or Rehabilitated Landscapes.
(a) A local agency may designate by mutual agreement, another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.1 Compliance with Landscape Documentation Package.
(a) Prior to construction, the local agency shall:
(1) provide the project applicant with the ordinance and procedures for permits, plan checks, or design reviews;
(2) review the Landscape Documentation Package submitted by the project applicant;
(3) approve or deny the Landscape Documentation Package;
(4) issue a permit or approve the plan check or design review for the project applicant; and
(5) upon approval of the Landscape Documentation Package, submit a copy of the Water Efficient Landscape Worksheet to the local water purveyor.
(b) Prior to construction, the project applicant shall:
(1) submit a Landscape Documentation Package to the local agency.
(c) Upon approval of the Landscape Documentation Package by the local agency, the project applicant shall:
(1) receive a permit or approval of the plan check or design review and record the date of the permit in the Certificate of Completion;
(2) submit a copy of the approved Landscape Documentation Package along with the record drawings, and any other information to the property owner or his/her designee; and
(3) submit a copy of the Water Efficient Landscape Worksheet to the local water purveyor.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.2 Penalties.
(a) A local agency may establish and administer penalties to the project applicant for non-compliance with the ordinance to the extent permitted by law.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.3 Elements of the Landscape Documentation Package.
(a) The Landscape Documentation Package shall include the following six (6) elements:
(1) project information;
(A) date
(B) project applicant
(C) project address (if available, parcel and/or lot number(s))
(D) total landscape area (square feet)
(E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)
(F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well
(G) checklist of all documents in Landscape Documentation Package
(H) project contacts to include contact information for the project applicant and property owner

(I) applicant signature and date with statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package".

(2) Water Efficient Landscape Worksheet;

(A) water budget calculations

1. Maximum Applied Water Allowance (MAWA)
2. Estimated Total Water Use (ETWU)

(3) soil management report;

(4) landscape design plan;

(5) irrigation design plan; and

(6) grading design plan.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.4 Water Efficient Landscape Worksheet.

(a) A project applicant shall complete the Water Efficient Landscape Worksheet in Appendix B which contains information on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydrozone. Calculations are then made to show that the evapotranspiration adjustment factor (ETAF) for the landscape project does not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of Special Landscape Areas. The ETAF for a landscape project is based on the plant factors and irrigation methods selected. The Maximum Applied Water Allowance is calculated based on the maximum ETAF allowed (0.55 for residential areas and 0.45 for non-residential areas) and expressed as annual gallons required. The Estimated Total Water Use (ETWU) is calculated based on the plants used and irrigation method selected for the landscape design. ETWU must be below the MAWA. ~~two sections (see sample worksheet in Appendix B):~~

~~(1) a hydrozone information table (see Appendix B, Section A) for the landscape project; and~~
~~(2) a water budget calculation (see Appendix B, Section B) for the landscape project. For the calculation of the~~

(1) In calculating the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the ETo values from the Reference Evapotranspiration Table in Appendix A. For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.

(b) Water budget calculations shall adhere to the following requirements:

(1) The plant factor used shall be from WUCOLS or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR). The plant factor ranges from 0 to 0.1 for very low water using plants, 0.1 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

(2) All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.

(3) All Special Landscape Areas shall be identified and their water use calculated as shown in Appendix B ~~described below~~.

(4) ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

~~(c) Maximum Applied Water Allowance~~

~~The Maximum Applied Water Allowance shall be calculated using the equation:~~

~~MAWA = (ETo) (0.62) [(0.70.5 x LA) + (0.3 x SLA)]~~

The example calculations below are hypothetical to demonstrate proper use of the equations and do not represent an existing and/or planned landscape project. The ETo values used in these calculations are from the Reference Evapotranspiration Table in Appendix A, for planning purposes only. For actual irrigation scheduling, automatic irrigation controllers are required and shall use current reference evapotranspiration data, such as from the California Irrigation Management Information System (CIMIS), other equivalent data, or soil moisture sensor data.

(1) Example MAWA calculation for a residential landscape project: a hypothetical landscape project in Fresno, CA with an irrigated landscape area of 50,000 square feet without any Special Landscape Area (SLA= 0, no edible plants, recreational areas, or use of recycled water). To calculate MAWA, the annual reference evapotranspiration value for Fresno is 51.1 inches as listed in the Reference Evapotranspiration Table in Appendix A.
MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (to gallons)
0.7 = ET Adjustment Factor (ETAF)
LA = Landscape Area including SLA (square feet)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)
MAWA = (51.1 inches) (0.62) [(0.7 x 50,000 square feet) + (0.3 x 0)]
= 1,108,870 gallons per year
To convert from gallons per year to hundred-cubic-feet per year:
= 1,108,870 /748 = 482 hundred-cubic-feet per year
(100 cubic feet = 748 gallons)

(2) In this next hypothetical example, the landscape project in Fresno, CA has the same ETo value of 51.1 inches and a total landscape area of 50,000 square feet. Within the 50,000 square foot project, there is now a 2,000 square foot area planted with edible plants. This 2,000 square foot area is considered to be a Special Landscape Area.
MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]
MAWA = (51.1 inches) (0.62) [(0.7 x 50,000 square feet) + (0.3 x 2,000 square feet)]
= 31.68 x [35,000 + 600] gallons per year
= 31.68 x 35,600 gallons per year
=1,127,808 gallons per year or 508 hundred-cubic-feet per year

(d) Estimated Total Water Use.
The Estimated Total Water Use shall be calculated using the equation below. The sum of the Estimated Total Water Use calculated for all hydrozones shall not exceed MAWA.

$$ETWU = (ETo)(0.62)\left(\frac{PF \times HA}{IE} + SLA\right)$$

Where:

ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
PF = Plant Factor from WUCOLS (see Section 491)
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor

IE = Irrigation Efficiency (minimum 0.71)

(1) Example ETWU calculation: landscape area is 50,000 square feet; plant water use type, plant factor, and hydrozone area are shown in the table below. The ETo value is 51.1 inches per year. There are no Special Landscape Areas (recreational area, area permanently and solely dedicated to edible plants, and area irrigated with recycled water) in this example.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	10,000	7,000
3	Medium	0.5	16,000	8,000
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	24,700

*Plant Factor from WUCOLS

$$ETWU = (51.1)(0.62)\left(\frac{17,500}{0.85} + 0\right)$$

= 1,102,116 gallons per year

Compare ETWU with MAWA: For this example MAWA = (51.1) (0.62) [(0.7 x 50,000) + (0.3 x 0)] = 1,108,870 gallons per year. The ETWU (1,102,116 gallons per year) is less than MAWA (1,108,870 gallons per year). In this example, the water budget complies with the MAWA.

(2) Example ETWU calculation: total landscape area is 50,000 square feet, 2,000 square feet of which is planted with edible plants. The edible plant area is considered a Special Landscape Area (SLA). The reference evapotranspiration value is 51.1 inches per year. The plant type, plant factor, and hydrozone area are shown in the table below.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	9,000	6,300
3	Medium	0.5	15,000	7,500
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	23,500
6	SLA	1.0	2,000	2,000

*Plant Factor from WUCOLS

$$ETWU = (51.1)(0.62)\left(\frac{16,300}{0.85} + 2,000\right)$$

= (31.68) (33,099 + 2,000)
= 1,111,936 gallons per year

Compare ETWU with MAWA. For this example:

~~MAWA = (51.1) (0.62) [(0.7 x 50,000) + (0.3 x 2,000)]~~
~~= 31.68 x [35,000 + 600]~~
~~= 31.68 x 35,600~~
~~= 1,127,808gallons per year~~

~~The ETWU (1,111,936 gallons per year) is less than MAWA (1,127,808 gallons per year). For this example, the water budget complies with the MAWA.~~

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.5 Soil Management Report.

(a) In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant, or his/her designee, as follows:

(1) Submit soil samples to a laboratory for analysis and recommendations.

(A) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.

(B) The soil analysis ~~may~~ shall include:

1. soil texture;
2. infiltration rate determined by laboratory test or soil texture infiltration rate table;
3. pH;
4. total soluble salts;
5. sodium;
6. percent organic matter; and
7. recommendations

(C) In projects with multiple landscape installations (i.e. production home developments) a soil sampling rate of 1 in 7 lots or approximately 15% will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots.

(2) The project applicant, or his/her designee, shall comply with one of the following:

(A) If significant mass grading is not planned, the soil analysis report shall be submitted to the local agency as part of the Landscape Documentation Package; or

(B) If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the Certificate of Completion.

(3) The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.

(4) The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the local agency with Certificate of Completion.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.6 Landscape Design Plan.

(a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) Plant Material

(A) Any plant may be selected for the landscape providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance. ~~To~~

~~encourage the efficient use of water, the following is highly recommended~~ Methods to achieve water efficiency shall include one or more of the following:

1. protection and preservation of native species and natural vegetation;
2. selection of water-conserving plant, tree and turf species, especially local native plants;
3. selection of plants based on local climate suitability, disease and pest resistance;
4. selection of trees based on applicable local tree ordinances or tree shading guidelines, and size at maturity as appropriate for the planting area; and
5. selection of plants from local and regional landscape program plant lists.
6. selection of plants from local Fuel Modification Plan Guidelines.

(B) Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Section 492.7(a)(2)(D).

(C) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. ~~To encourage the efficient use of water, the following is highly recommended~~ Methods to achieve water efficiency shall include one or more of the following:

1. use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
2. recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; allow for adequate soil volume for healthy root growth and
3. consider the solar orientation for plant placement to maximize summer shade and winter solar gain.

(D) Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).

(E) High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.

(F) ~~(E)~~ A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches. Refer to the local Fuel Modification Plan guidelines.

(G) ~~(F)~~ The use of invasive ~~and/or noxious~~ plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.

(H) ~~(G)~~ The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

(2) Water Features

(A) Recirculating water systems shall be used for water features.

(B) Where available, recycled water shall be used as a source for decorative water features.

(C) Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.

(D) Pool and spa covers are highly recommended.

(3) Soil Preparation, Mulch and Amendments

(A) Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.

(B) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 492.5).

(C) For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling.

(D) ~~(A)~~ A minimum ~~two~~ three inch (~~2~~3″) layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated. To provide habitat for beneficial insects and other wildlife, up to 5 % of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.

(E) ~~(B)~~ Stabilizing mulching products shall be used on slopes that meet current engineering standards.

(F) ~~(C)~~ The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.

(G) Organic mulch materials made from recycled or post-consumer shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available. Organic mulches are not required where prohibited by local Fuel Modification Plan Guidelines or other applicable local ordinances.

~~(D) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 492.5).~~

(b) The landscape design plan, at a minimum, shall:

(1) delineate and label each hydrozone by number, letter, or other method;

(2) identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation;

(3) identify recreational areas;

(4) identify areas permanently and solely dedicated to edible plants;

(5) identify areas irrigated with recycled water;

(6) identify type of mulch and application depth;

(7) identify soil amendments, type, and quantity;

(8) identify type and surface area of water features;

(9) identify hardscapes (pervious and non-pervious);

(10) identify location, installation details, and 24-hour retention or infiltration capacity of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Project applicants shall refer to the local agency or regional Water Quality Control Board for information on any applicable stormwater technical requirements. Stormwater best management practices are encouraged in the landscape design plan and examples ~~include, but are not limited to:~~ are provide in Section 492.16.

~~(A) infiltration beds, swales, and basins that allow water to collect and soak into the ground;~~

~~(B) constructed wetlands and retention ponds that retain water, handle excess flow, and filter pollutants; and~~

~~(C) pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.~~

(11) identify any applicable rain harvesting or catchment technologies ~~(e.g., rain gardens, cisterns, etc.)~~ as discussed in Section 492.16 and their 24-hour retention or infiltration capacity;
(12) identify any applicable graywater discharge piping, system components and area(s) of distribution;
(13) ~~(12)~~ contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan"; and
(14) ~~(13)~~ bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code and Section 1351, Civil Code.

§ 492.7 Irrigation Design Plan.

(a) This section applies to landscaped areas requiring permanent irrigation, not areas that require temporary irrigation solely for the plant establishment period. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) System

(A) ~~Dedicated~~ Landscape water meters, defined as either a dedicated water service meter or private submeter, ~~are highly recommended on landscape areas smaller than 5,000 square feet to facilitate water management~~ shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. but not more than 5,000 sq.ft. (the level at which *Water Code* 535 applies) and residential irrigated landscapes of 5,000 sq. ft. or greater. A landscape water meter may be either:

1. a customer service meter dedicated to landscape use provided by the local water purveyor; or
2. a privately owned meter or submeter.

(B) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data utilizing non-volatile memory shall be required for irrigation scheduling in all irrigation systems.

(C) If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required ~~The irrigation systems shall be designed~~ to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

1. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.

2. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.

(D) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
(E) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main line break) or routine repair.
(F) Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.
(G) ~~High~~ Fflow sensors that detect ~~and report~~ high flow conditions created by system damage or malfunction are ~~recommended~~ required for all on non-residential landscapes and residential landscapes of 5000 sq. ft. or larger.
(H) Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.
(I) ~~(H)~~ The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
(J) ~~(I)~~ Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
(K) ~~(J)~~ The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
(L) ~~(K)~~ The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 492.4 regarding the Maximum Applied Water Allowance.
(M) All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard, All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(N) ~~(L)~~ It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
(O) ~~(M)~~ In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
(P) ~~(N)~~ Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
(Q) ~~(O)~~ Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
(R) ~~(P)~~ Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turfgrass.
(S) ~~(Q)~~ Check valves or anti-drain valves are required ~~for all irrigation systems~~ on all sprinkler heads where low point drainage could occur.
(T) ~~(R) Narrow or irregularly shaped areas, including turf,~~ Areas less than ten~~eight~~ (~~8~~10) feet in width in any direction shall be irrigated with subsurface irrigation or ~~low volume irrigation system.~~ other means that produces no runoff or overspray.

(U) ~~(S)~~ Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:

1. the landscape area is adjacent to permeable surfacing and no runoff occurs; or
2. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
3. the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 492.7 (a)(1)(I~~H~~). Prevention of overspray and runoff must be confirmed during the irrigation audit.

(V) Slopes greater than 25% shall not be irrigated with an irrigation system with a ~~precipitation~~ application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(2) Hydrozone

(A) Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

(B) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

(C) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.

(D) Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:

1. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
2. the plant factor of the higher water using plant is used for calculations.

(E) Individual hydrozones that mix high and low water use plants shall not be permitted.

(F) On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Appendix B Section A). This table can also assist with the irrigation audit and programming the controller.

(b) The irrigation design plan, at a minimum, shall contain:

(1) location and size of separate water meters for landscape;

(2) location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;

(3) static water pressure at the point of connection to the public water supply;

(4) flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;

(5) recycled water irrigation systems as specified in Section 492.14;

(6) the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan"; and

(7) the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system. (See Sections

5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code.)

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.8 Grading Design Plan.

(a) For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package. A comprehensive grading plan prepared by a civil engineer for other local agency permits satisfies this requirement.

(1) The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:

(A) height of graded slopes;
(B) drainage patterns;
(C) pad elevations;
(D) finish grade; and
(E) stormwater retention improvements, if applicable.

(2) To prevent excessive erosion and runoff, it is highly recommended that project applicants:

(A) grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
(B) avoid disruption of natural drainage patterns and undisturbed soil; and
(C) avoid soil compaction in landscape areas.

(3) The grading design plan shall contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan" and shall bear the signature of a licensed professional as authorized by law.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.9 Certificate of Completion.

(a) The Certificate of Completion (see Appendix C for a sample certificate) shall include the following six (6) elements:

(1) project information sheet that contains:

(A) date;
(B) project name;
(C) project applicant name, telephone, and mailing address;
(D) project address and location; and
(E) property owner name, telephone, and mailing address;

(2) certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;

(A) where there have been significant changes made in the field during construction, these "as-built" or record drawings shall be included with the certification;
(B) A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.

(3) irrigation scheduling parameters used to set the controller (see Section 492.10);

(4) landscape and irrigation maintenance schedule (see Section 492.11);

(5) irrigation audit report (see Section 492.12); and

(6) soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (see Section 492.5).

(b) The project applicant shall:

(1) submit the signed Certificate of Completion to the local agency for review;

(2) ensure that copies of the approved Certificate of Completion are submitted to the local water purveyor and property owner or his or her designee.

(c) The local agency shall:

(1) receive the signed Certificate of Completion from the project applicant;

(2) approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the local agency shall provide information to the project applicant regarding reapplication, appeal, or other assistance.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.10 Irrigation Scheduling.

(a) For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:

(1) Irrigation scheduling shall be regulated by automatic irrigation controllers.

(2) Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it. If allowable hours of irrigation differ from the local water purveyor, the stricter of the two shall apply. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

(3) For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.

(4) Parameters used to set the automatic controller shall be developed and submitted for each of the following:

(A) the plant establishment period;

(B) the established landscape; and

(C) temporarily irrigated areas.

(5) Each irrigation schedule shall consider for each station all of the following that apply:

(A) irrigation interval (days between irrigation);

(B) irrigation run times (hours or minutes per irrigation event to avoid runoff);

(C) number of cycle starts required for each irrigation event to avoid runoff;

(D) amount of applied water scheduled to be applied on a monthly basis;

(E) application rate setting;

(F) root depth setting;

(G) plant type setting;

(H) soil type;

(I) slope factor setting;

(J) shade factor setting; and

(K) irrigation uniformity or efficiency setting.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.11 Landscape and Irrigation Maintenance Schedule.

(a) Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.

(b) A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing ~~and~~ obstructions to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
(c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents or with components with greater efficiency.
(d) A project applicant is encouraged to implement established landscape industry sustainable Best Practices ~~or environmentally-friendly practices~~ for ~~overall~~ all landscape maintenance activities.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.12 Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.
(a) All landscape irrigation audits shall be conducted by a local agency landscape irrigation auditor or a third party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape
(b) In large projects or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.
~~(b)~~ (c)For new construction and rehabilitated landscape projects installed after ~~January 1, 2010~~December 1, 2015, as described in Section 490.1:

(1) the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming;

(2) the local agency shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.13 Irrigation Efficiency.
(a) For the purpose of determining ~~Maximum Applied Water Allowance~~ Estimated Total Water Use, average irrigation efficiency is assumed to be 0.75 ~~0.71~~ for overhead spray devices and 0.81 for drip system devices. ~~Irrigation systems shall be designed, maintained, and managed to meet or exceed a site-wide~~n average landscape irrigation efficiency of 0.71.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.14 Recycled Water.
(a) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water~~, unless a written exemption has been granted as described in Section 492.14(b)~~.
~~(b) Irrigation systems and decorative water features shall use recycled water unless a written exemption has been granted by the local water purveyor stating that recycled water meeting all public health codes and standards is not available and will not be available for the foreseeable future.~~
~~(c)~~ (b) All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.
~~(d)~~ (c) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.15 Graywater Systems.

(a) Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and any applicable local ordinance standards. Refer to § 490.1 (d) for the applicability of this ordinance to landscape areas less than 2,500 square feet with the Estimated Total Water Use met entirely by graywater.

§ 492.16~~5~~ Stormwater Management and Rainwater Retention.

(a) Stormwater management practices minimize runoff and increase infiltration which recharges groundwater and improves water quality. Implementing stormwater best management practices into the landscape and grading design plans to minimize runoff and to increase on-site rainwater retention and infiltration are encouraged.

(b) Project applicants shall refer to the local agency or Regional Water Quality Control Board for information on any applicable stormwater technical requirements ~~ordinances and stormwater management plans~~.

(c) All planted landscape areas are required to have friable soil to maximize water retention and infiltration. Refer to § 492.6(a)(3).

(d) It is strongly recommended that landscape areas be designed for capture and infiltration capacity that is sufficient to prevent runoff from impervious surfaces (i.e. roof and paved areas) from either: the one inch, 24-hour rain event or (2) the 85th percentile, 24-hour rain event, and/or additional capacity as required by any applicable local, regional, state or federal regulation.

(e) It is recommended that storm water projects incorporate any of the following elements to improve on-site storm water and dry weather runoff capture and use:

- Grade impervious surfaces, such as driveways, during construction to drain to vegetated areas.
- Minimize the area of impervious surfaces such as paved areas, roof and concrete driveways.
- Incorporate pervious or porous surfaces (e.g., gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff.
- Direct runoff from paved surfaces and roof areas into planting beds or landscaped areas to maximize site water capture and reuse.
- Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems.
- Incorporate infiltration beds, swales, basins and drywells to capture storm water and dry weather runoff and increase percolation into the soil.
- Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

~~(c) Rain gardens, cisterns, and other landscapes features and practices that increase rainwater capture and create opportunities for infiltration and/or onsite storage are recommended.~~

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.17~~6~~ Public Education.

(a) Publications. Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management and maintenance that save water is encouraged in the community.

(1) A local agency or water supplier/purveyor shall provide information to owners of permitted renovations and new single-family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes based on a water budget.

(b) Model Homes. All model homes shall be landscaped and ~~that are landscaped shall~~ use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.

(1) Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme. Signage shall include information about the site water use as designed per the local ordinance; specify who designed and installed the water efficient landscape; and demonstrate low water use approaches to landscaping such as using native plants, graywater systems, and rainwater catchment systems.

(2) Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.18~~7~~ Environmental Review.

(a) The local agency must comply with the California Environmental Quality Act (CEQA), as appropriate.

Note: Authority cited: Section 21082, Public Resources Code. Reference: Sections 21080, 21082, Public Resources Code.

§ 493. Provisions for Existing Landscapes.

(a) A local agency may by mutual agreement, designate another agency such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 493.1 Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.

(a) This section, 493.1, shall apply to all existing landscapes that were installed before ~~January 1, 2010~~ December 1, 2015 and are over one acre in size.

(1) For all landscapes in 493.1(a) that have a water meter, the local agency shall administer programs that may include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the Maximum Applied Water Allowance for existing landscapes. The Maximum Applied Water Allowance for existing landscapes shall be calculated as: MAWA = (0.8) (ETo)(LA)(0.62).

(2) For all landscapes in 493.1(a), that do not have a meter, the local agency shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.

(b) All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 493.2 Water Waste Prevention.

(a) Local agencies shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff from leaving the target landscape due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. Penalties for violation of these prohibitions shall be established locally.

(b) Restrictions regarding overspray and runoff may be modified if:

(1) the landscape area is adjacent to permeable surfacing and no runoff occurs; or
(2) the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.

Note: Authority cited: Section 65594, Government Code. Reference: Section 65596, Government Code.

§ 494. Effective Precipitation.

(a) A local agency may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate Maximum Applied Water Allowance:
MAWA= (ETo - Eppt) (0.62) [(~~0.7~~0.55 x LA) + (~~0.3~~0.45 x SLA)] for residential areas.
MAWA= (ETo - Eppt) (0.62) [(0.45 x LA) + (0.55 x SLA)] for non-residential areas.

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 495. Reporting.

(a) Local agencies shall report on implementation and enforcement by December 31, 2015. Local agencies responsible for administering individual ordinances shall report on their updated ordinance, while those agencies developing a regional ordinance shall report in their existing ordinance. Those agencies crafting a regional ordinances shall also report on their new ordinance by March 1, 2016. Subsequently, reporting for all agencies will be due by January 31st of each year. Reports should be submitted as follows.

(b) Local agencies are to address the following:

(1) State whether you are adopting a single agency ordinance or a regional agency alliance ordinance, and the date of adoption or anticipated date of adoption.
(2) Define the reporting period. The reporting period shall commence on December 1, 2015 and the end on December 28, 2015. For local agencies crafting regional ordinances with other agencies, there shall be an additional reporting period commencing on February 1, 2016 and ending on February 28, 2016. In subsequent years, all local agency reporting will be for the calendar year.
(3) State if using a locally modified Water Efficient Landscape Ordinance (WELO) or the MWELO. If using a locally modified WELO, how is it different than MWELO, is it at least as efficient as MWELO, and are there any exemptions specified?
(4) State the entity responsible for implementing the ordinance.
(5) State number and types of projects subject to the ordinance during the specified reporting period.
(6) State the total area (in square feet or acres) subject to the ordinance over the reporting period, if available.
(7) Provide the number of new housing starts, new commercial projects, and landscape retrofits during the reporting period.
(8) Describe the procedure for review of projects subject to the ordinance.
(9) Describe actions taken to verify compliance. Is a plan check performed; if so, by what entity? Is a site inspection performed; if so, by what entity? Is a post-installation audit required; if so, by whom?
(10) Describe enforcement measures.
(11) Explain challenges to implementing and enforcing the ordinance.
(12) Describe educational and other needs to properly apply the ordinance.

Appendices.

Appendix A. Reference Evapotranspiration (ETo) Table.

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
ALAMEDA													
Fremont	1.5	1.9	3.4	4.7	5.4	6.3	6.7	6.0	4.5	3.4	1.8	1.5	47.0
Livermore	1.2	1.5	2.9	4.4	5.9	6.6	7.4	6.4	5.3	3.2	1.5	0.9	47.2
Oakland	1.5	1.5	2.8	3.9	5.1	5.3	6.0	5.5	4.8	3.1	1.4	0.9	41.8
Oakland Foothills	1.1	1.4	2.7	3.7	5.1	6.4	5.8	4.9	3.6	2.6	1.4	1.0	39.6
Pleasanton	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
Union City	1.4	1.8	3.1	4.2	5.4	5.9	6.4	5.7	4.4	3.1	1.5	1.2	44.2
ALPINE													
Markleeville	0.7	0.9	2.0	3.5	5.0	6.1	7.3	6.4	4.4	2.6	1.2	0.5	40.6
AMADOR													
Jackson	1.2	1.5	2.8	4.4	6.0	7.2	7.9	7.2	5.3	3.2	1.4	0.9	48.9
Shanandoah Valley	1.0	1.7	2.9	4.4	5.6	6.8	7.9	7.1	5.2	3.6	1.7	1.0	48.8
BUTTE													
Chico	1.2	1.8	2.9	4.7	6.1	7.4	8.5	7.3	5.4	3.7	1.7	1.0	51.7
Durham	1.1	1.8	3.2	5.0	6.5	7.4	7.8	6.9	5.3	3.6	1.7	1.0	51.1
Gridley	1.2	1.8	3.0	4.7	6.1	7.7	8.5	7.1	5.4	3.7	1.7	1.0	51.9
Oroville	1.2	1.7	2.8	4.7	6.1	7.6	8.5	7.3	5.3	3.7	1.7	1.0	51.5
CALAVERAS													
San Andreas	1.2	1.5	2.8	4.4	6.0	7.3	7.9	7.0	5.3	3.2	1.4	0.7	48.8
COLUSA													
Colusa	1.0	1.7	3.4	5.0	6.4	7.6	8.3	7.2	5.4	3.8	1.8	1.1	52.8
Williams	1.2	1.7	2.9	4.5	6.1	7.2	8.5	7.3	5.3	3.4	1.6	1.0	50.8
CONTRA COSTA													
~~Benicia~~	~~1.3~~	~~1.4~~	~~2.7~~	~~3.8~~	~~4.9~~	~~5.0~~	~~6.4~~	~~5.5~~	~~4.4~~	~~2.9~~	~~1.2~~	~~0.7~~	~~40.3~~
Brentwood	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
Concord	1.1	1.4	2.4	4.0	5.5	5.9	7.0	6.0	4.8	3.2	1.3	0.7	43.4
Courtland	0.9	1.5	2.9	4.4	6.1	6.9	7.9	6.7	5.3	3.2	1.4	0.7	48.0
Martinez	1.2	1.4	2.4	3.9	5.3	5.6	6.7	5.6	4.7	3.1	1.2	0.7	41.8
Moraga	1.2	1.5	3.4	4.2	5.5	6.1	6.7	5.9	4.6	3.2	1.6	1.0	44.9
Pittsburg	1.0	1.5	2.8	4.1	5.6	6.4	7.4	6.4	5.0	3.2	1.3	0.7	45.4
Walnut Creek	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
DEL NORTE													
Crescent City	0.5	0.9	2.0	3.0	3.7	3.5	4.3	3.7	3.0	2.0	0.9	0.5	27.7
EL DORADO													
Camino	0.9	1.7	2.5	3.9	5.9	7.2	7.8	6.8	5.1	3.1	1.5	0.9	47.3
FRESNO													
Clovis	1.0	1.5	3.2	4.8	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Coalinga	1.2	1.7	3.1	4.6	6.2	7.2	8.5	7.3	5.3	3.4	1.6	0.7	50.9
Firebaugh	1.0	1.8	3.7	5.7	7.3	8.1	8.2	7.2	5.5	3.9	2.0	1.1	55.4
FivePoints	1.3	2.0	4.0	6.1	7.7	8.5	8.7	8.0	6.2	4.5	2.4	1.2	60.4
Fresno	0.9	1.7	3.3	4.8	6.7	7.8	8.4	7.1	5.2	3.2	1.4	0.6	51.1
Fresno State	0.9	1.6	3.2	5.2	7.0	8.0	8.7	7.6	5.4	3.6	1.7	0.9	53.7
Friant	1.2	1.5	3.1	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Kerman	0.9	1.5	3.2	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.2
Kingsburg	1.0	1.5	3.4	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.6
Mendota	1.5	2.5	4.6	6.2	7.9	8.6	8.8	7.5	5.9	4.5	2.4	1.5	61.7
Orange Cove	1.2	1.9	3.5	4.7	7.4	8.5	8.9	7.9	5.9	3.7	1.8	1.2	56.7

Appendix A. Reference Evapotranspiration (ETo) Table.

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Panoche	1.1	2.0	4.0	5.6	7.8	8.5	8.3	7.3	5.6	3.9	1.8	1.2	57.2
Parlier	1.0	1.9	3.6	5.2	6.8	7.6	8.1	7.0	5.1	3.4	1.7	0.9	52.0
Reedley	1.1	1.5	3.2	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Westlands	0.9	1.7	3.8	6.3	8.0	8.6	8.6	7.8	5.9	4.3	2.1	1.1	58.8
GLENN													
Orland	1.1	1.8	3.4	5.0	6.4	7.5	7.9	6.7	5.3	3.9	1.8	1.4	52.1
Willows	1.2	1.7	2.9	4.7	6.1	7.2	8.5	7.3	5.3	3.6	1.7	1.0	51.3
HUMBOLDT													
Eureka	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Ferndale	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Garberville	0.6	1.2	2.2	3.1	4.5	5.0	5.5	4.9	3.8	2.4	1.0	0.7	34.9
Hoopa	0.5	1.1	2.1	3.0	4.4	5.4	6.1	5.1	3.8	2.4	0.9	0.7	35.6
IMPERIAL													
Brawley	2.8	3.8	5.9	8.0	10.4	11.5	11.7	10.0	8.4	6.2	3.5	2.1	84.2
Calipatria/Mulberry	2.4	3.2	5.1	6.8	8.6	9.2	9.2	8.6	7.0	5.2	3.1	2.3	70.7
El Centro	2.7	3.5	5.6	7.9	10.1	11.1	11.6	9.5	8.3	6.1	3.3	2.0	81.7
Holtville	2.8	3.8	5.9	7.9	10.4	11.6	12.0	10.0	8.6	6.2	3.5	2.1	84.7
Meloland	2.5	3.2	5.5	7.5	8.9	9.2	9.0	8.5	6.8	5.3	3.1	2.2	71.6
Palo Verde II	2.5	3.3	5.7	6.9	8.5	8.9	8.6	7.9	6.2	4.5	2.9	2.3	68.2
Seeley	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2	75.4
Westmoreland	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Yuma	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
INYO													
Bishop	1.7	2.7	4.8	6.7	8.2	10.9	7.4	9.6	7.4	4.8	2.5	1.6	68.3
Death Valley Jct	2.2	3.3	5.4	7.7	9.8	11.1	11.4	10.1	8.3	5.4	2.9	1.7	79.1
Independence	1.7	2.7	3.4	6.6	8.5	9.5	9.8	8.5	7.1	3.9	2.0	1.5	65.2
Lower Haiwee Res.	1.8	2.7	4.4	7.1	8.5	9.5	9.8	8.5	7.1	4.2	2.6	1.5	67.6
Oasis	2.7	2.8	5.9	8.0	10.4	11.7	11.6	10.0	8.4	6.2	3.4	2.1	83.1
KERN													
Arvin	1.2	1.8	3.5	4.7	6.6	7.4	8.1	7.3	5.3	3.4	1.7	1.0	51.9
Bakersfield	1.0	1.8	3.5	4.7	6.6	7.7	8.5	7.3	5.3	3.5	1.6	0.9	52.4
Bakersfield/Bonanza	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Bakersfield/Greenlee	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Belridge	1.4	2.2	4.1	5.5	7.7	8.5	8.6	7.8	6.0	3.8	2.0	1.5	59.2
Blackwells Corner	1.4	2.1	3.8	5.4	7.0	7.8	8.5	7.7	5.8	3.9	1.9	1.2	56.6
Buttonwillow	1.0	1.8	3.2	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.5	0.9	52.0
China Lake	2.1	3.2	5.3	7.7	9.2	10.0	11.0	9.8	7.3	4.9	2.7	1.7	74.8
Delano	0.9	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.4	0.7	52.0
Famoso	1.3	1.9	3.5	4.8	6.7	7.6	8.0	7.3	5.5	3.5	1.7	1.3	53.1
Grapevine	1.3	1.8	3.1	4.4	5.6	6.8	7.6	6.8	5.9	3.4	1.9	1.0	49.5
Inyokern	2.0	3.1	4.9	7.3	8.5	9.7	11.0	9.4	7.1	5.1	2.6	1.7	72.4
Isabella Dam	1.2	1.4	2.8	4.4	5.8	7.3	7.9	7.0	5.0	3.2	1.7	0.9	48.4
Lamont	1.3	2.4	4.4	4.6	6.5	7.0	8.8	7.6	5.7	3.7	1.6	0.8	54.4
Lost Hills	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
McFarland/Kern	1.2	2.1	3.7	5.6	7.3	8.0	8.3	7.4	5.6	4.1	2.0	1.2	56.5
Shafter	1.0	1.7	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.5	0.9	52.1
Taft	1.3	1.8	3.1	4.3	6.2	7.3	8.5	7.3	5.4	3.4	1.7	1.0	51.2
Tehachapi	1.4	1.8	3.2	5.0	6.1	7.7	7.9	7.3	5.9	3.4	2.1	1.2	52.9

Appendix A. Reference Evapotranspiration (ETo) Table.

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
KINGS													
Caruthers	1.6	2.5	4.0	5.7	7.8	8.7	9.3	8.4	6.3	4.4	2.4	1.6	62.7
Corcoran	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Hanford	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.2	5.4	3.4	1.4	0.7	51.5
Kettleman	1.1	2.0	4.0	6.0	7.5	8.5	9.1	8.2	6.1	4.5	2.2	1.1	60.2
Lemoore	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.4	0.7	51.7
Stratford	0.9	1.9	3.9	6.1	7.8	8.6	8.8	7.7	5.9	4.1	2.1	1.0	58.7
LAKE													
Lakeport	1.1	1.3	2.6	3.5	5.1	6.0	7.3	6.1	4.7	2.9	1.2	0.9	42.8
Lower Lake	1.2	1.4	2.7	4.5	5.3	6.3	7.4	6.4	5.0	3.1	1.3	0.9	45.4
LASSEN													
Buntingville	1.0	1.7	3.5	4.9	6.2	7.3	8.4	7.5	5.4	3.4	1.5	0.9	51.8
Ravendale	0.6	1.1	2.3	4.1	5.6	6.7	7.9	7.3	4.7	2.8	1.2	0.5	44.9
Susanville	0.7	1.0	2.2	4.1	5.6	6.5	7.8	7.0	4.6	2.8	1.2	0.5	44.0
LOS ANGELES													
Burbank	2.1	2.8	3.7	4.7	5.1	6.0	6.6	6.7	5.4	4.0	2.6	2.0	51.7
Claremont	2.0	2.3	3.4	4.6	5.0	6.0	7.0	7.0	5.3	4.0	2.7	2.1	51.3
El Dorado	1.7	2.2	3.6	4.8	5.1	5.7	5.9	5.9	4.4	3.2	2.2	1.7	46.3
Glendale	2.0	2.2	3.3	3.8	4.7	4.8	5.7	5.6	4.3	3.3	2.2	1.8	43.7
Glendora	2.0	2.5	3.6	4.9	5.4	6.1	7.3	6.8	5.7	4.2	2.6	2.0	53.1
Gorman	1.6	2.2	3.4	4.6	5.5	7.4	7.7	7.1	5.9	3.6	2.4	1.1	52.4
Hollywood Hills	2.1	2.2	3.8	5.4	6.0	6.5	6.7	6.4	5.2	3.7	2.8	2.1	52.8
Lancaster	2.1	3.0	4.6	5.9	8.5	9.7	11.0	9.8	7.3	4.6	2.8	1.7	71.1
Long Beach	1.8	2.1	3.3	3.9	4.5	4.3	5.3	4.7	3.7	2.8	1.8	1.5	39.7
Los Angeles	2.2	2.7	3.7	4.7	5.5	5.8	6.2	5.9	5.0	3.9	2.6	1.9	50.1
Monrovia	2.2	2.3	3.8	4.3	5.5	5.9	6.9	6.4	5.1	3.2	2.5	2.0	50.2
Palmdale	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
Pasadena	2.1	2.7	3.7	4.7	5.1	6.0	7.1	6.7	5.6	4.2	2.6	2.0	52.3
Pearblossom	1.7	2.4	3.7	4.7	7.3	7.7	9.9	7.9	6.4	4.0	2.6	1.6	59.9
Pomona	1.7	2.0	3.4	4.5	5.0	5.8	6.5	6.4	4.7	3.5	2.3	1.7	47.5
Redondo Beach	2.2	2.4	3.3	3.8	4.5	4.7	5.4	4.8	4.4	2.8	2.4	2.0	42.6
San Fernando	2.0	2.7	3.5	4.6	5.5	5.9	7.3	6.7	5.3	3.9	2.6	2.0	52.0
Santa Clarita	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Santa Monica	1.8	2.1	3.3	4.5	4.7	5.0	5.4	5.4	3.9	3.4	2.4	2.2	44.2
MADERA													
Chowchilla	1.0	1.4	3.2	4.7	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Madera	0.9	1.4	3.2	4.8	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.5
Raymond	1.2	1.5	3.0	4.6	6.1	7.6	8.4	7.3	5.2	3.4	1.4	0.7	50.5
MARIN													
Black Point	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
Novato	1.3	1.5	2.4	3.5	4.4	6.0	5.9	5.4	4.4	2.8	1.4	0.7	39.8
Point San Pedro	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
San Rafael	1.2	1.3	2.4	3.3	4.0	4.8	4.8	4.9	4.3	2.7	1.3	0.7	35.8
MARIPOSA													
Coulterville	1.1	1.5	2.8	4.4	5.9	7.3	8.1	7.0	5.3	3.4	1.4	0.7	48.8
Mariposa	1.1	1.5	2.8	4.4	5.9	7.4	8.2	7.1	5.0	3.4	1.4	0.7	49.0
Yosemite Village	0.7	1.0	2.3	3.7	5.1	6.5	7.1	6.1	4.4	2.9	1.1	0.6	41.4
MENDOCINO													

Appendix A. Reference Evapotranspiration (ETo) Table.

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Fort Bragg	0.9	1.3	2.2	3.0	3.7	3.5	3.7	3.7	3.0	2.3	1.2	0.7	29.0
Hopland	1.1	1.3	2.6	3.4	5.0	5.9	6.5	5.7	4.5	2.8	1.3	0.7	40.9
Point Arena	1.0	1.3	2.3	3.0	3.7	3.9	3.7	3.7	3.0	2.3	1.2	0.7	29.6
Sanel Valley	1.0	1.6	3.0	4.6	6.0	7.0	8.0	7.0	5.2	3.4	1.4	0.9	49.1
Ukiah	1.0	1.3	2.6	3.3	5.0	5.8	6.7	5.9	4.5	2.8	1.3	0.7	40.9
MERCED													
Kesterson	0.9	1.7	3.4	5.5	7.3	8.2	8.6	7.4	5.5	3.8	1.8	0.9	55.1
Los Banos	1.0	1.5	3.2	4.7	6.1	7.4	8.2	7.0	5.3	3.4	1.4	0.7	50.0
Merced	1.0	1.5	3.2	4.7	6.6	7.9	8.5	7.2	5.3	3.4	1.4	0.7	51.5
MODOC													
Modoc/Alturas	0.9	1.4	2.8	3.7	5.1	6.2	7.5	6.6	4.6	2.8	1.2	0.7	43.2
MONO													
Bridgeport	0.7	0.9	2.2	3.8	5.5	6.6	7.4	6.7	4.7	2.7	1.2	0.5	43.0
MONTEREY													
Arroyo Seco	1.5	2.0	3.7	5.4	6.3	7.3	7.2	6.7	5.0	3.9	2.0	1.6	52.6
Castroville	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Gonzales	1.3	1.7	3.4	4.7	5.4	6.3	6.3	5.9	4.4	3.4	1.9	1.3	45.7
Greenfield	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
King City	1.7	2.0	3.4	4.4	4.4	5.6	6.1	6.7	6.5	5.2	2.2	1.3	49.6
King City-Oasis Rd.	1.4	1.9	3.6	5.3	6.5	7.3	7.4	6.8	5.1	4.0	2.0	1.5	52.7
Long Valley	1.5	1.9	3.2	4.1	5.8	6.5	7.3	6.7	5.3	3.6	2.0	1.2	49.1
Monterey	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Pajaro	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.1
Salinas	1.6	1.9	2.7	3.8	4.8	4.7	5.0	4.5	4.0	2.9	1.9	1.3	39.1
Salinas North	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9
San Ardo	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
San Juan	1.8	2.1	3.4	4.6	5.3	5.7	5.5	4.9	3.8	3.2	2.2	1.9	44.2
Soledad	1.7	2.0	3.4	4.4	5.5	5.4	6.5	6.2	5.2	3.7	2.2	1.5	47.7
NAPA													
Angwin	1.8	1.9	3.2	4.7	5.8	7.3	8.1	7.1	5.5	4.5	2.9	2.1	54.9
Carneros	0.8	1.5	3.1	4.6	5.5	6.6	6.9	6.2	4.7	3.5	1.4	1.0	45.8
Oakville	1.0	1.5	2.9	4.7	5.8	6.9	7.2	6.4	4.9	3.5	1.6	1.2	47.7
St Helena	1.2	1.5	2.8	3.9	5.1	6.1	7.0	6.2	4.8	3.1	1.4	0.9	44.1
Yountville	1.3	1.7	2.8	3.9	5.1	6.0	7.1	6.1	4.8	3.1	1.5	0.9	44.3
NEVADA													
Grass Valley	1.1	1.5	2.6	4.0	5.7	7.1	7.9	7.1	5.3	3.2	1.5	0.9	48.0
Nevada City	1.1	1.5	2.6	3.9	5.8	6.9	7.9	7.0	5.3	3.2	1.4	0.9	47.4
ORANGE													
Irvine	2.2	2.5	3.7	4.7	5.2	5.9	6.3	6.2	4.6	3.7	2.6	2.3	49.6
Laguna Beach	2.2	2.7	3.4	3.8	4.6	4.6	4.9	4.9	4.4	3.4	2.4	2.0	43.2
Santa Ana	2.2	2.7	3.7	4.5	4.6	5.4	6.2	6.1	4.7	3.7	2.5	2.0	48.2
PLACER													
Auburn	1.2	1.7	2.8	4.4	6.1	7.4	8.3	7.3	5.4	3.4	1.6	1.0	50.6
Blue Canyon	0.7	1.1	2.1	3.4	4.8	6.0	7.2	6.1	4.6	2.9	0.9	0.6	40.5
Colfax	1.1	1.5	2.6	4.0	5.8	7.1	7.9	7.0	5.3	3.2	1.4	0.9	47.9
Roseville	1.1	1.7	3.1	4.7	6.2	7.7	8.5	7.3	5.6	3.7	1.7	1.0	52.2
Soda Springs	0.7	0.7	1.8	3.0	4.3	5.3	6.2	5.5	4.1	2.5	0.7	0.7	35.4
Tahoe City	0.7	0.7	1.7	3.0	4.3	5.4	6.1	5.6	4.1	2.4	0.8	0.6	35.5

Appendix A. Reference Evapotranspiration (ETo) Table.

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Truckee	0.7	0.7	1.7	3.2	4.4	5.4	6.4	5.7	4.1	2.4	0.8	0.6	36.2
PLUMAS													
Portola	0.7	0.9	1.9	3.5	4.9	5.9	7.3	5.9	4.3	2.7	0.9	0.5	39.4
Quincy	0.7	0.9	2.2	3.5	4.9	5.9	7.3	5.9	4.4	2.8	1.2	0.5	40.2
RIVERSIDE													
Beaumont	2.0	2.3	3.4	4.4	6.1	7.1	7.6	7.9	6.0	3.9	2.6	1.7	55.0
Blythe	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Cathedral City	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Coachella	2.9	4.4	6.2	8.4	10.5	11.9	12.3	10.1	8.9	6.2	3.8	2.4	88.1
Desert Center	2.9	4.1	6.4	8.5	11.0	12.1	12.2	11.1	9.0	6.4	3.9	2.6	90.0
Elsinore	2.1	2.8	3.9	4.4	5.9	7.1	7.6	7.0	5.8	3.9	2.6	1.9	55.0
Indio	**3.1**	3.6	6.5	8.3	10.5	11.0	10.8	9.7	8.3	5.9	3.7	2.7	83.9
RIVERSIDE													
La Quinta	2.4	2.8	5.2	6.5	8.3	8.7	8.5	7.9	6.5	4.5	2.7	2.2	66.2
Mecca	2.6	3.3	5.7	7.2	8.6	9.0	8.8	8.2	6.8	5.0	3.2	2.4	70.8
Oasis	2.9	3.3	5.3	6.1	8.5	8.9	8.7	7.9	6.9	4.8	2.9	2.3	68.4
Palm Desert	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
Palm Springs	2.0	2.9	4.9	7.2	8.3	8.5	11.6	8.3	7.2	5.9	2.7	1.7	71.1
Rancho California	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
Rancho Mirage	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Ripley	2.7	3.3	5.6	7.2	8.7	8.7	8.4	7.6	6.2	4.6	2.8	2.2	67.8
Salton Sea North	2.5	3.3	5.5	7.2	8.8	9.3	9.2	8.5	6.8	5.2	3.1	2.3	71.7
Temecula East II	2.3	2.4	4.1	4.9	6.4	7.0	7.8	7.4	5.7	4.1	2.6	2.2	56.7
Thermal	2.4	3.3	5.5	7.6	9.1	9.6	9.3	8.6	7.1	5.2	3.1	2.1	72.8
Riverside UC	2.5	2.9	4.2	5.3	5.9	6.6	7.2	6.9	5.4	4.1	2.9	2.6	56.4
Winchester	2.3	2.4	4.1	4.9	6.4	6.9	7.7	7.5	6.0	3.9	2.6	2.1	56.8
SACRAMENTO													
Fair Oaks	1.0	1.6	3.4	4.1	6.5	7.5	8.1	7.1	5.2	3.4	1.5	1.0	50.5
Sacramento	1.0	1.8	3.2	4.7	6.4	7.7	8.4	7.2	5.4	3.7	1.7	0.9	51.9
Twitchell Island	1.2	1.8	3.9	5.3	7.4	8.8	9.1	7.8	5.9	3.8	1.7	1.2	57.9
SAN BENITO													
Hollister	1.5	1.8	3.1	4.3	5.5	5.7	6.4	5.9	5.0	3.5	1.7	1.1	45.1
San Benito	1.2	1.6	3.1	4.6	5.6	6.4	6.9	6.5	4.8	3.7	1.7	1.2	47.2
San Juan Valley	1.4	1.8	3.4	4.5	6.0	6.7	7.1	6.4	5.0	3.5	1.8	1.4	49.1
SAN BERNARDINO													
Baker	2.7	3.9	6.1	8.3	10.4	11.8	12.2	11.0	8.9	6.1	3.3	2.1	86.6
Barstow NE	2.2	2.9	5.3	6.9	9.0	10.1	9.9	8.9	6.8	4.8	2.7	2.1	71.7
Big Bear Lake	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Chino	2.1	2.9	3.9	4.5	5.7	6.5	7.3	7.1	5.9	4.2	2.6	2.0	54.6
Crestline	1.5	1.9	3.3	4.4	5.5	6.6	7.8	7.1	5.4	3.5	2.2	1.6	50.8
Lake Arrowhead	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Lucerne Valley	2.2	2.9	5.1	6.5	9.1	11.0	11.4	9.9	7.4	5.0	3.0	1.8	75.3
Needles	3.2	4.2	6.6	8.9	11.0	12.4	12.8	11.0	8.9	6.6	4.0	2.7	92.1
Newberry Springs	2.1	2.9	5.3	8.4	9.8	10.9	11.1	9.9	7.6	5.2	3.1	2.0	78.2
San Bernardino	2.0	2.7	3.8	4.6	5.7	6.9	7.9	7.4	5.9	4.2	2.6	2.0	55.6
Twentynine Palms	2.6	3.6	5.9	7.9	10.1	11.2	11.2	10.3	8.6	5.9	3.4	2.2	82.9
Victorville	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2

SAN DIEGO													
Chula Vista	2.2	2.7	3.4	3.8	4.9	4.7	5.5	4.9	4.5	3.4	2.4	2.0	44.2
Escondido SPV	2.4	2.6	3.9	4.7	5.9	6.5	7.1	6.7	5.3	3.9	2.8	2.3	54.2
Miramar	2.3	2.5	3.7	4.1	5.1	5.4	6.1	5.8	4.5	3.3	2.4	2.1	47.1
Oceanside	2.2	2.7	3.4	3.7	4.9	4.6	4.6	5.1	4.1	3.3	2.4	2.0	42.9
Otay Lake	2.3	2.7	3.9	4.6	5.6	5.9	6.2	6.1	4.8	3.7	2.6	2.2	50.4
Pine Valley	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7	54.8
Ramona	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1	51.6
San Diego	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0	46.5
Santee	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0	51.1
Torrey Pines	2.2	2.3	3.4	3.9	4.0	4.1	4.6	4.7	3.8	2.8	2.0	2.0	39.8
Warner Springs	1.6	2.7	3.7	4.7	5.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3	56.0
SAN FRANCISCO													
San Francisco	1.5	1.3	2.4	3.0	3.7	4.6	4.9	4.8	4.1	2.8	1.3	0.7	35.1
SAN JOAQUIN													
Farmington	1.5	1.5	2.9	4.7	6.2	7.6	8.1	6.8	5.3	3.3	1.4	0.7	50.0
SAN JOAQUIN													
Lodi West	1.0	1.6	3.3	4.3	6.3	6.9	7.3	6.4	4.5	3.0	1.4	0.8	46.7
Manteca	0.9	1.7	3.4	5.0	6.5	7.5	8.0	7.1	5.2	3.3	1.6	0.9	51.2
Stockton	0.8	1.5	2.9	4.7	6.2	7.4	8.1	6.8	5.3	3.2	1.4	0.6	49.1
Tracy	1.0	1.5	2.9	4.5	6.1	7.3	7.9	6.7	5.3	3.2	1.3	0.7	48.5
SAN LUIS OBISPO													
Arroyo Grande	2.0	2.2	3.2	3.8	4.3	4.7	4.3	4.6	3.8	3.2	2.4	1.7	40.0
Atascadero	1.2	1.5	2.8	3.9	4.5	6.0	6.7	6.2	5.0	3.2	1.7	1.0	43.7
Morro Bay	2.0	2.2	3.1	3.5	4.3	4.5	4.6	4.6	3.8	3.5	2.1	1.7	39.9
Nipomo	2.2	2.5	3.8	5.1	5.7	6.2	6.4	6.1	4.9	4.1	2.9	2.3	52.1
Paso Robles	1.6	2.0	3.2	4.3	5.5	6.3	7.3	6.7	5.1	3.7	2.1	1.4	49.0
San Luis Obispo	2.0	2.2	3.2	4.1	4.9	5.3	4.6	5.5	4.4	3.5	2.4	1.7	43.8
San Miguel	1.6	2.0	3.2	4.3	5.0	6.4	7.4	6.8	5.1	3.7	2.1	1.4	49.0
San Simeon	2.0	2.0	2.9	3.5	4.2	4.4	4.6	4.3	3.5	3.1	2.0	1.7	38.1
SAN MATEO													
Hal Moon Bay	1.5	1.7	2.4	3.0	3.9	4.3	4.3	4.2	3.5	2.8	1.3	1.0	33.7
Redwood City	1.5	1.8	2.9	3.8	5.2	5.3	6.2	5.6	4.8	3.1	1.7	1.0	42.8
Woodside	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
SANTA BARBARA													
Betteravia	2.1	2.6	4.0	5.2	6.0	5.9	5.8	5.4	4.1	3.3	2.7	2.1	49.1
Carpenteria	2.0	2.4	3.2	3.9	4.8	5.2	5.5	5.7	4.5	3.4	2.4	2.0	44.9
Cuyama	2.1	2.4	3.8	5.4	6.9	7.9	8.5	7.7	5.9	4.5	2.6	2.0	59.7
Goleta	2.1	2.5	3.9	5.1	5.7	5.7	5.4	5.4	4.2	3.2	2.8	2.2	48.1
Goleta Foothills	2.3	2.6	3.7	5.4	5.3	5.6	5.5	5.7	4.5	3.9	2.8	2.3	49.6
Guadalupe	2.0	2.2	3.2	3.7	4.9	4.6	4.5	4.6	4.1	3.3	2.4	1.7	41.1
Lompoc	2.0	2.2	3.2	3.7	4.8	4.6	4.9	4.8	3.9	3.2	2.4	1.7	41.1
Los Alamos	1.8	2.0	3.2	4.1	4.9	5.3	5.7	5.5	4.4	3.7	2.4	1.6	44.6
Santa Barbara	2.0	2.5	3.2	3.8	4.6	5.1	5.5	4.5	3.4	2.4	1.8	1.8	40.6
Santa Maria	1.8	2.3	3.7	5.1	5.7	5.8	5.6	5.3	4.2	3.5	2.4	1.9	47.4
Santa Ynez	1.7	2.2	3.5	5.0	5.8	6.2	6.4	6.0	4.5	3.6	2.2	1.7	48.7
Sisquoc	2.1	2.5	3.8	4.1	6.1	6.3	6.4	5.8	4.7	3.4	2.3	1.8	49.2
Solvang	2.0	2.0	3.3	4.3	5.0	5.6	6.1	5.6	4.4	3.7	2.2	1.6	45.6

SANTA CLARA													
Gilroy	1.3	1.8	3.1	4.1	5.3	5.6	6.1	5.5	4.7	3.4	1.7	1.1	43.6
Los Gatos	1.5	1.8	2.8	3.9	5.0	5.6	6.2	5.5	4.7	3.2	1.7	1.1	42.9
Morgan Hill	1.5	1.8	3.4	4.2	6.3	7.0	7.1	6.0	5.1	3.7	1.9	1.4	49.5
Palo Alto	1.5	1.8	2.8	3.8	5.2	5.3	6.2	5.6	5.0	3.2	1.7	1.0	43.0
San Jose	1.5	1.8	3.1	4.1	5.5	5.8	6.5	5.9	5.2	3.3	1.8	1.0	45.3
SANTA CRUZ													
De Laveaga	1.4	1.9	3.3	4.7	4.9	5.3	5.0	4.8	3.6	3.0	1.6	1.3	40.8
Green Valley Rd	1.2	1.8	3.2	4.5	4.6	5.4	5.2	5.0	3.7	3.1	1.6	1.3	40.6
Santa Cruz	1.5	1.8	2.6	3.5	4.3	4.4	4.8	4.4	3.8	2.8	1.7	1.2	36.6
Watsonville	1.5	1.8	2.7	3.7	4.6	4.5	4.9	4.2	4.0	2.9	1.8	1.2	37.7
Webb	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.2
SHASTA													
Burney	0.7	1.0	2.1	3.5	4.9	5.9	7.4	6.4	4.4	2.9	0.9	0.6	40.9
Fall River Mills	0.6	1.0	2.1	3.7	5.0	6.1	7.8	6.7	4.6	2.8	0.9	0.5	41.8
Glenburn	0.6	1.0	2.1	3.7	5.0	6.3	7.8	6.7	4.7	2.8	0.9	0.6	42.1
McArthur	0.7	1.4	2.9	4.2	5.6	6.9	8.2	7.2	5.0	3.0	1.1	0.6	46.8
Redding	1.2	1.4	2.6	4.1	5.6	7.1	8.5	7.3	5.3	3.2	1.4	0.9	48.8
SIERRA													
Downieville	0.7	1.0	2.3	3.5	5.0	6.0	7.4	6.2	4.7	2.8	0.9	0.6	41.3
Sierraville	0.7	1.1	2.2	3.2	4.5	5.9	7.3	6.4	4.3	2.6	0.9	0.5	39.6
SISKIYOU													
Happy Camp	0.5	0.9	2.0	3.0	4.3	5.2	6.1	5.3	4.1	2.4	0.9	0.5	35.1
MacDoel	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
Mt Shasta	0.5	0.9	2.0	3.0	4.5	5.3	6.7	5.7	4.0	2.2	0.7	0.5	36.0
Tule lake FS	0.7	1.3	2.7	4.0	5.4	6.3	7.1	6.4	4.7	2.8	1.0	0.6	42.9
Weed	0.5	0.9	2.0	2.5	4.5	5.3	6.7	5.5	3.7	2.0	0.9	0.5	34.9
Yreka	0.6	0.9	2.1	3.0	4.9	5.8	7.3	6.5	4.3	2.5	0.9	0.5	39.2
SOLANO													
Benicia	1.3	1.4	2.7	3.8	4.9	5.0	6.4	5.5	4.4	2.9	1.2	0.7	40.3
Dixon	0.7	1.4	3.2	5.2	6.3	7.6	8.2	7.2	5.5	4.3	1.6	1.1	52.1
Fairfield	1.1	1.7	2.8	4.0	5.5	6.1	7.8	6.0	4.8	3.1	1.4	0.9	45.2
Hastings Tract	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Putah Creek	1.0	1.6	3.2	4.9	6.1	7.3	7.9	7.0	5.3	3.8	1.8	1.2	51.0
Rio Vista	0.9	1.7	2.8	4.4	5.9	6.7	7.9	6.5	5.1	3.2	1.3	0.7	47.0
Suisun Valley	0.6	1.3	3.0	4.7	5.8	7.0	7.7	6.8	5.3	3.8	1.4	0.9	48.3
Winters	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
SONOMA													
Bennett Valley	1.1	1.7	3.2	4.1	5.5	6.5	6.6	5.7	4.5	3.1	1.5	0.9	44.4
Cloverdale	1.1	1.4	2.6	3.4	5.0	5.9	6.2	5.6	4.5	2.8	1.4	0.7	40.7
Fort Ross	1.2	1.4	2.2	3.0	3.7	4.5	4.2	4.3	3.4	2.4	1.2	0.5	31.9
Healdsburg	1.2	1.5	2.4	3.5	5.0	5.9	6.1	5.6	4.5	2.8	1.4	0.7	40.8
Lincoln	1.2	1.7	2.8	4.7	6.1	7.4	8.4	7.3	5.4	3.7	1.9	1.2	51.9
Petaluma	1.2	1.5	2.8	3.7	4.6	5.6	4.6	5.7	4.5	2.9	1.4	0.9	39.6
Santa Rosa	1.2	1.7	2.8	3.7	5.0	6.0	6.1	5.9	4.5	2.9	1.5	0.7	42.0
Valley of the Moon	1.0	1.6	3.0	4.5	5.6	6.6	7.1	6.3	4.7	3.3	1.5	1.0	46.1
Windsor	0.9	1.6	3.0	4.5	5.5	6.5	6.5	5.9	4.4	3.2	1.4	1.0	44.2
STANISLAUS													
Denair	1.0	1.9	3.6	4.7	7.0	7.9	8.0	6.1	5.3	3.4	1.5	1.0	51.4
La Grange	1.2	1.5	3.1	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Modesto	0.9	1.4	3.2	4.7	6.4	7.7	8.1	6.8	5.0	3.4	1.4	0.7	49.7

Newman	1.0	1.5	3.2	4.6	6.2	7.4	8.1	6.7	5.0	3.4	1.4	0.7	49.3
Oakdale	1.2	1.5	3.2	4.7	6.2	7.7	8.1	7.1	5.1	3.4	1.4	0.7	50.3
Patterson	1.3	2.1	4.2	5.4	7.9	8.6	8.2	6.6	5.8	4.0	1.9	1.3	57.3
Turlock	0.9	1.5	3.2	4.7	6.5	7.7	8.2	7.0	5.1	3.4	1.4	0.7	50.2
SUTTER													
Nicolaus	0.9	1.6	3.2	4.9	6.3	7.5	8.0	6.9	5.2	3.4	1.5	0.9	50.2
Yuba City	1.3	2.1	2.8	4.4	5.7	7.2	7.1	6.1	4.7	3.2	1.2	0.9	46.7
TEHAMA													
Corning	1.2	1.8	2.9	4.5	6.1	7.3	8.1	7.2	5.3	3.7	1.7	1.1	50.7
Gerber	1.0	1.8	3.5	5.0	6.6	7.9	8.7	7.4	5.8	4.1	1.8	1.1	54.7
Gerber Dryland	0.9	1.6	3.2	4.7	6.7	8.4	9.0	7.9	6.0	4.2	2.0	1.0	55.5
Red Bluff	1.2	1.8	2.9	4.4	5.9	7.4	8.5	7.3	5.4	3.5	1.7	1.0	51.1
TRINITY													
Hay Fork	0.5	1.1	2.3	3.5	4.9	5.9	7.0	6.0	4.5	2.8	0.9	0.7	40.1
Weaverville	0.6	1.1	2.2	3.3	4.9	5.9	7.3	6.0	4.4	2.7	0.9	0.7	40.0
TULARE													
Alpaugh	0.9	1.7	3.4	4.8	6.6	7.7	8.2	7.3	5.4	3.4	1.4	0.7	51.6
Badger	1.0	1.3	2.7	4.1	6.0	7.3	7.7	7.0	4.8	3.3	1.4	0.7	47.3
Delano	1.1	1.9	4.0	4.9	7.2	7.9	8.1	7.3	5.4	3.2	1.5	1.2	53.6
Dinuba	1.1	1.5	3.2	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Lindcove	0.9	1.6	3.0	4.8	6.5	7.6	8.1	7.2	5.2	3.4	1.6	0.9	50.6
Porterville	1.2	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.3	3.4	1.4	0.7	52.1
Visalia	0.9	1.7	3.3	5.1	6.8	7.7	7.9	6.9	4.9	3.2	1.5	0.8	50.7
TUOLUMNE													
Groveland	1.1	1.5	2.8	4.1	5.7	7.2	7.9	6.6	5.1	3.3	1.4	0.7	47.5
Sonora	1.1	1.5	2.8	4.1	5.8	7.2	7.9	6.7	5.1	3.2	1.4	0.7	47.6
VENTURA													
Camarillo	2.2	2.5	3.7	4.3	5.0	5.2	5.9	5.4	4.2	3.0	2.5	2.1	46.1
Oxnard	2.2	2.5	3.2	3.7	4.4	4.6	5.4	4.8	4.0	3.3	2.4	2.0	42.3
Piru	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Port Hueneme	2.0	2.3	3.3	4.6	4.9	4.9	4.9	5.0	3.7	3.2	2.5	2.2	43.5
Thousand Oaks	2.2	2.6	3.4	4.5	5.4	5.9	6.7	6.4	5.4	3.9	2.6	2.0	51.0
Ventura	2.2	2.6	3.2	3.8	4.6	4.7	5.5	4.9	4.1	3.4	2.5	2.0	43.5
YOLO													
Bryte	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
Davis	1.0	1.9	3.3	5.0	6.4	7.6	8.2	7.1	5.4	4.0	1.8	1.0	52.5
Esparto	1.0	1.7	3.4	5.5	6.9	8.1	8.5	7.5	5.8	4.2	2.0	1.2	55.8
Winters	1.7	1.7	2.9	4.4	5.8	7.1	7.9	6.7	5.3	3.3	1.6	1.0	49.4
Woodland	1.0	1.8	3.2	4.7	6.1	7.7	8.2	7.2	5.4	3.7	1.7	1.0	51.6
Zamora	1.1	1.9	3.5	5.2	6.4	7.4	7.8	7.0	5.5	4.0	1.9	1.2	52.8
YUBA													
Browns Valley	1.0	1.7	3.1	4.7	6.1	7.5	8.5	7.6	5.7	4.1	2.0	1.1	52.9
Brownsville	1.1	1.4	2.6	4.0	5.7	6.8	7.9	6.8	5.3	3.4	1.5	0.9	47.4

* The values in this table were derived from:

1) California Irrigation Management Information System (CIMIS);
2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999; and
3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922,
4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426

Appendix B – Sample Water Efficient Landscape Worksheet.

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.
Please complete all sections (A and B) of the worksheet.

SECTION A. HYDROZONE INFORMATION TABLE

Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Hydrozone*	**Zone or Valve**	**Irrigation Method****	**Area (Sq. Ft.)**	**% of Landscape Area**
	Total			**100%**

Hydrozone
HW = High Water Use Plants
MW = Moderate Water Use Plants
LW = Low Water Use Plants

****Irrigation Method***
MS = Micro-spray
S = Spray
R = Rotor
B= Bubbler
D= Drip
O = Other

SECTION B. WATER BUDGET CALCULATIONS

Section B1. Maximum Applied Water Allowance (MAWA)

The project's Maximum Applied Water Allowance shall be calculated using theseis equations:

MAWA = (ETo) (0.62) [(0.57 x LA) + (0.3 x SLA)]
where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration from Appendix A (inches per year)
0.7 = ET Adjustment Factor (ETAF)
LA = Landscaped Area includes Special Landscape Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
0.3 = the additional ET Adjustment Factors for Special Landscape Area in residential and non-residential areas, respectively (1.0 - 0.7 = 0.3)

Maximum Applied Water Allowance = _____**gallons per year**

Show calculations.

Effective Precipitation (Eppt)

If considering Effective Precipitation, use 25% of annual precipitation. Use the following equation to calculate Maximum Applied Water Allowance:

MAWA= (ETo – Eppt) (0.62) [(0.70.5 x LA) + (0.3 x SLA)]

Maximum Applied Water Allowance = _____**gallons per year**

Show calculations.

Section B2. Estimated Total Water Use (ETWU)

The project's Estimated Total Water Use is calculated using the following formula:

$$ETWU = (ETo)(0.62)\left(\frac{PF\,x\,HA}{IE} + SLA\right)$$

where:

ETWU = Estimated total water use per year (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
PF = Plant Factor (see Definitions)
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor (to gallons per square foot)
IE = Irrigation Efficiency (minimum 0.71

Hydrozone Table for Calculating ETWU

Please complete the hydrozone table(s). Use as many tables as necessary.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)	Area (HA) (square feet)	PF x HA (square feet)
			Sum	
	SLA			

Estimated Total Water Use = _____gallons

Show calculations.

Appendix B – Sample Water Efficient Landscape Worksheet.

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) _____

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq, ft,)	ETAF x Area	Estimated Total Water Use (ETWU)[e]
Regular Landscape Areas							
				Totals	(A)	(B)	
Special Landscape Areas							
				1			
				1			
				1			
				Totals	(C)	(D)	
						ETWU Total	
						Maximum Allowed Water Allowance (MAWA)[e]	

[a] ***Hydrozone #/Planting Description***
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] ***Irrigation Method***
overhead spray or drip

[c] ***Irrigation Efficiency***
0.75 for spray head
0.81 for drip

[d] ***ETWU*** **(Annual Gallons Required) =**
Eto x 0.62 x ETAF x Area
where 0.62 is a conversion factor that acre-inches per acre per year to gallons per square foot per year.

[e] ***MAWA (Annual Gallons Allowed) = (****Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet,
and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)
Total Area	(A)
Average ETAF	**B ÷ A**

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)
Total Area	(A+C)
Sitewide ETAF	**(B+D) ÷ (A+C)**

Appendix C – Sample Certificate of Completion.

CERTIFICATE OF COMPLETION

This certificate is filled out by the project applicant upon completion of the landscape project.

PART 1. PROJECT INFORMATION SHEET

Date		
Project Name		
Name of Project Applicant	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Project Address and Location:

Street Address		Parcel, tract or lot number, if available.
City		Latitude/Longitude (optional)
State	Zip Code	

Property Owner or his/her designee:

Name	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Property Owner

"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

_____

Property Owner Signature Date

Please answer the questions below:

1. Date the Landscape Documentation Package was submitted to the local agency_____
2. Date the Landscape Documentation Package was approved by the local agency_____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor_____

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

"I/we certify that based upon periodic site observations, the work has been ~~substantially~~ completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package."

Signature*	Date	
Name (print)	Telephone No.	
	Fax No.	
Title	Email Address	
License No. or Certification No.		
Company	Street Address	
City	State	Zip Code

*Signer of the landscape design plan, signer of the irrigation plan, or a licensed landscape contractor.

PART 3. IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller per ordinance Section 492.10.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 492.11.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per ordinance Section 492.12.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 492.6~~5~~.

Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 492.6~~5~~.

Appendix D – Sample Water Efficient Landscape Worksheet.

Appendix D – Prescriptive Compliance Option

(a) This appendix contains prescriptive requirements which may be used as a compliance option to the Model Water Efficient Landscape Ordinance.

(b)Compliance with the following items is mandatory and must be documented on a landscape plan in order to use the prescriptive compliance option:

(1) Submit a Landscape Documentation Package which includes the following elements:

(A) date

(B) project applicant

(C) project address (if available, parcel and/or lot number(s))

(D) total landscape area (square feet), including a breakdown of turf and plant material

(E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)

(F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well

(G) contact information for the project applicant and property owner

(H) applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the MWELO".

(2) Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test);

(3) Plant material shall comply with all of the following;

(A) For residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;

(B) A minimum three inch (3″) layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.

(4) Turf shall comply with all of the following:

(A) Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas;

(B) Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length;

(C) Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

(5) Irrigation systems shall comply with the following:

(A) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data.

(B) Irrigation controllers shall be of a type which does not lose programming date in the event the primary power source is interrupted.

(C) Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.

(D) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.

(E) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. "Landscape Irrigation Sprinkler and Emitter Standard," All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

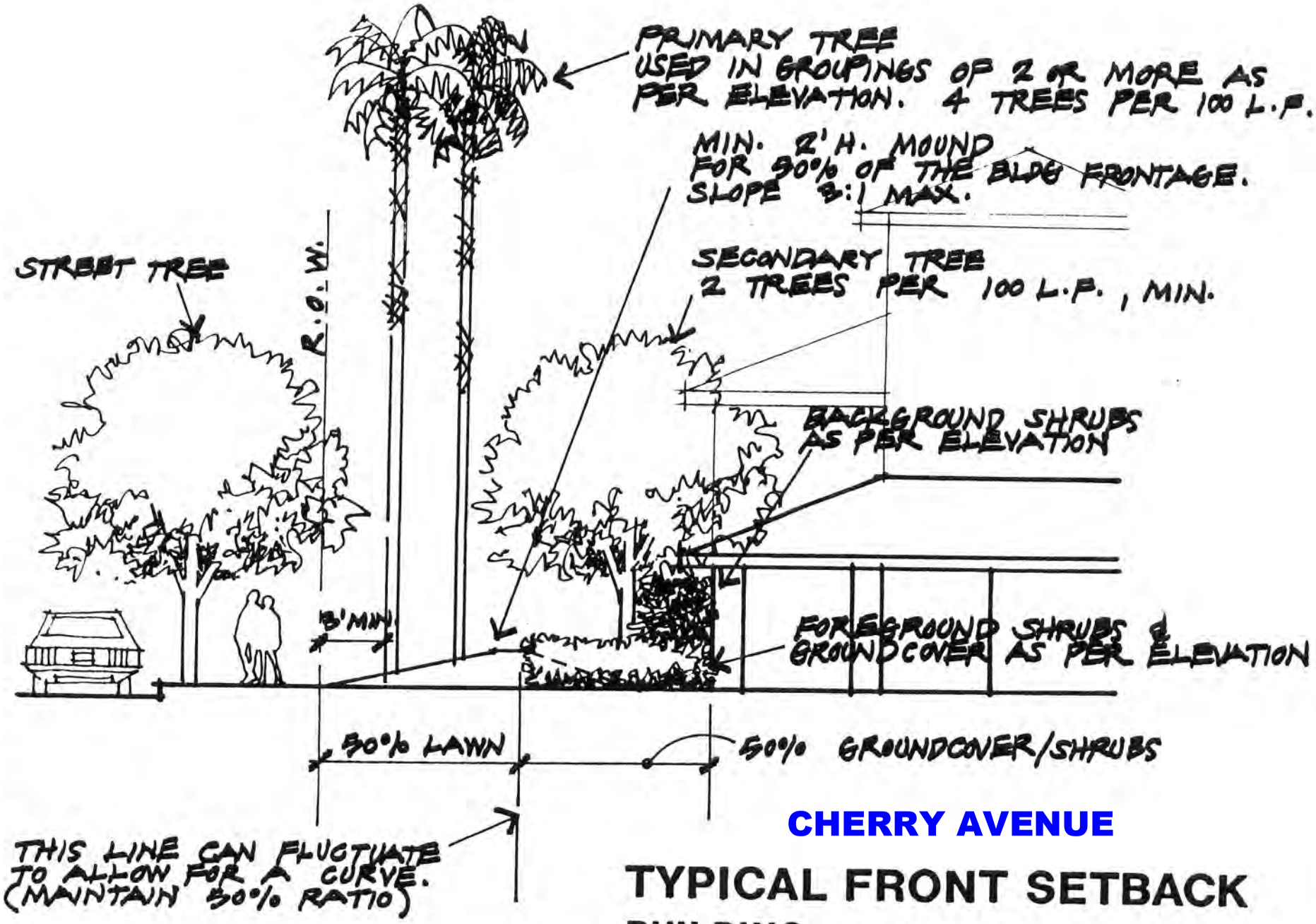
(c) At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance.

LANDSCAPE GUIDELINES

CHERRY/SPRING/WILLOW CORRIDORS

CITY OF SIGNAL HILL

Attachment H



TYPICAL FRONT SETBACK

BUILDING

EXHIBIT B


september
2

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

September 8, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **SCOTT CHARNEY**
COMMUNITY DEVELOPMENT DIRECTOR

SUBJECT: **MINUTES**

Summary:

Attached for your review and approval are the minutes of last month's regular meeting.

Recommendation:

Approve.

A REGULAR MEETING OF THE CITY OF SIGNAL HILL
PLANNING COMMISSION
August 11, 2015
7:00 P.M.

CALL TO ORDER

Vice-Chair Austin called the meeting to order at 7:00 p.m.

ROLL CALL

The Commission Secretary conducted roll call.

Present: Vice-Chair Devon Austin
Commissioner Tom Benson
Commissioner Shannon Murphy
Commissioner Rose Richárd

Excused Absence: Chair Jane Fallon

Staff present:

1) Community Development Director Scott Charney
2) Senior Planner Colleen Doan
3) Associate Planner Selena Alanis
4) Assistant City Attorney David Kwon
5) Sr. Engineering Technician II Anthony Caraveo

In addition, there were 7 people in attendance.

PLEDGE OF ALLEGIANCE

Vice-Chair Austin led the audience in reciting the Pledge of Allegiance.

PUBLIC BUSINESS FROM THE FLOOR

Larry Forester, Signal Hill resident, announced that Ellen Ward, a City Council Member for 12 years, passed away that morning. A memorial candlelight vigil was being arranged for August 12, 2015 at Martin Luther King Park. This site honors elected officials that have worked in LGBT leadership and she was one of the first inductees. He also requested the meeting be adjourned in her honor.

PRESENTATION

The Beautification Award was presented to Richard Silva and James Gann of Vivir Properties, the developers of the single-family residence at 2799 E. 21st Street. The award was presented for the interior design, exterior attention to details, and landscape features including a permeable driveway and use of water efficient landscape materials.

PUBLIC HEARING

(1) Site Plan and Design Review for 15-04, a New Single-Family Dwelling at 1995 St. Louis Avenue

Community Development Director Scott Charney read the form of notice and gave an introduction, and Associate Planner Selena Alanis gave the staff report.

Commissioner Benson asked about steps from the garage to the exterior, if they would require revisions due to safety concerns. Staff advised the specifications will be reviewed during the building plan check to ensure it meets code. Comments made at previous workshops had been addressed and no additional comments were received requiring changes to the floor plan. Commissioner Benson also asked if the turf block for one of the driveways had been eliminated. Staff referred the question to the applicant.

Vice-Chair Austin opened the public hearing.

The following members of the public spoke regarding the project:

1) Teresa Reich, Signal Hill resident at the subject property, stated her concern about the timing between the approval of the project and the demolition of the property which would require her to relocate. Vice-Chair Austin recommended a discussion between Ms. Reich and her landlord to discuss the timing.

   Staff clarified that the Public Hearing was for the approval of entitlements for the design but the applicant must still submit building plans for plan check review, which generally takes some time. Permits had not yet been issued for demolition. Staff also offered to provide references for landlord/tenant inquiries if desired.

Commissioner Benson asked the reason for the change away from turf block for the 30' driveway and gave a reminder of the City's water retention goals.

2) Seth Sor, project designer, stated that initially the design included turf block with grass in the driveway, however, the owner indicated a preference for block pavers instead.

There being no further public testimony, Vice-Chair Austin closed the public hearing.

Commissioner Richárd stated the family and architect had made a good faith effort in working with the Commission and City staff to revise the design and tile roof concept, and was in favor of the project.

Commissioner Murphy also expressed her thanks for the time of staff, the architect and the applicant. She said the elevations were much improved, and that she liked the stone tile and veneer in front.

Commissioner Benson stated the applicant had made changes to include a larger front porch in keeping with the appearance of the neighborhood which was much appreciated.

Vice-Chair Austin agreed with the Commissioners, stated the exterior appearance much more closely matched the feel of the remainder of the neighborhood, and she felt the applicant had followed the recommendations of the Commission to arrive at a much better design.

It was moved by Commissioner Richárd and seconded by Commissioner Murphy to waive further reading and adopt the following resolution:

City Attorney read the title of Resolution No. 772-08-15 entitled:

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SIGNAL HILL, CALIFORNIA, APPROVING SITE PLAN AND DESIGN REVIEW 15-04, A REQUEST TO DEMOLISH THE EXISTING 800 SQUARE FOOT SINGLE-FAMILY DWELLING AND TO CONSTRUCT A 3,072 SQUARE FOOT TWO-STORY, FIVE-BEDROOM, FOUR-BATHROOM SINGLE-FAMILY DWELLING WITH A THREE-CAR GARAGE AT 1995 ST. LOUIS AVENUE IN THE RLM-2, RESIDENTIAL LOW/MEDIUM-2, ZONING DISTRICT

The following vote resulted:

AYES:	VICE-CHAIR AUSTIN; COMMISSIONERS BENSON, MURPHY AND RICHÁRD
NOES:	NONE
ABSENT:	CHAIR FALLON
ABSTAIN:	NONE

Motion carried 4/0.

DIRECTOR'S REPORTS

(2) "Non-Traditional Uses" – "Athletic Training Facilities" and "Online Automobile Sales"

Senior Planner Colleen Doan gave the staff report.

Commissioner Murphy asked if applicants might be confused should there be a change for athletic training facilities and online automobile sales from being classed as non-traditional uses to traditional uses. She also asked about notification to the Finance/Business License Department.

Staff advised that Finance first refers applicants for business licenses to the Planning Department for review of any restrictions on the use and for land use approval prior to license issuance.

Commissioner Murphy asked if existing auto resalers are located in storefront type locations with vehicle displays. Staff advised this non-traditional use is only allowed in industrial zones and that vehicles are not allowed to be displayed.

Commissioner Benson asked if the City received sales tax for these businesses. Staff indicated that minimal sales tax is received from online auto sales.

Commissioner Benson asked if athletic facility businesses also had resale licenses for retail sales. Staff advised some facilities sell minimal items and tax is therefore minimal, and that the Finance Department oversees tax issues.

Vice-Chair Austin opened the public comments period. There being no public testimony, Vice-Chair Austin closed the public comments period.

It was moved by Commissioner Murphy and seconded by Commissioner Richárd to remove athletic training facilities and online automobile sales from the uses considered under the City's non-traditional use policy.

The following vote resulted:

AYES:	VICE-CHAIR AUSTIN; COMMISSIONERS BENSON, MURPHY AND RICHÁRD
NOES:	NONE
ABSENT:	CHAIR FALLON
ABSTAIN:	NONE

Motion carried 4/0.

(3) Residential Turf Replacement Regulations

Senior Planner Colleen Doan gave the staff report.

Commissioner Murphy asked if the sample photo of a "driveway to nowhere" also had a curbcut. Staff clarified that the Public Works Department has approved curb-cuts in prior years for driveways that do not lead to garages.

Commissioner Benson expressed a concern that driveways to nowhere typically result in an excessive number of vehicles being parked in front yards. Staff advised the Code does not specify that driveways must lead to a garage, and that proposed regulations for driveways to nowhere would limit the width to 10' and would also limit parking area in yards.

Commissioner Richárd stated that such driveways might be a convenience for residents with ADA issues.

Staff advised that a driveway to nowhere may only be 10' wide. When the landscape guidelines are developed, items such as this can be included. Currently there are no specifications in the Code or requirement that residents must utilize their driveways or garage to park.

Commissioner Benson asked if there were setbacks for driveways, and staff advised what those regulations are.

Vice-Chair Austin asked if it was acceptable for residents to use grass paint. Staff advised this is not included in proposed regulations, neither was it included in the Workshop on Turf Replacement Alternatives. Vice-Chair Austin asked if semi-circular driveways were permitted. Staff advised the proposed regulation limits the driveway allowance and hardscape, and Public Works may not permit multiple curb cuts.

Commissioner Murphy asked if Public Works' consent was required for a pedestrian walkway access in a parkway. Staff advised there are guidelines for parkways, however, some residents have placed hardscape materials in those areas without going through an approval process.

Vice-Chair Austin asked if there were any public comments.

1) Larry Forester, Signal Hill resident, asked if LID stormwater development regulations would be required regarding the hardscape and landscape modifications. He also suggested the City Attorney review homeowner associations' CCRs which conflict with the mandates provided by the State.

Staff advised that current LID regulations may not apply to turf replacement, but they would review them for application to these regulations. Also, new landscape guidelines would include specifications regarding artificial turf to ensure that permeable materials would be used.

Chair Benson stated that in hot temperatures, the surface of artificial grass becomes very hot and that residents should be made aware of this.

The City Attorney advised that CCRs are an agreement between private property owners, and that there are limitations on what the City can require a homeowners association to do. Staff clarified that there are differences between what the City encourages and what it can prescribe. Chair Benson stated that due to changes in times, homeowner associations were more likely to be flexible.

It was the consensus of the Commission to have the following included in the regulations:

- Hardscape not allocated for driveways would be limited to a maximum 25% of front yard setback.
- Allocation for driveways-to-nowhere and 1-car garage: 10' width max.
- Allocation for driveways for a 2-car garage: 20' width max.
- Allocation for driveways for 3-car garage: 30' width max.

Staff advised the above items will be included in the regulations being developed for residential properties. In addition, landscape guidelines will be drafted in the near future and would address street tree removal or replacement, installation of artificial turf, homeowners associations and acceptability of grass paint. Maintenance issues including watering, weeds, trash, etc. will also be included in the guidelines. Considerations for commercial areas will be brought to the Commission for discussion at a future meeting.

The Planning Commission discussed preferences for trees to be replanted when removed on private property, and their impact on views. At the Workshop on Turf Replacement Alternatives, no preferences were expressed about requiring trees to be planted in front yards.

Vice-Chair Austin asked staff if sufficient direction had been provided. Staff reviewed direction and confirmed positively.

CONSENT CALENDAR

(4) Minutes of the Following Meeting

Regular Meeting of July 14, 2015

Recommendation: Approve.

(5) City Council Follow-up

Summary: Attached for review is a brief summary on the City Council's action from the July 21, 2015 meeting.

Recommendation: Receive and file.

(6) Development Status Report

Summary: Attached for review is the monthly Development Status Report which highlights current projects.

Recommendation: Receive and file.

(7) In the News

Summary: Articles compiled by staff that may be of interest to the Commission.

Recommendation: Receive and file.

It was moved by Commissioner Benson and seconded by Commissioner Murphy to receive and file the Consent Calendar.

The motion carried 4/0.

COMMISSION NEW BUSINESS

Commissioner Benson stated the street trees on Skyline Drive need to be watered. Staff advised the request will be forwarded to the appropriate department.

Vice-Chair Austin recognized Senior Planner Colleen Doan as Employee of the Quarter for her teamwork and leadership in completing the amendment to the Oil and Gas Code.

ADJOURNMENT

It was moved by Commissioner Richárd and seconded by Commissioner Benson to adjourn to the next regular meeting of the Planning Commission to be held on Tuesday, September 8, 2015, at 7:00 p.m., in the Council Chamber of City Hall, 2175 Cherry Avenue, Signal Hill, CA, 90755.

The motion carried 4/0.

Vice-Chair Austin adjourned the meeting at 8:44 p.m. in memory of former Council Member Ellen Ward.

_____
Chair

Attest:

_____
Scott Charney
Commission Secretary


september
3

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

September 8, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **SELENA ALANIS**
ASSOCIATE PLANNER

SUBJECT: **CITY COUNCIL FOLLOW-UP**

Summary:

Below for your review is a brief summary on the City Council's action from the previous month.

Recommendation:

Receive and file.

Background and Analysis:

1) At the August 18, 2015 City Council meeting:
   - An Ordinance amending Title 15 of the Signal Hill Municipal Code entitled "Small Residential Rooftop Solar Energy System Permits" was introduced. The Ordinance was approved by a vote of 5/0.

2) At the September 1, 2015 City Council meeting:
   - The second reading of the Ordinance adopting "Small Residential Rooftop Solar Energy System Permits" was approved by a vote of 3/0. The Ordinance will be in effect on October 1, 2015.
   - The change regarding the change in the City Council and Planning Commission meeting days was rescheduled to the September 15, 2015 meeting.

Approved by:

_____

Scott Charney


september
4

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

September 8, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **SCOTT CHARNEY**
COMMUNITY DEVELOPMENT DIRECTOR

SUBJECT: **DEVELOPMENT STATUS REPORT**

Summary:

Attached for your review is the monthly Development Status Report which highlights current projects.

Recommendation:

Receive and file.

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
2357 Lewis Avenue	Repairs to a fire damaged single-family dwelling Applicant: California Construction	Administrative Review	✓	N/A	N/A	Building Permit Issued 2/13/15	N/A	N/A	2/8/16			Home rebuild begun, rough plumbing and electrical complete (5/15). Drywall and stucco begun (6/15). Stucco complete (7/15). Landscape installation and site clean-up pending (8/15). Project has been finaled (9/15). SA/JH
1790 E Burnett St.	Renovation of existing house and construction of new 4-car garage with roof deck, workshop and parking court Applicant: Gary Severns	Administrative Review	✓	N/A	N/A	Building Permit Issued 02/13/14	N/A	N/A	N/A			Approved change to composite roof. New color board and rock samples submitted. Rock band installed. Rev. front window design (9/14). Rear grade too steep, grade reworked, garage foundation and framing begun (1/15). Rough plumbing, electrical and HVAC complete (3/15). Garage roof and interior underway (5/15). Public Works required removal of wall & landscaping in ROW (6/15). Plans for wall approved. Street improvements in process (9/15). JH/CTD

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
3240 Cerritos Ave.	New permit issued for interior drywall, plumbing and electrical for remainder of interior of existing house Applicant: Jim Trevillyan	Administrative Review	✓	N/A	N/A	Building Permit Issued 03/3/15	N/A	N/A	02/26/16			Rough plumbing, electrical and mechanical completed (7/15). Drywall and nailing completed (9/15). JH
2477 Gaviota Ave.	Rehabilitation of the existing single-family dwelling and new 2-car garage Applicant: Rama Singhal	Administrative Review (SPDR 15-03)	✓	N/A	N/A	Building Permit Issued 07/15/15	N/A	N/A	07/15/16			Building permit issued on 7/15/15. Demolition for the rehabilitation has started (8/15). Foundation, framing for new garage (9/15). SA
2518 Willow St.	New front entry electronic gate w/stone veneer pil-asters, update guard shack Applicant: Willow Ridge Homeowners Association	Administrative Review	✓	N/A	N/A	Permit Ready for Issuance						Plans are ready for permit issuance (8/15). Reminder was sent to applicant (9/15). JH/SA

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

Address	Project Description	Application	REVIEW			SPDR			CTL			Status
			Director approval	PC approval	CC approval	Expires	1st Ext.	2nd Ext.	Expires	1st Ext.	2nd Ext.	
2311 Ocean View	Add/expand second story decks and "trainhouse" in side and rear yard of existing single-family home Applicant: M/M Hughes	SPDR 08-05	N/A	07/14/09	N/A	Building Permit Issued 08/16/13	N/A	N/A	08/11/14	9/30/14	03/03/15 	The first extension granted by Director until 9/30/14. A second extension granted until 3/03/15. The project is an active Code Enforcement case (7/15). 2nd coat of stucco is curing (8/15). 3rd coat of stucco is in progress and staff is monitoring. Roofing is next, then the scaffolding can be removed (9/15). SA/JH
924 E Vernon St.	Demolition of existing dwelling and detached garage for construction of a new two story 3,230 sf duplex and 4-car garage Applicant: LLG Construction	SPDR 14-02	N/A	06/10/14	N/A	06/10/15	12/10/15					Plan are approved. Issuance pending approval of fire department sprinkler plans and Public Works conditions of approval. SPDR extended to 12/10/15. SA

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
3360 Lemon Ave.	A 1,207 sf 2nd unit over a four-car garage at the rear of a property with a SFD Applicant: Jason Shorrow	SPDR 14-03	N/A	07/08/14	N/A	07/08/15	01/08/16					SPDR approved, signed conditions received. Plan check is complete. Applicant is preparing grading plans for submittal to Public Works and submittals for LA County Fire (6/15). SPDR extended to 1/08/16. CTD
3347 Brayton Ave.	Remodel of the front SFD to include a 271 sf addition and new 1-car garage on the first floor and a 731 sf second story addition Applicant: Reginald McNulty	SPDR 15-02	N/A	4/14/15	N/A	4/14/16						Site Plan & Design Review valid until 4/14/16. SA
1995 St. Louis Ave.	Demolition of the existing dwelling and detached garage and construction of a two story 3,187 sf SFD with attached 3-car garage Applicant: Seth Sor for Kimberly and Phat Ly	SPDR 15-04	N/A	8/11/15	N/A	8/12/16						Site Plan & Design Review valid until 8/12/16. SA

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
2260 Walnut Ave.	A proposal for a new two story 1,894 sf SFD with attached 2-car garage on a vacant lot Applicant: Santana Investors	SPDR	N/A	Required	N/A							Leak test passed, vent cone was not installed (2/15). Staff has reviewed preliminary plans. Applicant is working on well survey, access exhibit and plans (8/15). Well exhibit approved (9/15). SA
2085 Freeman Ave.	A proposal for a new two story 3,746 sf SFD with attached 3-car garage on a vacant lot Applicant: RPP Architects	SPDR	N/A	Required	N/A							Leak test passed and vent cone installed (2/15). The applicant has submitted plans for Planning review and preliminary comments (3/15). Well Assessment Report has been submitted for review (9/15). SA/CD

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
Large Subdivisions (5 or more lots) and Multi-family Developments												
Crescent Square Walnut/ Crescent Heights St.	25 three-story detached single-family dwellings at the N/E corner of Walnut and Crescent Heights Street Applicant: SummerHill Homes/Signal Hill Petroleum	SPDR 14-04 ZOA 14-03 VTTM 72594	N/A	8/12/14	9/2/14 (Map 9/2/16)	9/2/15	3/3/16					SPDR approved on 8/12/14. SPDR has been extended to 3/3/16. Grading plan has been submitted for plan check (3/15). Awaiting submittal of building plans for plan check (8/15). WAR for 8 wells approved by the Oil Services Coordinator 8/13/15. CC&Rs are pending submittal from applicant (9/15). SC/SA
Gundry Hill 1500 E Hill St.	Development of 72 multiple-family, affordable units, three and four stories in height and a community building, community garden, tot lot and courtyard with on-site management Applicant: Meta Housing	Administrative Review (SPDR 15-01)	Approved 2/18/15	N/A	N/A	N/A	N/A	N/A				Building and landscape plan check comments have been returned to the applicant 8/25/15. A demolition permit was issued on 8/27/15 for the existing buildings and demolition is close to completion (9/15). SC/SA

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
2599 Pacific Coast Highway	Residential SP-10 1st concept plan had 14 attached units 2nd concept plan had 12 attached units 3rd concept plan had 10 detached units 4th concept plan has 9 units Applicant: Mike Afiuny	Preliminary review PC Workshop 8/14/12 PC Workshop 9/9/14 SPDR	N/A	Required	Required							Staff met w/owner who reported unsuccessful lot consolidation out-reach effort (9/12). Staff met w/applicant to review a new concept plan on 9/13. Revised design (10 detached units) more closely met the intent of SP-10. Access and guest parking revised (6/14). Commission requested design changes. Applicant's revised conceptual plans (9 units) were previewed and met most of the development standards. Due to proposed height / view policy, applicant to proceed with view analysis outreach (9/14). Revised plans submitted for conceptual review w/one less unit and required setbacks. Some buildings still exceed height limit and view policy outreach is pending. Rough grading to be submitted to review options to reduce heights (5/15). Application and plans for a ZOA and SPDR submitted (9/15). CTD

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Residential

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
1939 Temple Avenue	Potential sale of the property for residential development (existing non-conforming industrial buildings on site) Applicant: High Rhodes/Anglers	Leak Test of Abandoned Oil Wells and Site Plan and Design Review										2 wells discovered, leak tests passed and vent cones installed (8/15). Preliminary site plan received and proposes 10 new units (5 buildings with 2 attached units) two-stories in height. Staff is meeting with the applicant to discuss next steps so the applicant can begin community outreach (9/15). SA

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Commercial-Industrial

			REVIEW			SPDR/CUP			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
1798 E Willow St.	Tenant Improvements to replace existing restaurant with a new sushi restaurant	Administrative Review	✓	N/A	N/A	Building permit issued 06/17/15	N/A	N/A	N/A			Obtained permit, working on interior TI (8/15). Stop Work notice issued due to NSF check. JH
2653 Walnut Ave. 2H Construction	An approximate 8,000 sf warehouse/office building Applicant: 2H Construction	Administrative Review	✓	N/A	N/A	Building permit issued 04/13/11	N/A	N/A	Prior to CTL			Exterior complete. Working on Public Works conditions of approval (4/15). TI plans returned to applicant with corrections on 6/30/15. In plan check (9/15). JH
2701 Cherry Avenue	ADA parking lot improvements Applicant: Best Buy	Administrative Review	✓	N/A	N/A	Building permit issued 06/01/15	N/A	N/A	N/A			Sidewalk and curb completed (7/15). Awaiting request for final inspection (9/15). JH
2162 E. Willow St.	1,106 sf TI for new restaurant Applicant: WaBa Grill	Administrative Review	✓	N/A	N/A	Building permit issued 4/28/15	N/A	N/A				TI completed (8/15). Permit finaled and open for business. CTD/JH

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Commercial-Industrial

			REVIEW			SPDR/CUP			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
3355 Olive Avenue	Proposal for new 5,000 sf warehouse and office building Applicant: Roger Vititow	Administrative Review	✓	N/A	N/A	In plan check						2nd building plan check comments returned to applicant. Corrections to methane plan needed (7/15). Grading plans approved and grading permit issued (9/15). SA
2650-2690 and 2700-2730 Cherry Ave.	Leak testing for previously abandoned wells on the property Applicant: City of Signal Hill Successor Agency	Well Discovery Permit	✓	N/A	N/A	Permit Issued						2 wells discovered, tested, and vent cones installed. 3rd well discovered but could not be tested due to deterioration. Backfilled and compacted (7/15). JH
1400 E Spring St.	Leak testing for previously abandoned wells on the property Applicant: City of Signal Hill Successor Agency	Well Discovery Permit	✓	N/A	N/A	Permit Issued						2 wells discovered, leak tests completed and vent cones installed. Backfilled and compacted (7/15). JH

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Commercial-Industrial

			REVIEW			SPDR/CUP			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
3201-3225 Pacific Coast Highway Quality Inn	Tentative Parcel Map to subdivide an existing 1.8-acre lot into two lots Applicant: William Suh	71592, extension granted	N/A	11/08/11	N/A	11/8/13	11/8/14	11/8/15	N/A	N/A	N/A	3rd ext granted per State law. TPM valid until 11/8/15. Property has new owner. Staff inquired about future intent for subdivision from new property owner but no response (3/15). CTD
2200 E. Willow St.	Amendment to CUP 13-01 to extend the gas station hours of operation to 5 am to 10pm seven days a week Applicant: Costco Wholesale	Amendment to CUP	N/A	7/15/15	Required	N/A	N/A	N/A				Community meeting held (2/15). Planning Commission public hearing on 7/14/15. Applicant is working with staff to create a plan to address on-site circulation issues (9/15). SA
845 E. Willow St. 2H Construction	A 18,994 sf medical/office building Applicant: 2H Construction	SPDR 13-02	N/A	07/09/13	N/A	Building permit issued 02/25/14	N/A	N/A	2/15/16			Conformity Report went to the Planning Commission on 12/09/14. Ext of building complete. Awaiting paperwork per Conditions of Approval (8/15). Kaiser Permanente TI plans in plan check (9/15). JH

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Commercial-Industrial

			REVIEW			SPDR/CUP			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
995 E. 27th St. LBIC Center	A 2,205 sf religious center at the NW corner of California and 27th Street Project Manager: Tarak Mohamed Applicant: Abdel Alomar	SPDR 13-04 CUP 13-02	N/A	10/08/13	10/15/13	Building permit issued 10/31/13	N/A	N/A	4/30/15	7/20/15 		Rough plumbing and electrical is complete (1/15). Methane venting, drainage filtration systems installed. 60 day CTL exp ltr sent (3/15). Drywall complete, elec. conduit to building and stucco complete (5/15). Windows, doors, AC installed (6/15). Ceiling T-bar and rough mechanical complete. CTL extension expires on July 20, 2015. Applicant submitted a 2nd ext. request letter. Certificate of Occupancy is pending (9/15). CTD/JH
1660 E. Spring St. BMW Dealership	A 77,810 sf showroom, sales, and service facility and display area for automobile sales Applicant: Sonic/BMW	SPDR 14-01	N/A	4/8/14	N/A	Building permit issued 9/16/14	N/A	N/A	09/5/16			Conformity Report for architectural changes and appraisal room went to Planning Commission on 7/14/15. Applicant submitted plans to add appraisal room and applicant projects that construction will be completed end of October and open dealership will open in November (9/15). JH/SA

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Commercial-Industrial

			REVIEW			SPDR/CUP			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
2953 Obispo Ave. Futsal Indoor Soccer	A request to allow indoor soccer as a conditionally permitted use in the City. Applicant: Mike Biddle	ZOA CUP	N/A	Required	Required							Deposit submitted to begin coordination of workshops w/HOAs (7/14). Applicant has requested to temporarily postpone request (12/14). Applicant intends to proceed w/ CUP request but no application has been submitted to date (9/15). CTD

Business Licenses and Permit Summary

- Planning Department staff reviewed and approved 16 business licenses.
- Building Department staff issued 16 permits including 3 residential solar permits. The valuation of the projects is approximately $183,000 with permit revenues at $2,700. Demolition permit has been issued for 6 commercial buildings at Gundry Hill prior to construction of 72 residential units.

Training/Forums

- Senior Planner attended the Active Transportation Strategic Plan Open House.
- Staff attended Caselle training.

Current Projects

- Solar Permitting Ordinance was provided to City Council on 8/18/15. Second reading of Ordinance was held on 9/1/15.

Ongoing / Upcoming Projects

- Vacant Parcel Ordinance.
- Oil Well Inspections.
- Meeting with Mercedes Benz regarding expansion opportunities.
- Turf replacement workshop and future ordinance/guidelines.

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Wireless Telecommunications Facilities

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
2411 Skyline Dr.	A request to add 1 new Tower Dish to the Cell Tower as allowed by CUP 99-05 Applicant: Crown Castle	Administrative to modify CUP 99-05	✓	N/A	N/A	Building permit issued 10/2/14	N/A	N/A				Crown Castle has new management and resolved interference issues. Plans approved and permit issued for 1 new dish for Clearwire 10/2/14. Current tenants have current business licenses (4/15). An updated audit of equipment and tenants was submitted and revisions are pending. Plans have been submitted requesting additional equipment as allowed under the CUP (9/15). CTD
1855 Coronado rooftop facility	Replacing 56” panel with 72” panel antennas, screen box in sector A & B will be increased by 3’ Applicant: Core Dev.	Administrative to modify CUP 08-03	✓	N/A	N/A	Permit ready for issuance	N/A	N/A				Plans ready for permit issuance (4/15). Reminder sent to applicant (9/15). SA

City of Signal Hill
Community Development Department
Development Status Report
September 8, 2015

Wireless Telecommunications Facilities

			REVIEW			SPDR			CTL			
Address	**Project Description**	**Application**	**Director approval**	**PC approval**	**CC approval**	**Expires**	**1st Ext.**	**2nd Ext.**	**Expires**	**1st Ext.**	**2nd Ext.**	**Status**
2201 Orange Ave. T-Mobile on Crown Castle Monopalm	A request to add 3 new 8' panel antennas and relocate 3 existing antennas on 3 arms of the existing monopalm	Administrative to modify CUP 07-04	✓	N/A	N/A	Building permit finaled 7/13/15	N/A	N/A				Permit finaled 7/13/15. CTD/JH
2652 Gundry Avenue T-Mobile	Adding (1) 2' microwave dish to an existing wireless communication monopalm	Administrative to modify CUP 10-01	✓	N/A	N/A	Building permit issued 5/28/15	N/A	N/A				Permit issued 5/28/15. SA
2525 Cherry Avenue Sprint	Removing and replacing the 3 existing antennas	Administrative to modify CUP 02-01	✓	N/A	N/A	In progress						Planning Department approved plans to go into building plan check (6/15). SA
2633 Cherry Avenue AT&T	Rooftop Wireless Telecommunication Facility for AT&T Applicant: Core Dev.	CUP	N/A	Required	Required							Staff met with the applicant to review preliminary plans for the rooftop facility and suggested revisions to elevations and plans for aesthetics (5/14 and 7/14). Applicant preparing plans and expects to resubmit (5/15). SA


september
5

CITY OF SIGNAL HILL

2175 Cherry Avenue ◆ Signal Hill, CA 90755-3799

September 8, 2015

AGENDA ITEM

TO: **HONORABLE CHAIR**
AND MEMBERS OF THE PLANNING COMMISSION

FROM: **SCOTT CHARNEY**
COMMUNITY DEVELOPMENT DIRECTOR

SUBJECT: **IN THE NEWS**

Summary:

Articles compiled by staff that may be of interest to the Commission include:

- Meeting the Vacant Property Challenge
- EPA Proposes Cutting Methane Emissions from Oil, Natural-Gas Drilling
- Utilities Can Be Beautiful – Artful Rainwater
- Home Sharing in the New Economy
- Under the Big Top

Recommendation:

Receive and file.

Meeting the Vacant Property Challenge

LAW

THE LINGERING FORECLOSURE CRISIS RESULTED IN A PROLIFERATION of vacant properties, both in perpetual hard-luck cities and in boomtowns. Without a comprehensive strategy for stabilizing and revitalizing vacant properties, many communities continue to struggle with blight.

The National Vacant Properties Campaign defines vacant properties as unoccupied residential, commercial, and industrial buildings and lots that meet one or both conditions: the site is a public nuisance, or the owners have failed to meet the financial requirements of ownership.

Beyond the health and public safety risks, vacant properties put a huge strain on municipal budgets. According to a 2005 Homeownership Preservation Foundation study, local governments in the Chicago area spend between $5,000 and $34,000 to secure and maintain a single vacant property. And vacant properties drag down the values of nearby properties. The NVPC estimates that homes in close proximity to vacant structures may lose more than $7,500 in value.

A successful strategy for stabilizing and revitalizing vacant properties

Communities need to develop comprehensive stabilization and reclamation plans to stem the tide and restore productive use. The NVPC cites these components for successful reclamation planning: a vacant properties monitoring system, a comprehensive approach to code enforcement, and a mechanism to facilitate property acquisition and reuse. Policy advocates agree that the most promising tools are better property information systems, improved code enforcement tools, and new acquisition authorities such as land banks.

Property information systems

An effective real property information system can concentrate on two distinct sets of data: (1) information about current vacant properties and (2) information about properties with a high risk. These lists of vacant and problematic properties help identify responsible parties, track complaints and code violations, and connect potential buyers to redevelopment opportunities. Systems that also include information about distressed—but not yet vacant—properties are an early warning system. These systems target code enforcement and reinvestment resources strategically.

Enforcement tools and strategies

Traditional code enforcement has long relied on two related regulatory tools: (1) property maintenance codes and (2) nuisance property ordinances. In recent years, overwhelmed officials have turned to vacant property registration ordinances to identify and hold owners accountable for maintenance and security of properties.

Property maintenance requirements address both potential future structural problems (e.g., cracked foundations and leaky roofs) as well as aesthetic concerns (e.g., chipped paint or cracked windows). Some codes also establish standards for landscaping and other design features.

Traditional nuisance law authorizes corrective actions to bring properties into compliance. Effective administration of nuisance ordinances relies on clear standards that define a nuisance and guidance on when a local government can act.

Limitations of traditional codes

Property maintenance and nuisance abatement requirements assume the existence of a physical owner or an easily identifiable institutional owner such as a bank. Yet one of the key contributing factors to ongoing foreclosures was the creation of exotic mortgage derivatives that divided interest among a wide range of investors and institutions that have no incentive to maintain properties.

While many local governments are authorized to obtain administrative abatement orders to bring vacant properties into compliance, the upfront costs can be a disincentive. Many communities are simply overwhelmed by the numbers.

Vacant property registration

Beyond traditional code enforcement, many communities have adopted vacant property registration ordinances. They require owners to notify the local government when a property becomes vacant. Most ordinances also require owners to pay a registration fee to defray the costs of providing municipal services. Additional provisions may include property maintenance standards, proof of insurance, and a plan to return vacant properties to productive use.

There are two basic types of VPR ordinances: those that regulate all vacant and abandoned properties regardless of ownership structure and those that target properties in foreclosure. VPR ordinances include a list of definitions and a statement of applicability, and clarify which types of properties must comply. The ordinances are triggered based on the length of time a property is vacant or when it enters the foreclosure process.

MARKTOWN, INDIANA

At that point, owners must register the property within a certain number of days and pay a fee to cover inspection and service costs. Some communities waive the fee without waiving other requirements to assist community development corporations, land banks, or other entities to facilitate reuse.

A number of VPR ordinances compel owners to submit a plan detailing how

they will bring properties into code compliance and return them to productive use. Some plans document the steps the owner will take to bring the property up to code and state a target date when the property will either be demolished or ready for reuse. Enforcement provisions ensure that owners take the registration requirement seriously. Failure to register often results in a monthly late fee; some ordinances stipulate that the local government can place a lien on delinquent properties or pursue criminal prosecution.

Acquiring and recycling properties

Long-term revitalization depends on policies that expedite the acquisition and reuse of abandoned and tax-delinquent properties. Governments acquire vacant properties through tax foreclosure, eminent domain, and gift property programs.

Managing these processes and programs is complex. Communities have partnered with community development corporations or created new redevelopment authorities to focus on recycling vacant properties.

Land banks

Land banks are local governmental or nonprofit entities that acquire, maintain, and facilitate vacant property redevelopment. Funding typically comes either from local governments or from revenue generated through operations.

The Neighborhood Stabilization Program (authorized by the Housing and Economic Recovery Act of 2008) and the American Recovery and Reinvestment Act of 2009 allow land banks to acquire foreclosed and abandoned properties in addition to those with tax liens.

Conclusion

Real property information systems, aggressive code enforcement, and mechanisms to facilitate the acquisition and reuse of vacant properties are all important strategies to tackle this community challenge.

—David Morley, AICP

Morley is a senior research associate at APA. This article was adapted from the June 2010 issue of Zoning Practice.

Sagamore Farms in northwest Baltimore County, Maryland.

HISTORY

THE PLAN FOR THE VALLEYS. In the early 1960s, it became apparent that the mostly rural area of rolling hills and valleys just north of the Baltimore Beltway was being encroached upon by the city's urban growth. Residents and business owners alike started considering how future development of the area should take shape. Property owners hired David Wallace and his partner Ian McHarg to create a plan that would allow for new development while preserving rural character.

The resulting plan, which won an APA National Planning Landmark Award in 2010, was revolutionary for its use of urban growth boundaries, transfer of development rights, and environmental conservation. While Baltimore County did adopt and implement the plan at the behest of property owners, the transfer of development rights concept, as well as some other components, was absent. The *Plan for the Valleys* and revisions that have followed have undeniably influenced the pattern of development in Baltimore County and introduced new planning approaches.

—Ben Leitschuh

Leitschuh is APA's education associate.

RESOURCE FINDER

Learn more about the plans, planners, and places that made history.

APA RESOURCES

Planning Landmark Awards
planning.org/awards/landmarks.htm

Planning Pioneers Awards
planning.org/awards/pioneers.htm

100 Essential Books of Planning
planning.org/library/greatbooks

OTHER RESOURCES

The City Reader, 5th Edition (The Routledge Urban Reader Series)
routledge.com/books/details/9780415556651

American City Planning Since 1890
Mel Scott

WEB RESOURCES

Planning History Timeline: a Selected Chronology of Events (with a focus on the U.S.)
Scott Campbell, University of Michigan
www-personal.umich.edu/~sdcamp/up540/timeline12.html

"What is a City?"
Lewis Mumford
Architectural Record (1937)
http://tinyurl.com/oy3vvw7

—Ben Leitschuh

THE WALL STREET JOURNAL.

http://www.wsj.com/articles/epa-proposes-cutting-methane-emissions-from-oil-natural-gas-drilling-1439915525

BUSINESS

EPA Proposes Cutting Methane Emissions From Oil, Natural-Gas Drilling

Rules to apply to new wells, aim to cut such emissions from the sector by up to 45%

Methane gas burns off at Knott Landfill east of Bend, Ore., in January. *PHOTO: ASSOCIATED PRESS*

By AMY HARDER and ERIN AILWORTH

Updated Aug. 18, 2015 7:08 p.m. ET

WASHINGTON—The Environmental Protection Agency on Tuesday proposed rules aimed at cutting methane emissions from oil and gas production by requiring energy companies to install new technologies at future wells.

Some industry officials criticized the proposed rules as duplicative, but several companies that produce and transport natural gas said they already were taking such steps voluntarily.

Tuesday's proposals were part of a broader Obama administration goal to cut methane emissions from oil and gas production by as much as 45% from 2012 levels over the next decade.

The required reductions of methane—a potent greenhouse gas—from new oil and natural-gas wells supplement voluntary initiatives the EPA outlined a few weeks ago to address emissions at existing wells.

Many companies that produce or transport natural gas cautiously supported the EPA regulations as well as the measures designed to encourage companies to cut emissions from existing wells. Since natural gas is made up primarily of methane, cutting methane emissions would leave natural-gas companies with more gas to sell.

Oil and gas wells are a major source of the greenhouse gas methane. *PHOTO: ASSOCIATED PRESS*

"We think that the combination of approaches really allows a company a lot of flexibility to assess their own emissions profile and determine for that particular company what is the most cost-effective way to reduce methane emissions," said Mark Boling, an executive vice president at Houston-based Southwestern Energy Co. , one of the nation's largest natural-gas producers.

Almost two years ago, Southwestern helped set up ONE Future, a group of natural-gas companies and electricity producers, to work toward cutting methane emissions. Its members include pipeline company Kinder Morgan Inc., global mining giant BHP Billiton Ltd. and power utility National Grid PLC.

Other industry officials, especially those representing a broader swath of companies producing both oil and natural gas, were more critical of the rule.

Jack Gerard, president and chief executive of the American Petroleum Institute, an industry trade group, said the rule duplicated a 2012 measure that requires cuts of volatile organic compounds—smog-forming pollutants—from new natural-gas wells, which has indirectly cut methane emissions.The EPA estimates that the proposed rule for new oil and gaswells—the biggest of three regulatory steps the agency proposed Tuesdaywill cost the industry between $320 million and $420 million a year by 2025 and provide climate-change benefits of $460 million to $550 million."Today, through our cost-effective proposed standards, we are underscoring our commitment to reducing the pollution fueling climate change and protecting public health while supporting responsible energy development, transparency and accountability," said EPA Administrator Gina McCarthy, adding that natural gas, which produces 50% fewer carbon emissions than coal, is a key component of EPA's rule cutting carbon emissions from power plants

"The oil and gas industry is leading the charge in reducing methane," Mr. Gerard said. "The last thing we need is more duplicative and costly regulation that could increase the cost of energy for Americans."

RELATED

- States Move to Block New Federal Carbon Rules (http://www.wsj.com/articles/states-move-to-block-obama-administration-carbon-rules-1439502365) (Aug. 13)
- Obama to Visit Arctic (http://www.wsj.com/articles/obama-to-visit-arctic-later-this-month-1439478165) (Aug. 13)
- Impact of EPA's Emissions Rule on Industry to Vary (http://www.wsj.com/articles/impact-of-epas-emissions-rule-on-industry-to-vary-1438645662) (Aug. 3)

The agency also said Tuesday it was proposing guidelines to cut volatile organic compounds from about 30,000 existing oil and natural-gas wells in some areas of the country that don't meet other EPA air-pollution standards. They represent about 3% of the roughly one million wells operating in the U.S. today.

The EPA is expected to complete the rules it proposed Tuesday in 2016, after a public-comment period.

The EPA's rules are by far the biggest part of an administration-wide goal of cutting U.S. methane emissions from the oil and gas sector by 40% to 45% by 2025, accounting for up to 30% of it. Other regulations and efforts in the works to address methane emissions include voluntary programs EPA administers and Interior Department regulations not yet proposed that aim to cut methane emissions from oil and gas wells on public lands.

The measures are part of a broader regulatory agenda President Barack Obama is pursuing as he seeks to make addressing climate change a legacy of his presidency and forge a global accord to cut carbon emissions at a United Nations summit later this year. Earlier this month, the EPA issued final rules requiring cuts in carbon emissions from power plants of 32%, based on emissions levels from 2005.

Since 2005, domestic oil production has nearly doubled and natural-gas production has risen by about 50%, according to the U.S. Energy Information Administration. Methane emissions from the sector dropped roughly 15% between 2005 through 2012, according to EPA data, but the agency estimates that these emissions will rise 25% over the next decade if steps aren't taken to reduce them.

While some companies have made efforts to cut their emissions, those efforts have been scattered, said Andrew Logan, director of the oil and gas program at Ceres, a Boston-based nonprofit group that works with more than 100 companies with investments totaling $13 trillion to address climate risks to their business.

He said the rules proposed by the EPA are a good first step because they regulate methane emissions directly, even though they target only new projects and infrastructure. Emissions from existing operations also need to be tackled, Mr. Logan and many environmental groups said Tuesday.

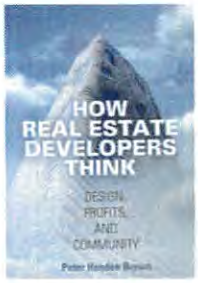
"That gap has to be closed some way in the future," Mr. Logan said. "If methane isn't dealt with by the industry as a whole, natural gas could be seen as part of the problem."

Write to Amy Harder at amy.harder@wsj.com and Erin Ailworth at Erin.Ailworth@wsj.com

the fact that wholesale clearance often destroyed viable communities. "Countless historic sites have tainted pasts in this respect." The Empire State Building replaced the original Waldorf Astoria. Central Park displaced a population of squatters with the goal of enhancing high-end residential development.

Even well-loved designs, like that of the Twinbrook subdivision in Montgomery County, Maryland, may fall victim to smart growth, as it is near a D.C. Metro station and Rockville town center. Longstreth argues that rebuilding it at a much higher density "would entail the loss of a quiet, spacious, leafy environment that cannot be created anew for middle-income households in a major metropolitan area."

Noteworthy are Longstreth's passionate defenses of Richard Neutra's visitor center at Gettysburg (demolished in early 2013 despite a 15-year preservation campaign) and of the community garden at 3901 Connecticut Avenue in Washington, D.C. (destroyed in 1996, the day after being denied protection by the D.C. Historic Preservation Review Board). More than half the places in his case studies have been destroyed, and "this action occurred in places, or by parties, well known for their distinguished preservation records."



How Real Estate Developers Think: Design, Profits, and Community
2015; University of Pennsylvania Press; 325 pp.; $79.95 cloth or e-book.

Developer stories

Peter Hendee Brown (University of Minnesota) wants people to understand developers. So he focused on mixed use and multifamily residential projects in city centers, and interviewed more than 100 developers in Chicago; Miami; Portland, Oregon; and Minneapolis-St. Paul for *How Real Estate Developers Think: Design, Profits, and Community.*

"Based on a simple version of the serenity prayer, the objective of this book is to help people who study or work with developers to accept the things they cannot change, identify those things that can be changed, and develop the wisdom to know the difference." Developers are okay: Adjust yourself.

The Artful Rainwater Design system at the Oregon Convention Center Rain Garden in Portland controls stormwater runoff and allows visitors to interact with the water.

The book is more a series of stories than a systematic presentation. Chapters describe visionary developers, deal making, the real estate development process, developers and architects, good design, market cycles, place creation, and developers and the community.

The author argues that "successful developers must always be thinking in terms of what people will want"; he also shows them in the process of making them want it. The reader learns about sales techniques, including a sales center described as a "Disneyland for real estate," and a Miami development with a room "where snowflakes fell from the ceiling."

The final chapter focuses on negotiations and offers advice to neighbors. Hendee Brown advises knowing the code and the costs. "Instead of insisting that the developer use brick when the metal panels they are proposing are allowed by the code, focus your comments on the quality of the panel and the pattern, colors, and details."

There is plenty to learn, but the instructor is not impartial. In the first story, obstreperous neighbors block a developer's innovative proposal, and he ends up building within the existing code. The neighbors wind up with a view of a blank brick wall. The author calls this a "lose-lose" situation for both sides, concluding that the neighbors "misunderstood that the developer had rights and options" and that the developer understood the neighbors' strategic position "better than they did themselves." Did the author speak to any of the neighbors in reaching these conclusions? He appears to have told the story from the point of view of the developer's architect.

Utilities can be beautiful

Landscape architects Stuart Echols and Eliza Pennypacker (both of Penn State) have been studying Artful Rainwater Design since he coined the term in 2005. Their new book, *Artful Rainwater Design: Creative Ways to Manage Stormwater* (2015; Island Press; 284 pp.; $45), shows how to treat the initial 1.5 inches of rain as an opportunity to create, beautify, and educate, rather than as a polluted nuisance to be removed as quickly as possible. They are not doing flood prevention or dealing with disastrous downpours, but these lesser showers comprise 60 to 90 percent of all rain events.

Their introduction and first chapter on history and background expand on the ARD concept. When successful, it "not only controls the quantity of runoff and improves its quality but adds experiential

value to the landscape." It usually involves increasing the transparency of the process and the visibility of the water itself, using a multitude of small green infrastructure ideas rather than a single large solution. The scale is on-site, not local or regional or statewide. (Think of a downspout spraying water on a metal sculpture, instead of a fenced-off two-acre detention pond.)

Three sections follow: one on the amenities ARD can offer (education, recreation, safety, public relations, and aesthetic richness), one on the useful things it can do (reducing pollutants, reducing downstream damage, safely moving rainwater, capturing rain for reuse, and restoring or creating habitat), and a lengthy section presenting 20 case studies.

The book is practical as well as visionary. Maintenance is discussed, and participation recommended: In one case, asking contractors for suggestions early on resulted in "some very useful refinements and additions to the planned strategies." The gorgeous photographs on almost every page make an eloquent case for twinning beauty with sustainability.

Global Amenity Migration: Transforming Rural Culture, Economy & Landscape
2014; The New Ecology Press; 435 pp.; $76 paper.

Worldwide rural gentrification?

Laurence A. G. Moss and Romella S. Glorioso, both of the International Amenity Migration Centre, have edited *Global Amenity Migration: Transforming Rural Culture, Economy & Landscape*, a collection of 25 articles by 41 contributors.

The editors define amenity migration as "people moving to places they perceive as having higher quality of natural environment and/or distinctive culture, with an expectation that their quality of life will be enhanced." Usually these are rural areas and relatively wealthy migrants who may maintain more than one residence and who commodify "local culture and the natural environment." A subset of these migrants, possibly diminishing, are said to be moving to the countryside "to live a different 'life style,'" but how such a distinction could be made is unclear.

The collection's strong point is its multinational focus, with chapters touching on the American West, a valley in western Canada, France, Italy, Norway, the Czech Republic, Slovenia, Chile, Argentina, Mexico, Morocco, Vietnam, and China.

In the concluding chapter, Glorioso describes amenity migration as one of two "global forces" that have become increasingly significant in the last 20 years. The other force is climate change. Making this comparison plausible is a challenge the authors fail to meet. Specific numbers on amenity migration are scarce and those provided are puzzling. In a random sample of home owners in two southwestern Canadian valleys, 57 percent reportedly "identified themselves as amenity migrants," but no numbers are given and it's unclear how the respondents even knew what the term meant. Still, the trend's significance for particular places is not in doubt.

Vagueness about the size of the movement is paralleled by vagueness about the desired outcome. Glorioso describes her research as "transforming rural communities for sustainability," suggesting that there might be better and worse ways to be an amenity migrant. Moss writes that energy costs may "force a marked decrease in human mobility, and therefore a dramatic reduction in amenity migrants," and suggests a scenario in which "the 'alternative culture' amenity migrants are welcomed while others are typically excluded." Just how might that happen, especially when the amenity locations generally need outside revenue, is left unclear.

As in urban gentrification and urban sprawl, the result of amenity migration may be the gradual loss of the distinctive culture and environment that attracted migrants in the first place. But even these effects are described in such general and polemical terms that outsiders cannot see what is going on. One chapter discusses Santa Fe and "the appropriation of historic barrios through gentrification for and by amenity migrants." Residents of modest means "have been effectively excluded from their customary places of residence, socializing, amusement, and commerce. This began with the disappearance of their everyday activities in the central plaza as shopping and socializing there by wealthier amenity migrants was successfully promoted." Injustice does not happen passively; exactly who did what to whom, and by what mechanisms?

Place-based leaders versus placeless capitalism?

"Place-less institutions, meaning organisations that make investment decisions without caring about the consequences for people in the places affected, have gained too much influence in modern society." And therefore "civic leadership should build inclusive, sustainable cities." So writes Robin Hambleton (University of the West of England, Bristol) in his new and substantial entry in the group of books seeking a way for cities to change the big picture on their own, *Leading the Inclusive City: Place-Based Innovation for a Bounded Planet* (2015; Policy Press, distributed by University of Chicago Press; 397 pp.; $99 cloth, $42.95 paper).

Hambleton's book is organized to be used as well as read; it is divided into four parts: diagnosis of trends and challenges; concepts of innovation and democratic urban governance; place-based leadership in action; and lessons to be drawn. Scattered throughout are "innovation stories" of two or three pages each, from New York City; Bristol; Chicago; Swindon; Enschede; Langrug, South Africa; Auckland; Malmo; Curitiba; Guangzhou; Freiburg; Copenhagen; Melbourne; Hamamatsu; Toronto; Portland; and Ahmedabad. Hambleton does not say these are "best practices," a term he regards as overly simple. Rather, "a good story enhances understanding and stimulates a creative response."

The author does a good job of pulling in relevant concepts from other authors, giving positive play to Stephen Lukes's view of power as (in part) the ability "to prevent issues from ever reaching the public arena in the first place," and a negative take on Cass Sunstein's idea of "nudging" the public into behaviors deemed better.

Can the locally inclusive measures the author describes and promotes add up to a global counterpoise to placeless power? At worst, these urban initiatives may improve local life and lessen the polarization and hopelessness that privatization and market-based reforms are creating.

—Harold Henderson

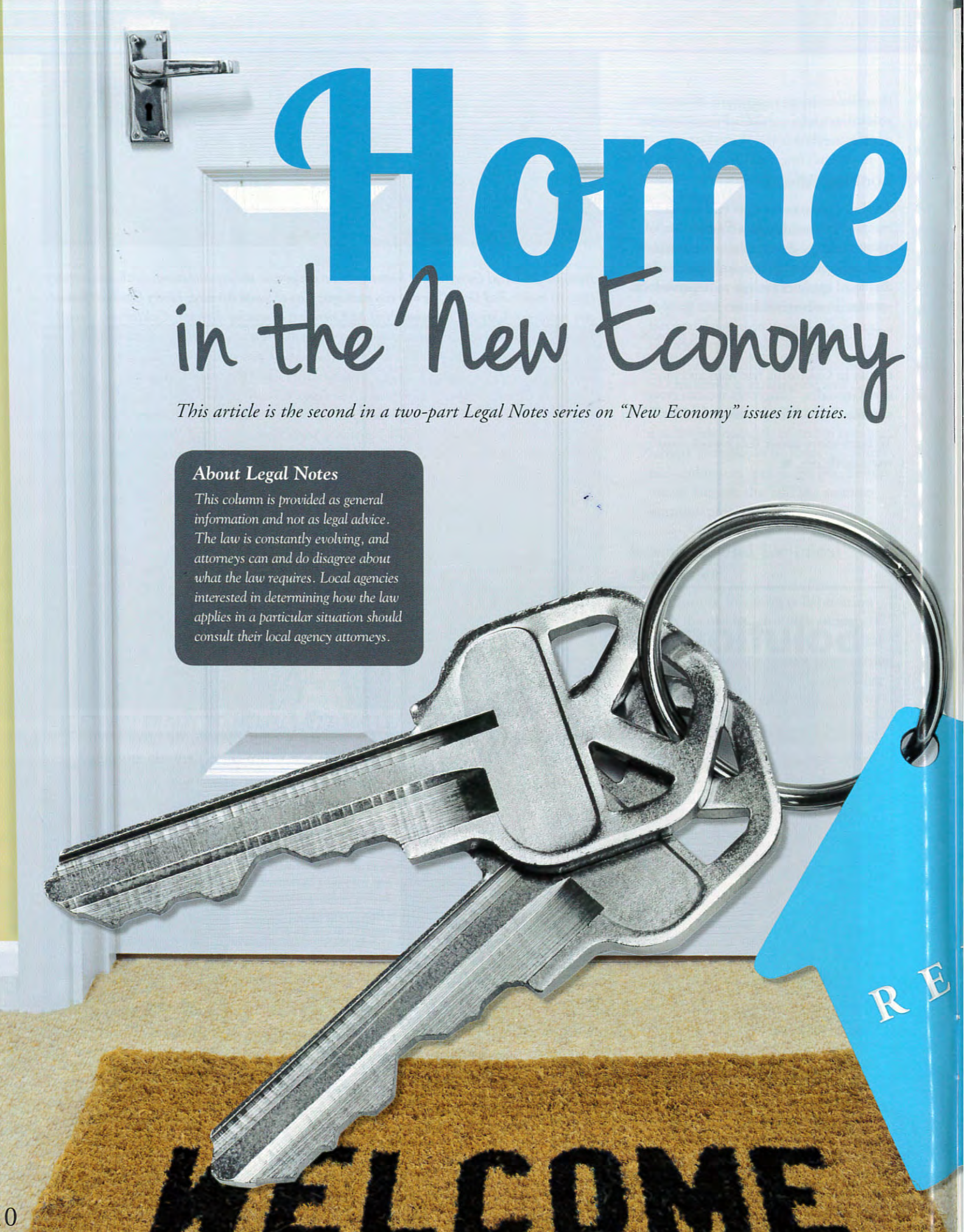
Henderson is Planning*'s regular book reviewer. Send new books and news of forthcoming publications to him at 1355 W. Springville Road, LaPorte, IN 46350; e-mail: hhsh@earthlink.net.*

Home in the New Economy

This article is the second in a two-part Legal Notes series on "New Economy" issues in cities.

About Legal Notes

This column is provided as general information and not as legal advice. The law is constantly evolving, and attorneys can and do disagree about what the law requires. Local agencies interested in determining how the law applies in a particular situation should consult their local agency attorneys.



Sharing

by Trevor Rusin and Andrea Visveshwara

With short-term residential rentals exploding in popularity in the "new" or "sharing" economy, many cities are taking a hard look at the impacts of such rentals in the community. Online hosting platforms such as Airbnb, HomeAway and FlipKey create a direct connection between hosts (for example, residential owners) and travelers or other temporary visitors and make it easy to rent a home or room for short periods of time. Opponents are concerned with loss of housing stock and the residential character of neighborhoods. Neighbors may complain about impacts from parking, traffic and noise, as well as other public safety issues. Hotels may also complain that short-term residential rentals do not have the same overhead costs and regulation that they face.

Alternatively, proponents may desire to supplement their income with such rentals for a variety of reasons, such as to offset a job loss. The business community may also welcome the positive effects of more visitors who frequent city restaurants and purchase other services.

Although not specifically designed to address the sharing economy, cities' traditional regulatory tools allow communities to address short-term rentals and their potential impacts. This article provides an overview of these tools and their reach.

Short-Term Residential Rentals Can Be Regulated as a Land Use

The California Court of Appeal in *Ewing v. City of Carmel-by-the-Sea* considered whether a city ordinance that banned short-term rentals (residential property rentals of 30 days or less) was valid. The ordinance was based on the city's General Plan policies related to strengthening the residential character of neighborhoods in the city by limiting commercial uses in residential neighborhoods. The plaintiffs owned a single-family property in a residential district and rented the property to tourists for short stays. They argued the ban ordinance did not advance a legitimate government interest, citing a lack of complaints about the rentals. However, the court found that the short-term rentals alone sufficiently threatened the residential character of a neighborhood because "short-term tenants have little interest in public agencies or in the welfare of the citizenry." Accordingly, the court upheld the city's prohibition.

A city is not limited to imposing a strict prohibition or ban and may use its constitutional police power to allow short-term rentals subject to conditions designed to address potential negative impacts. Options include a density restriction or allowing the rentals only in certain areas to mitigate against harm to a neighborhood's residential character. Alternatively, a city may allow short-term rentals where the host is present (for example, renting a room or guesthouse), but prohibit them where the host is not present (for example, renting the entire residence). Cities may also consider limiting the number of days in a calendar year that a property can be used as a short-term rental or implement related parking or noise restrictions.

continued

Trevor Rusin is an attorney with the law firm of Jenkins & Hogin LLP and assistant city attorney for the City of Malibu. He can be reached at trusin@localgovlaw.com. Andrea Visveshwara is an assistant city attorney for the City of Petaluma and can be reached at avisveshwara@ci.petaluma.ca.us.

LEGISLATIVE SUBPOENA GUIDE

Authority	**General Law Cities:** Government Code Sections 37104–37109 **Charter Cities:** California Constitution Article XI, sections 3(a) and 4(e), and may be codified in city's charter. ***Note:*** *A charter city's subpoena power may be broader than a general law city's power.*

Execution	• Subpoena must be authorized by ordinance or similar enactment, signed by the mayor and attested by the city clerk.
	• Served in same manner as civil subpoenas.
	• Must detail a valid legislative purpose, the need for the subpoena and the relevance of the materials or testimony sought.
	  ○ **Note:** "Matters relating to the investigation and enforcement of tax measures are proper legislative concerns."
	• Must comply with general subpoena requirements, notably:
	  ○ The materials/testimony sought must be sufficiently defined;
	  ○ It must not be overly broad or unduly burdensome; and
	  ○ It must not run afoul of any statutory or common law privilege that prevents disclosure.
	• To ensure complete records are produced, both records and an appearance at a city council meeting should be demanded. If complete records are produced three days before the meeting, the personal appearance can be excused.

Consequences	If the subpoenaed party fails to comply, the city needs to report the violation to the superior court. The judge will issue an attachment for the party and begin contempt proceedings where the disobeying party faces fines and/or jail.

A fully footnoted chart is included in the online version of this article at www.westerncity.com.

One option for implementing conditions is requiring hosts to obtain an administrative permit or otherwise register with the city pursuant to an ordinance. A key benefit of this practice is that it makes the host known to the city and facilitates communication. The city may also charge a permit fee, which can offset the cost of administering the permitting program.

Short-Term Rentals May Be Taxed

Short-term rentals also present a potential source of revenue for cities. Revenue and Taxation Code Section 7280 allows a city to tax "the privilege of occupying a room or rooms, or other living space, in a hotel, inn, tourist home or house, motel or other lodging unless the occupancy is for a period of more than 30 days." Thus, these rentals *may* already be subject to a city's transient occupancy tax (TOT) ordinance, depending on how the jurisdiction has defined its ordinance.

In addition, SB 593 (the Thriving Communities and Sharing Economy Act) is a two-year bill that the Legislature will consider again in 2016. If passed, the bill would amend Section 7280 to declare that existing law allows a city to levy a tax on short-term rentals pursuant to its TOT ordinance on either a host or a hosting platform.

A short-term rental may also be considered a business, subject to a city's business license and tax requirements.

Enforcing Compliance With Local Ordinances

Permitted Use by Right in All or Certain Zones. The easiest and most cost-effective ordinance to enforce is one that allows short-term rentals. This type of ordinance may include a requirement that hosts register with the city. Such an ordinance will also generate the greatest tax revenue if the rentals are subject to the city's TOT. It encourages registration and payment of taxes because:

- There is no benefit to avoiding registering; and
- There are heavy financial penalties (including back taxes, penalties and interest) for not complying.

continued on page 30

Home Sharing in the New Economy, continued from page 12

Cities that employ this type of ordinance will not only be able to take enforcement action against problem rental properties (for example, properties that violate nuisance, noise or special-event permit ordinances), they will also be able to educate and communicate more effectively with hosts. If short-term rentals are permitted in only some areas of the city, the benefits will decrease proportionally. This type of ordinance may work best in a city where there are not significant concerns about housing stock being depleted.

Bans. This type of ordinance is the next easiest to enforce because a single violation is enough for city staff to take enforcement action, and once a violating property is found it can be monitored. Although a ban may eliminate some short-term rental use, it may also drive the hosts underground. Some hosts may disguise their properties online, falsify or eliminate the rental paper trail and use middlemen to avoid detection and repercussions. Such deception makes enforcement costly and time consuming, with no tax revenue to offset the cost of enforcement.

One option to simplify enforcement is to adopt an ordinance that bans advertising of short-term rentals. There is no right to advertise illegal activity, which opens the door to taking action directly against websites that facilitate such rentals. If passed, SB 593 might provide another tool for enforcing a ban as it would prohibit website platforms from advertising short-term rentals in cities where they are not allowed.

Allowed Subject to Conditions. These ordinances are seen as a compromise between local proponents and opponents of short-term rentals. However, the conditions imposed:

- **Are harder to prove.** A city must show not just that a rental occurred, but that the rental violated the conditions. For example, depending on the ordinance, a city may need to prove a violator exceeded the number of rentals allowed in a year for the property or rented out an entire home instead of a room, depending on the conditions in the ordinance;

- **Make violators harder to detect because renting is allowed.** It is much easier to detect rental activity than to determine if specific conditions are being violated; and
- **May discourage host registration if conditions are too complex or burdensome.**

The effect conditions will have on registration should therefore be carefully considered. If SB 593 passes in 2016, enforcement of such ordinances may be more feasible because of the information that hosting platforms will be required to provide to cities. For now, enforcement may prove challenging.

Enforcement Tools

Short-term rentals can be easily disguised to look like legitimate long-term rentals. A few tools exist to make enforcement efforts easier. They include education efforts, legislative subpoenas, undercover operations, using advertising against hosts, and TOT collection by the hosting platform.

Education. Educating the community about an ordinance should be a primary focus. Hosting platforms may be open to assisting such efforts.

Legislative subpoenas. All California cities can issue subpoenas to aid investigation and enforcement related to short-term rental ordinances (see "Legislative Subpoena Guide" on page 12). These subpoenas are a powerful tool and can be used to:

- Obtain information from hosting platforms; and
- Obtain information directly from hosts.

While effective at gathering information from hosts or hosting platforms based in the same county as a city, enforcing a legislative subpoena against more distant hosts or hosting platforms may face stiff

continued

Looking for Footnotes?

For a fully footnoted version, read this article online at www.westerncity.com.

resistance. If enacted, SB 593 would also require hosting platforms to produce quarterly reports detailing the addresses, dates of stay and amounts paid for short-term rentals booked on their platforms. This information could aid a city in assessing TOT owed and detecting rentals that violate an ordinance.

Undercover operations. These efforts can be an effective tool if a city has a ban or allows short-term rentals subject to conditions. However, a substantial investment of staff time is needed for the investigations.

Use advertising against hosts. Without online hosting platforms, short-term rentals would exist only on a small scale. As a result, most hosts advertise on the platforms. Information from hosting platforms should be downloaded, preserved and investigated.

TOT collection by the hosting platform. If a city collects TOT from short-term rentals, the city can request or require the hosting platform to collect and remit the tax directly to the city. Thus far, Airbnb has been the only hosting platform willing to collect TOT at the request of a city and does so in San Francisco, San Jose and Malibu.

Consider Local Options Carefully

Cities have a variety of options available in crafting an ordinance that best addresses short-term rentals in the community. The right ordinance may differ greatly among cities, depending on the local goals for the regulation. Ordinances that focus on the key impacts of concern and that are easy to understand and straightforward to enforce will have the best success in meeting the community's needs. For more information about short-term rentals, visit the League's "Hot Issues" page at www.cacities.org/vacationrentals. ■

Under the Big Top

Google's radical proposal for flexible offices includes stackable modular components.

BY JAMES S. RUSSELL

SINCE IT was founded in 1998, Google has hardly been a pioneer in office architecture. But, last March, the company submitted a proposal to the city of Mountain View, California, that radically reimagines the concept of the suburban office park. The extraordinarily innovative 2.5 million-square-foot project, designed by a team led by Bjarke Ingels Group (BIG) and the Heatherwick Studio of London (page 33) is composed of four immense, translucent tentlike buildings—a far cry from the many spec office buildings Google currently owns and occupies in Mountain View. Since 2004, its main headquarters, known as the Googleplex, has been in a corporate office park originally designed by STUDIOS Architecture (a member of the BIG/Heatherwick team) for Silicon Graphics and completed in 2000, then refitted by Clive Wilkinson.

Unfortunately, the city of Mountain View has only approved 500,000 square feet of the BIG/Heatherwick plans, one fifth of the proposal. While the architectural team continues to work on the design—perhaps to take it to another site, though no one is commenting—it's worth studying the original, to see how Google has come up with an entirely new idea for the office of the future. The hugely ambitious design breaks open the hermetic office

The enormous tentlike structures (below) would stand outside the stacked workplace modules (above) and admit daylight and allow ventilation. The tent membrane is designed as a lightweight two-layer system with an insulating airspace between. In the cavity, umbrella-like elements would open or shut to control light and shade.

park, dramatically lowers energy use, and invents demountable structural components that could vastly simplify future renovations or retrofitting.

These innovations could transform architecture.

For the four buildings, Google proposed to demolish more than a dozen of the aging spec structures the company is occupying and to replace acres of surface parking with extensive landscaping, public space, and a restored waterway. With city incentives to reduce commuting by single-occupancy vehicles, 4,700 bike-parking slots—but only 2,500 parking spaces for cars—would serve the entire complex (that's one third the car space Apple is providing at its new headquarters in Cupertino, for a similar head count of around 10,000 employees). A public "green loop" would link these parcels, via bike lanes and walkways, with several other Google sites in Mountain View, including the Googleplex, which would remain.

The proposed plans (above and below) included gardens and a "green loop" of bike paths and walkways to link various Google sites in Mountain View with each other.

Supported by a cable-net grid, the tentlike structures rise on widely spaced columns, well outside and above the stacked floors of workspace, which permit a finely tuned exterior for daylighting—as well as natural ventilation and solar-heat control—while allowing unprecedented layout flexibility. Between the tent and workspaces, the generous ground-level perimeter would be largely dedicated to sun-drenched gardens and shared services.

The tent membrane is proposed as a lightweight system, with two layers separated by an insulating airspace about 5 feet deep. The insulating-glass outer membrane integrates PV panels and roof vents to exhaust hot air or smoke in case of fire. Within the cavity, leaflike shades wrap pipes that hold the layers apart. They would deploy umbrella-like elements to control shade and light diffusion. Glass, ETFE, or a composite material could form the interior layer.

But most radical is the workspace structure. The plans call for up to eight stories using a modular column, beam, and floor-tray system that the designers think of as akin to furniture—with components easily added or removed. If such floor-space flexibility can be affordably manufactured, it could open enormous possibilities for transcending the current limitations of corporate real estate—reducing the disruptions of renovation and the expense of unused space.

The system's building block is a 45-by-15-foot metal tray, deep enough to accommodate plenums, ducts, ceiling sprinklers, and data cables. The trays bolt together to form 45-foot-square floor modules that attach to columns. Users could pull up magnetized wood floor panels to reconfigure utilities. The idea is to use replicable utility layouts as much as possible and bring the trays on-site with utilities pre-installed to minimize on-site labor. The plans show widely varying configurations, from loose stacks of modules to dense rows, suggesting just how flexible the system could be. Daylight reaches almost every square foot via atria, light chimneys, and crevices.

The giant tent structures, rising above suburban greenery, may be a riff on Buckminster Fuller's utopian bubbles and owe a debt to Frei Otto. But the commitment to the deep exploration of design and technology by BIG and Heatherwick suggests that Google now sees dramatically reimagined physical facilities as essential to its ongoing competitiveness. The question is just how—and where—the company will turn such visions into pragmatic reality. ■

James S. Russell is an architecture critic and author of The Agile City: Building Well-being and Wealth in an Era of Climate Change.