APPENDIX D PLANNING AND REGULATORY FRAMEWORK FOR LID

Table of Contents

Appendix D: Planning and Regulatory Framework for LID and Recommendations for Counties and Cities to Address LID[1]

1.0 Introduction

Low Impact Development (LID) is a relatively new practice in California and Placer County. As such, LID is not yet well integrated into the state and local planning processes. For example, very few general plans - the foundation of the California planning process - specifically address LID, and subsequently, LID is not addressed (or inconsistently addressed) in later phases of the planning process. Such is the case in Placer County. This Guidebook offers guidance for incorporating LID into project and site planning and serves as a valuable educational tool for planners and designers in the public and private sector. But in order to be successful and realize the full range of environmental protection benefits, LID must also be addressed at the broader community planning scale.

Currently, the State Water Resources Control Board and California Regional Water Quality Control Boards (collectively known as the Water Boards) are driving the use of LID measures in new and redevelopment projects through National Pollutant Discharge Elimination System (NPDES) permits, total maximum daily load (TMDL) mandates, and/or 401 water quality certification requirements. The U.S. EPA is also encouraging LID and has published several related LID and smart growth guidance documents.

2.0 Current Planning Framework for LID

LID and General Plans

Although California has a variety of regional plans, including Regional Blueprints such as that adopted by the six-county Sacramento Area Council of Governments (SACOG), the cornerstone of the California planning process is the General Plan. The General Plan process is defined by California Government Code Sections 65000-66037, which delegate most local land use decisions to individual cities and counties across the state. Each county and incorporated city is required to adopt "a comprehensive long term general plan for physical development."

General Plans include development goals and policies and lay the foundation for land use decisions made by planning commissions, county boards of supervisors and city councils. General Plans must contain text sections and maps or diagrams illustrating the general distribution of land uses, circulation systems, open space, environmental hazard areas, and other policy statements that can be illustrated. The California Government Code specifies that General Plans must contain seven mandatory elements: circulation, conservation, housing, land use, noise, open-space, and safety. Local governments may also voluntarily adopt other elements addressing topics of local interest. Cities and counties could adopt an

[1] Most of the information in this appendix is an adaptation of Appendix B in the Southern California LID Manual, available from the California Stormwater Quality Association (CASQA) LID web portal at www.casqa.org. Additional information about integrating LID into municipal stormwater permit programs was adapted from the Low Impact Development Center (http://www.lowimpactdevelopment.org/lidphase2.)

optional water element in their general plans, but few have done so. Instead, water has most often been partially addressed in either the mandatory conservation element or in optional natural resources or public facilities elements. Water is frequently addressed only in terms of water supply and/or water conservation.

LID, Zoning and Municipal Codes

California law establishes zoning as a regulatory mechanism to implement general plans. Zoning is adopted by ordinances and must be consistent with general plans. Under a zoning ordinance, development is required to comply on a lot-by-lot basis with specific enforceable standards. Zoning ordinances specify categories of land use and associated standards such as minimum lot size, maximum building heights, and minimum building setbacks. Zoning ordinances can include overlay zones that provide additional standards for specified areas such as historic districts, wetlands, and other areas deemed to require extra protection.

Traditional zoning is often referred to as Euclidian zoning after the United States Supreme Court decision that affirmed the legality of zoning to separate land uses. Separation of uses became widespread as zoning gained popularity. LID is not specifically addressed in traditional zoning, but some of the standards included in specific zones can provide significant barriers to implementations of LID practices. For example, setback requirements between structures on adjacent lots (typically established for fire safety reasons) may prevent the clustering of buildings to minimize impervious surfaces and preserve natural areas.

Currently, the planning profession and many communities are experimenting with a different approach to zoning that provides more flexibility regarding building areas within particular zones combined with more stringent regulation of design elements such as architecture, landscaping, and pedestrian-friendly circulation systems. This type of zoning can help to implement smart growth, as was made possible by the approval in 2004 of Assembly Bill 1268, which allowed the use of form-based codes in the state. Form-based codes provide the flexibility to address LID and, in fact, invite the inclusion of detailed LID design elements.

In addition to zoning, municipalities also have a variety of other codes and ordinances that impact the amount of impervious cover and may create barriers for effective implementation of LID practices. To study this situation, the Local Government Commission and Ventura County secured grant funding in 2007 to conduct a review and analysis of Ventura County's codes. This review focused on two overarching questions:

1. Which code (or combinations of codes) drives creation or prevention of excess land disturbances and impervious cover at the regional, community, or neighborhood level?

2. Which aspects of the code (or combination of codes) drive creation or prevention of excess land disturbance and impervious surface at the parcel, lot, or site level (in particular, directly connected impervious surfaces)?

The analysis examined code impacts on several drivers of overall imperviousness in watersheds, including open space, infill and redevelopment, compact design use mix, streets and mobility, parking,

and site planning and environmental design. Within each category, the review included an overview of the land development elements and how they are typically treated within codes and ordinances as well as sample language and discussion of its relevance. In addition to zoning codes, the review examined other codes that impact development in Ventura County, including, the State Streets and Highway Code; building codes; circulation codes; County Fire Protection District codes, standards, and ordinances; open space and growth management ordinances; plumed watercourse setback ordinances; subdivision ordinances; water quality ordinances; transfer of development rights (TDR) programs; floodplain management regulations; land development standards; landscape standards; and local road standards. The study concluded that the codes that have the most widespread impact on imperviousness and implementation of LID practices are the zoning codes, landscape codes, parking codes, and subdivision codes. (Anderson, 2008).

More recently, the City of Bothell in Washington State completed a comprehensive analysis of its municipal codes in 2011 and found barriers to LID techniques such as narrow road widths and sidewalks, reduced setbacks, curbless roads (to allow stormwater to enter swales), and conservation easements. (Bothell, 2011).

Placer County and the local government agencies in the county have not been required to incorporate LID into their municipal codes to date, but future NPDES permit and TMDL requirements are anticipated to require this. Larger municipalities in the San Francisco Bay Area and Southern California are already grappling with this (see Los Angeles Municipal Code case study).

Los Angeles Municipal Code

The City of Los Angeles is amending the Los Angeles Municipal Code to incorporate LID. The code will be amended to "expand the applicability of the existing [stormwater development] requirements by providing stormwater and rainwater LID strategies for planning, and construction of development and redevelopment projects that require building permits" (LA DPW, 2010).

Under the City's LID ordinance any development / re-development will be required to capture and manage stormwater runoff through onsite infiltration, capture and reuse, evapotranspiration, and high efficiency bio-filtration/retention BMPs to the maximum extent feasible. A LID Plan shall be prepared and submitted for the City's Department of Public Works, Bureau of Sanitation for review and approval.

Prior to implementing the LID Ordinance, the Department of Public Works, Bureau of Sanitation will update the current "Development Best Management Practices Handbook" to incorporate an LID Section. The handbook currently provides guidance for developers required to address stormwater impacts. Under the LID Section of the handbook, strategies and techniques to comply with the LID requirements for stormwater management will be included to guide homeowners and developers. In addition, the LID Section will address those instances where LID requirements cannot be fully implemented onsite. Homeowners and developers may opt for offsite mitigation or an in-lieu fee, which would be used later to assist the City in implementing a water quality improvement project within the same subwatershed.

3.0 LID and the California Environmental Quality Act (CEQA)

LID and the Purpose of CEQA

California-based LID practitioners are concerned that the absence of references to LID principles in the California Environmental Quality Act (CEQA) puts LID at a disadvantage in the state[2]. The question of the relationship between CEQA and LID is similar to the questions that have been asked about the relationship between CEQA and the New Urbanist argument, as detailed by Cindy van Empel in her article, "CEQA and New Urbanist Development."[3] Van Empel concluded that the problem is due to varying interpretations of CEQA, rather than with the structure of CEQA itself. CEQA's primary purpose is, in part, to maintain a quality environment, with significant consideration given to preventing environmental damage (PRC §21000). As stated in the CEQA Guidelines (CCR §15002), the basic purposes of CEQA are to inform decision makers of environmental impacts, identify ways to reduce impacts, prevent environmental damage where feasible, and disclose to the public why an agency decides to approve a project in spite of its impacts. CEQA is essentially a disclosure law.

LID in CEQA Guidelines

LID should be incorporated into General Plans in California

As noted in the CEQA Guidelines, the ideal timeframe for CEQA implementation is as early in the planning process as possible to "enable environmental considerations to influence project program and design and yet late enough to provide meaningful information for environmental assessment" [CCR §15004(b)]. As general plan development is the earliest planning stage, LID should be incorporated into general plans in California. Any subsequent municipal planning must be consistent with a municipality's general plan. In the case that a planning document is inconsistent with the general plan, a general plan amendment must be adopted such that the general plan remains the consistent guiding document for planning in a municipality. Incorporation of LID into general plans would provide support for its principles at the foundational level of development planning, and would serve to link LID with CEQA Guidelines.

In order to support a municipality's preferred development pattern, it should establish significance thresholds that are consistent with general plan goals, objectives, and policies. Significance thresholds establish the framework for evaluation of impacts. They are similar to objectives or performance standards in that they provide a baseline measure against which proposals can be compared. In most impact categories, municipalities and their departments establish their own significance criteria to reflect agency or municipality goals. The standard Initial Study Checklist, Appendix G of the CEQA Guidelines, indicates that the significance of an impact is a primary concern. The lead agency of a planning process is generally responsible for establishing significance thresholds that further its objectives and that are supported by substantial evidence (CCR §15064.7).

[2] PRC §21000 et seq and CCR §15000 et seq

[3] van Empel, C., 2008. "CEQA and New Urbanist Development." *The Environmental Monitor*, Association of Environmental Professionals, Winter 2008. Sacramento, CA.

Recognition of LID in significance thresholds is another important means of incorporating LID into the planning process. If LID differs substantially from prevailing development policies, new significance thresholds will need to be established. Failure to create new significance thresholds that recognize LID will add time and expense to the development process in the form of additional CEQA review.

Recognition of LID in significance thresholds is another important means of incorporating LID into the planning process.

Policies and significance thresholds can be structured to require additional environmental review if a particular proposal does not comply with the general plan. Conversely, an agency can encourage a particular development pattern by minimizing the amount of environmental review needed for that development type. General plan policies, significance thresholds, and mitigation measures can be structured to support a preferred development type. The combination of general plan policies and adopted significance thresholds can greatly influence development patterns to favor those aligned with agency or municipality goals.

Addressing LID Through CEQA

To ensure that LID is more universally addressed and incorporated, some LID practitioners have suggested that the State Office of Planning and Research (OPR) issue a CEQA technical guidance paper on LID similar to the one released addressing greenhouse gas emissions. In response to AB 32, SB 97, and lawsuits regarding the lack of attention to greenhouse gas emissions in EIRs, OPR's technical guidance document on greenhouse gas emissions includes informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents. This document serves as a powerful tool for lead agencies and CEQA practitioners. LID practitioners contend that a technical guidance document on LID following the same model would make it easier to measure the use and usefulness of LID and ensure its widespread application and consideration.

In addition, some LID practitioners recommend that the CEQA Guidelines be modified to suggest questions specifically related to LID principles, such as hydromodification, and to address LID mitigation measures and where they fit in the CEQA process (one approach is illustrated in Figure D-1).

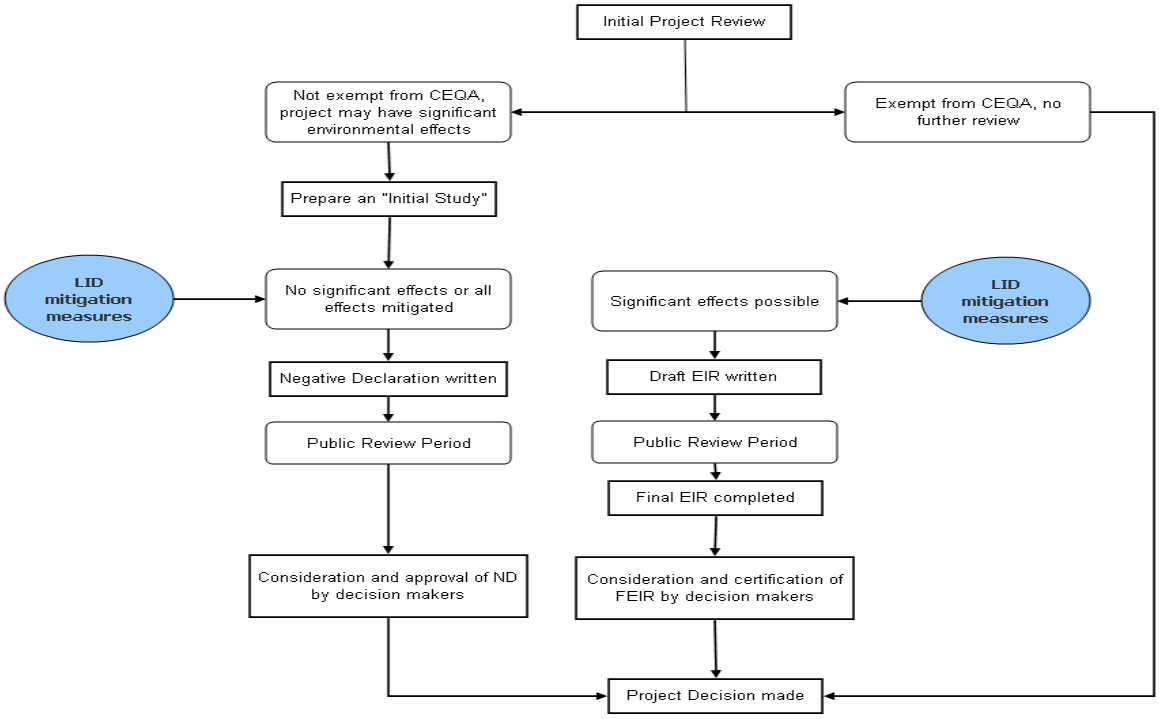

Figure D-1. An Approach for Addressing LID in the CEQA Process.
Source of base diagram: California Planning Guide: An Introduction to Planning in California; Governor's Office of Planning and Research, 2005

4.0 LID is Driven by Water Quality Regulation

LID in the State Water Board's Strategic Plan

The use of LID measures in California is driven by water quality regulations and promoted by the Ocean Protection Council. The State Water Resources Control Board's formal adoption of its *Strategic Plan Update 2008-2012* restates the Board's vision of *"a sustainable California made possible by clean water and water availability for both human use and resource protection."* The update contains a sustainability principle and value that states, *"we commit to enhancing and encouraging sustainability within the administration of Water Board programs and activities by promoting water management strategies such as low impact development, considering the impacts of climate change in our decision-making, and coordinating with governmental, non-profit, and private industry, and business partners to further strategies for sustainability."*

The *Strategic Plan Update* supports various determinations by the State Water Board in Resolution No. 2008-0030 Requiring Sustainable Water Resources, such as:

> *Directs Water Boards' staff to require sustainable water resources management such as LID and climate change considerations, in all future policies, guidelines, and regulatory actions;*
>
> *Directs Regional Water Boards to aggressively promote measures such as recycled water, conservation, and LID Best Management Practices where appropriate and work with Dischargers to ensure proposed compliance documents include appropriate, sustainable water management strategies; and*
>
> *Directs Water Boards' staff to coordinate with partners from other government agencies, non-profit organizations, and private industry and business to further enhance and encourage sustainable activities within the administration of Water Board programs and activities.*

LID Municipal Stormwater Permits

The "LID" terminology may be relatively new to Placer County, but the underpinnings of LID have existed in the county for several years, particularly in the Lake Tahoe Region, where stormwater quality and quantity controls have been part of the solution for minimizing the discharge of sediments and associated pollutants to the lake. In the Tahoe Region, the Lahontan Regional Water Quality Control Board has been requiring BMPs to filter and treat stormwater and reduce runoff in compliance with the Phase I NPDES stormwater permit[4]. For western Placer County (including Foresthill and Colfax) and the Truckee River Basin, stormwater treatment and LID requirements are anticipated via the renewal of the Phase II NPDES stormwater general permit by the State Water Board. In fact, such draft requirements were included in the June 2011 draft general permit. The new requirements are in addition to existing provisions mandating that the county require new and redevelopment to treat site runoff.

Many municipal permits in the state already contain specific LID and hydromodification requirements. The major emphasis of the LID requirements in the southern California municipal permits is on reduction of impervious area in order to facilitate infiltration and reduce urban runoff. In the case of the Sacramento Phase I area-wide stormwater permit, Sacramento County and six cities are tasked with the responsibility of developing design and maintenance criteria and establishing minimum standards for the use of LID practices. They are also required to develop technical guidance for reference by municipal employees and private sector practitioners involved with the implementation of LID practices.

[4] Information on the County's NPDES Permit Programs can be found at: **http://www.placer.ca.gov/Departments/Works/StrmWtr/StrmWtrAbout.aspx**

How Can LID Be Used to Build More Effective Municipal Stormwater Programs?

LID controls are well-suited for use by Phase II communities. LID reduces stormwater volumes and peak stormwater runoff rates as well as provides stormwater pollutant removal. Therefore, it is an ideal approach to provide post-construction runoff control as required by the six minimum controls and pollutant removals to the maximum extent practicable standard. LID offers the opportunity to address the full range of watershed protection criteria not fully managed by end-of-pipe stormwater controls.

LID also simultaneously addresses community issues of aesthetics and land use. The numerous vegetated LID techniques instituted throughout a community increase green space and improves the aesthetics of urban and suburban areas. This facet of LID allows it to be integrated into the community planning process. Overall land use dedicated to stormwater management is decreased with LID as the size of large stormwater catchment basins is reduced or eliminated and replaced with micro-scale management practices.

LID can be used to satisfy five of the six minimum requirements of the Phase II rule:

- Public education and outreach
- Public participation / involvement
- Illicit discharge connection and elimination
- Construction site runoff control
- Post-construction runoff control
- Pollution prevention / good housekeeping

Related to post-construction runoff control, the foundation of LID is attempting to replicate pre-development hydrology in a developed environment. One of the primary benefits of LID is the ability to limit the volume and peak flow rates of stormwater discharges by utilizing the processes of infiltration, detention, interception, and evapotranspiration. The processes employed by LID provide effective runoff control and have been used to meet hydrologic regulatory requirements.

-Adapted from Low Impact Development Center, www.lowimpactdevelopment.org

State Stormwater Grant Programs Encourage LID

Not only are the State Water Resources Control Board and the Ocean Protection Council promoting LID through strategic plans and resolutions, they are structuring grant funding guidelines to facilitate construction of low impact development projects. Section 4 of Assembly Bill 739 (Statutes of 2007, Chapter 610, Laird) inserted language into the Public Resources Code specifying that funds shall be available *"for assistance in implementing low-impact development and other onsite and regional practices, on public and private lands, that seek to maintain predevelopment hydrology for existing and new development and redevelopment projects."*

Furthermore, the Stormwater Advisory Task Force, as part of its discussion of possible uses of the State Water Board's Prop 84 stormwater grant program funds, considered evaluation of LID regulatory barriers and studies of how to implement LID on a watershed basis. The Task Force concluded that the focus of the funding should be on implementation of LID capital improvement projects in order to achieve something meaningful. However, up to 10% of the available grant funds have been allocated to finance the planning and monitoring necessary for successful design selection and implementation of

capital projects. Integrated Regional Water Management Plans (IRWMPs) and watershed plans could be funded, as could studies to revise municipal ordinances, regulations, and site design standards to clearly allow and encourage the use of LID measures. The State Water Board's stormwater grant program solicitation was published in October 2011 and the first round of funding is anticipated for award in 2012.

5.0 Recommendations for Counties and Cities to Incorporate LID into the Planning Process

Start with the Ahwahnee Water Principles

The Ahwahnee Principles for Resource-Efficient Communities was written in 1991 by the California Local Government Commission (LGC) and has served as a planning blueprint for the Smart Growth movement. The concept was for the principles to guide elected officials in developing compact, mixed use, walkable and transit-oriented communities as an alternative to existing urban and suburban sprawl patterns. The *Ahwahnee Principles for Economic Development* (1997) and the *Ahwahnee Water Principles* (2005) were later added to expand upon and complement the original Ahwahnee Principles.

There are nine Community Principles and five Implementation Principles identified in the *Ahwahnee Water Principles.* These can be generally grouped into the following four categories[5]:

1. Growing in a water-wise manner
2. Water-friendly neighborhood/site-scale planning and design strategies
3. Water conservation approaches to make the most efficient use of existing water supplies; and
4. A set of corollary guidelines that can help put the nine community principles into action through strategies for implementing practical steps to make the physical changes necessary to ensure water stability.

According to the *Ahwahnee Water Principles*:

- Natural resources such as wetlands, flood plains, recharge zones, riparian areas, open space, should be identified, preserved, and restored as valuable assets for such uses as flood protection and water quality improvement.
- Water holding areas, including creek beds, recessed athletic fields should be incorporated into urban landscapes.
- Landscaping should be designed to reduce water demand, retain runoff, and recharge groundwater.
- Permeable surfaces should be used for hardscape, with impervious surfaces minimized, so that land is available to absorb storm water, reduce polluted urban runoff, recharge groundwater and reduce flooding.

[5] The Ahwahnee Principles can be found at the Local Government Commission's website: http://www.lgc.org/ahwahnee/h2o_principles.html.

- Dual plumbing should be used to allow the use of greywater for landscape irrigation in new development.
- Community design should maximize use of recycled water for landscape irrigation, toilet flushing, and commercial/industrial uses, with purple pipe installed in new construction and redevelopment in anticipation of future recycled water use.
- Water conservation technologies for new construction and retrofit should be incorporated in new construction and redevelopment.
- Maximize locally available, drought-proof water supplies (i.e. groundwater treatment and brackish water desalination).

The Implementation Principles encourage the participation of water supply agencies, city and county officials, watershed councils, Local Agency Formation Commissions (LAFCOs), special districts, and other stakeholders sharing watersheds to take advantage of the benefits of watershed-level planning. They note the importance of working with water supply agencies early in the planning and land use decision-making process in order to understand technology, demographics, and growth projections and incorporate them into the planning process. In addition, the Implementation Principles stress prioritization and implementation of multi-benefit and integrated projects before others and the importance of keeping the public informed and involved in the process from inception. Projects should be evaluated to inform and improve future plans and practices.

Incorporate LID into General Plans

There are several viable methods of incorporating LID into general plans. One approach would involve amending existing general plan elements to incorporate LID principles, goals, and policies. Since water is most often addressed in the required conservation element, appropriate principles, goals, and policies could be added to this element. The January 2008 report prepared for the Ocean Protection Council entitled *"State and Local Policies Encouraging or Requiring Low Impact Development in California"* recommends that a state LID statute should provide language for incorporating low impact development into the mandatory land use and conservation elements of general plans. In addition, since the land use element is the focus of local land use decisions, language on low impact development should also be added to the element. When water is addressed in another element, such as an optional natural resources or water element, LID language should be added to that element.

A second approach would be to develop a new water element. Not many such optional elements have been adopted in California; however, the 2003 edition of the State of California General Plan Guidelines contains a detailed discussion of optional water elements. OPR stated,

> *"Given the importance of water to the state's future, a community would be well served to create a separate water element, in conjunction with the appropriate water supply and resource agencies, in which each aspect of the hydrologic cycle is integrated into a single chapter of the general plan. With recent law that requires land use decisions to be linked to water availability, a water element takes on increased importance."*

An optional element, such as a water element, can be amended at any time, which is important since LID is an evolving practice. To assist local governments in developing water elements, the LGC included a

model water element as appendix to its July 2006 publication, *The Ahwahnee Water Principles, A Blueprint for Regional Sustainability*.

The model water element proposed by the LGC includes sample policies grouped into three sections: 1) Watershed protection and management; 2) Protecting and improving water quality; and 3) Managing supply and demand of water resources. The model element was designed to provide a policy framework to address the links between water and land use. It builds upon the Ahwahnee Water Principles.

Address LID Through Specific Plans

One of the most potentially useful planning tools to promote and facilitate LID may be the specific plan. A specific plan is a very flexible tool for systematically implementing general plans. Specific plans must be consistent with Section 65450-65457 of the California Government Code. These provisions require that specific plans be consistent with the general plans of the jurisdictions that adopt them. The range of issues addressed and the area covered by specific plans is left to the discretion of the decision-making body of the city or county adopting the plan. Once a specific plan is adopted, all zoning regulations, all public works projects, and all subsequent subdivision and development must be consistent with the specific plan.

Section 65451 of the Government Code specifies the structure of a specific plan. The information that is to be presented by text and diagram includes the distribution, location and extent of land uses within the area covered by the plan. Specific plans also include:

> *"(2) The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.*

In addition, the specific plans contain:

> *"(3) The Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable," and*
>
> *"(4) A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2), and (3).*

Since specific plans are flexible and scalable by design, they can be used in different ways to implement LID. If adopted by resolution, a specific plan is a policy document. If adopted by ordinance, a specific plan would be a regulatory document. An overlay specific plan could be adopted either by resolution or ordinance to address only the LID issue. Alternatively, a specific plan could be adopted to address the comprehensive development or redevelopment of a defined area and include LID requirements among the standards and implementation measures applicable to the area. The City of San Bernardino is developing a model specific plan for watershed sustainability that should be a useful reference for other municipalities wishing to incorporate LID into specific plans (see case study below).

San Bernardino's Experience Incorporating LID Into Specific Plans

An example specific plan is being prepared for a portion of the City of San Bernardino as part of the Inland Empire Sustainable Watershed Program (IESWP), a Proposition 50 grant project funded through the CalFed Watershed Program of the California Department of Water Resources. This project, **"***The Model Specific Plan for Watershed Sustainability***"** was designed to "develop a guide for how urban planners can use land use design to create LID-friendly specific plans that implement LID at a community scale. This approach leverages the efficiency and opportunity of scale to streamline the MS4 storm water runoff permit compliance process.

The IESWP is a capacity building program to increase participation in watershed planning and management in the upper Santa Ana River watershed. It targets land use planners and decision-makers, the development community, and residents by providing products, resources, and forums that encourage the incorporation of watershed and low impact development approaches into the planning and development process.

Address LID Through Conditions of Approval

One method of addressing LID as early as possible in the planning process and of tracking implementation of LID practices would be to develop and apply both standard and non-standard conditions of approval. Most jurisdictions apply conditions of approval to the approval of development projects. These conditions often relate to a broad range of topics, including grading, drainage, landscaping, and water quality. Conditions of approval normally state what is to be done, who is to do it, when it is to be done, and who is responsible for determining compliance. Conditions are applied to discretionary planning permits and subdivision maps at different levels in the approval process and may be repeated at subsequent levels of approval when they would be informative to applicants or municipal staff.

Many jurisdictions have developed water quality conditions of approval. Such conditions often relate to pollution prevention during construction and planning for the installation of post-construction structural and non-structural water quality control measures.

New conditions of approval requiring consideration of, and planning for, implementation of low impact development measures could be added to the lists of conditions of approval. LID conditions of approval should be applied as early as possible in the project approval process and repeated at subsequent levels of approval to ensure compliance, timely implementation, and long-term maintenance.

6.0 Recommendations for Counties and Cities to Incorporate LID into Municipal Codes and Ordinances

Amend Municipal Codes to Address LID

Municipal codes can relate to low impact development in several ways. Cities and counties can adopt separate LID ordinances to require the use of LID principles in development projects and provide standards for the use of LID. An LID ordinance can specify when LID implementation plans are due and can specify compliance with criteria and standards in a manual or guidance document that can be updated as new information becomes available and as experience with implementation and maintenance of LID measures is gained.

Municipal codes may contain barriers to LID implementation. The magnitude of the barriers in existing ordinances will vary with the purpose of implementing LID measures. If the primary purpose for implementing LID measures is to reduce runoff to improve water quality or to improve flood control, the barrier in existing ordinances may be less difficult to overcome than if the purpose is to achieve a broad watershed protection and enhancement goal.

Many types of codes and ordinances can influence the implementation of LID. Different codes may impact LID differently at different scales. At the site scale, building codes, landscape codes, parking codes, and zoning ordinances can influence site coverage, building dimension, parking requirements and landscaping. Parking codes have received special attention because vehicle parking is a major component of the built environment. These issues are discussed in detail in the January 2008 Tetra Tech analysis of **"***State and Local Policies Encouraging or Requiring Low Impact Development in California*" and in an analysis of watershed-based planning strategies completed for Ventura County by the Local Government Commission, referenced previously in this appendix.

Removing barriers to LID in existing codes, including zoning codes, is likely to be a time consuming process and vary from jurisdiction to jurisdiction. Perceived barriers to implementation of LID measures are often the result of the needs and experience of multiple departments within a municipality. These departments have promoted standards to facilitate achieving a variety of goals and responsibilities. Not all perceived barriers will need to be removed from existing codes. It may be easier, at least initially, to use overlay zones or specific plans to facilitate implementation of LID practices in both new development and redevelopment projects. As more experience is gained with implementation of LID, standards could be modified in consultation with the departments that promoted the standards that are perceived by stormwater managers to be barriers to LID.

Institutional Barriers to LID and Economic Incentives to Encourage Its Use

Pilot installations, full-scale developments, and academic research have shown LID to be a technologically feasible and effective stormwater management approach. Current impediments to broader application of LID are often institutional barriers – zoning or regulatory policies that discourage or limit its use. Despite these obstacles, municipalities need to press on and should review applicable codes and regulations for opportunities to encourage the use of LID (some examples are provided below). Municipalities should streamline the permit process. Waivers for the small land disturbances typical of LID are a regulatory option available in many jurisdictions and go a long way in streamlining the permitting process. Applicable guidelines should also be reviewed to confirm that they allow for on-lot stormwater management and do not prohibit such practices.

Some of the largest impediments to the implementation of LID are the often unintentional zoning and code barriers, such as those explicitly requiring curb and gutter or prohibiting open channel conveyances. These zoning ordinances and codes require obtaining a waiver to implement LID practices, greatly lengthening the development and construction process. Additionally, local plumbing codes, like those requiring downspouts to be directly connected to collection systems unintentionally prevent downspout disconnection efforts and the use of on-site stormwater management.

A number of municipalities have developed economic incentive programs for developers, homeowners, or commercial property owners that use LID. As stormwater utilities are being created in municipalities to fund stormwater control programs, some jurisdictions are incorporating provisions designed to encourage alternate stormwater controls. Portland, Oregon and Orlando, Florida provide a reduction in the stormwater utility rate for commercial properties with on-site stormwater management. Several municipalities subsidize downspout disconnection programs, either providing a cash incentive to homeowners and community groups or having municipal personnel provide the service for free.

-Low Impact Development Center, 2011 (www.lowimpactdevelopment.org)

Adopt or Amend Ordinances to Facilitate LID

One direct way to use city and county codes to facilitate LID is to adopt specific LID ordinances to require the use of LID principles in development projects. This approach has been followed by the County of Los Angeles (see below). Another approach is to amend existing stormwater ordinances to address LID.

The County of Los Angeles' Experience Amending Codes to Address LID

The County of Los Angeles added a chapter to the Title 12 Environmental Protection of the Los Angeles County Code. This chapter is entitled Low Impact Development (LID) Standards; its stated purpose is to require the use of LID principles in development projects. The chapter states, *"LID builds on conventional design strategies by utilizing every softscape and hardscape surface in the development to perform a beneficial hydrologic function by retaining, detaining, storing, changing the timing of, or filtering stormwater and urban runoff."* The ordinance requires that comprehensive LID plans that demonstrate compliance with an LID Standards Manual be submitted for review and approval by the Department of Public Works. It also specifies that urban and stormwater runoff quantity and quality control standards will be established in the LID Standards Manual that is to be updated and maintained by the Department of Public Works. For subdivisions, the LID plans must be approved prior to tentative map approval. For all other development, an LID plan must be approved prior to issuance of a grading permit or, where a grading permit is not required, prior to issuance of a building permit.

The Subdivision and Planning Zoning Titles of the Los Angeles County Code were amended to add reference to the Low Impact Development Title. In addition, the County adopted ordinances for green building and drought-tolerant landscaping. All three ordinances apply to all administrative and all discretionary projects.

7.0 Achieving Compliance with Other Regulations Through Implementation of LID

LID and Implementation of Senate Bill (SB) 375

Senate Bill 375, adopted and signed into law in 2008, uses the climate change goals of AB 32 to promote Smart Growth. It was the product of a two-year process that resulted in a compromise that was generally supported by the California Building Industry Association, major environmental organizations, and the League of California Cities.

A summary of SB 375 produced by the Association of Bay Area of Governments (ABAG) states that the bill, in part, *"requires metropolitan planning organizations to include sustainable communities strategies in their regional transportation plans for the purpose of reducing greenhouse gas emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies."*

A major objective of the bill is to reduce greenhouse gas emissions from cars and light duty trucks. The bill uses the annual distribution of transportation funds by the State as a compliance incentive. The emphasis of the regional planning requirements in SB 375 is to link land use planning to transportation planning and housing element requirements.

A key element of the bill that could be used to promote low impact development is the requirement that each Metropolitan Planning Organization (MPO) in California must develop and adopt a sustainable communities strategy as part of its regional transportation plan. Certain future transportation planning and programming activities would then be required to be consistent with the sustainable communities

strategy. The bill also requires that the State Air Resources Control Board review each MPO's sustainable communities strategy to determine whether the strategy, if implemented, would achieve the greenhouse gas emission reduction targets. In addition, certain MPO transportation planning and programming activities must be consistent with the sustainable communities strategy.

Although the sustainable communities strategies are focused on reduction of greenhouse gases and contain no specific LID or water quality requirements, they will present opportunities to promote LID. One of the requirements of the strategy documents is to "identify the general location of uses, residential densities and building intensities within the region." MPOs are also authorized to "adopt a framework for a subregional sustainable communities strategy or alternative subregional planning strategy to address the integral land use, transportation, economic, air quality, and climate policy relationships." Planning departments and water quality programs could work with MPOs to get LID and watershed management included in sustainable community strategies.

For information on SACOG's accomplishments related to developing sustainable communities strategies, see: http://www.sacog.org/sustainable/about/.

LID and Water Efficient Landscape Ordinances (AB 1881)

Assembly Bill 1881 required the Department of Water Resources to develop a Model Water Efficient Landscape Ordinance[6] in order to improve the efficiency of water use for irrigation in the state. This model ordinance was either adopted by local agencies by January 2010 or the agencies developed their own equivalent ordinance (some agencies, such as Placer County, adopted the state model and some are currently working towards a tailored ordinance for this area). The ordinance will apply to new and existing projects, and will require the use of water efficient landscaping practices. Application of LID design principles should help communities and water agencies meet the requirements, because LID naturally leads to water efficient landscaping through the capture and reuse of rainfall, promotion of infiltration onsite, and the use of climate-appropriate plantings.

[6] The State DWR model ordinance can be found here: http://www.owue.water.ca.gov/landscape/ord/updatedOrd.cfm/.

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