Low Impact Development (LID)

General LID Principles

- LID is an ecologically-friendly approach to site development and stormwater management that helps prevent impacts to land and water resources.
- LID conserves the natural systems and hydrologic functions of a site.
- LID focuses on prevention rather than mitigation.

10 Common LID Practices:

1. Reduce & disconnect impervious surface (*Effective Impervious Area*)
2. Soil amendment
3. Permeable pavers
4. Rain gardens & bioretention
5. Sidewalk storage
6. Vegetated swales, buffers, & strips
7. Roof downspout disconnection
8. Rain barrels & cisterns
9. Rooftop gardens
10. Pollution prevention & good housekeeping

Effective Impervious Area: 3% Standard

- Above 2-3% EIA, there are significant adverse impacts to the biological integrity of receiving waters. These impacts are prominent at 5% EIA.[1]
- Streams in California are particularly susceptible to the negative effects of hydromodification.[2]
- Ventura County still has many natural stream systems with a high degree of natural functionality. [3]

[1] Richard R. Horner, *Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County* (February 2007).

[2] D. Coleman, C. MacRae, and E.D. Stein, *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams,* Southern California Coastal Water Research Project Technical Report #450.

[3] Los Angeles Region Water Quality Control Plan (1994).

Effective Impervious Area in the Permit

- To be rendered "ineffective," impervious surfaces must drain to areas where stormwater can infiltrate or to storage containers for reuse.



- The Draft Permit's EIA standard could be negated by a loophole allowing runoff to enter the storm sewer system through vegetated cells or swales without proper infiltration capacity (Part 5(E)(III)(1)).

LID Reduces Pollution Best

Pollutant Load Reductions in Six Typical Development Scenarios

	Multi-family housing	Small-scale single-family housing	Restaurant	Office	Large-scale single family housing	Commercial
CDS TSS loading reduction	15.70%	19.90%	22.00%	24.00%	19.90%	16.90%
CDS Tcu loading reduction	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CDS TZn loading reduction	22.70%	22.40%	22.90%	23.10%	22.40%	25.10%
CDS TP loading reduction	30.60%	41.50%	40.70%	45.90%	41.50%	20.30%
EDB TSS loading reduction	68.10%	73.70%	79.00%	81.10%	73.70%	71.70%
EDB Tcu loading reduction	61.90%	55.70%	66.20%	63.00%	55.70%	66.80%
EDB TZn loading reduction	59.70%	59.60%	60.40%	61.90%	59.60%	66.60%
EDB TP loading reduction	61.90%	69.70%	69.10%	72.90%	69.70%	54.50%
Swale TSS loading reduction	68.80%	71.10%	73.10%	73.90%	71.10%	69.40%
Swale Tcu loading reduction	72.50%	68.50%	78.20%	73.30%	68.50%	75.80%
Swale TZn loading reduction	78.40%	78.10%	84.30%	78.80%	78.10%	80.70%
Swale TP loading reduction	66.30%	70.70%	67.20%	76.20%	70.70%	55.00%
Filter strip TSS loading reduction	69.90%	75.40%	80.60%	82.60%	75.40%	72.30%
Filter strip Tcu loading reduction	74.40%	69.10%	78.20%	75.40%	69.10%	78.70%
Filter strip TZn loading reduction	78.30%	77.90%	78.40%	78.70%	77.90%	80.90%
Filter strip TP loading reduction	48.40%	53.10%	63.70%	59.80%	53.10%	34.60%
LID TSS loading reduction	99.40%	99.30%	99.50%	99.40%	99.30%	89.00%
LID Tcu loading reduction	98.10%	96.70%	98.00%	96.20%	96.70%	90.60%
LID TZn loading reduction	99.10%	98.80%	98.90%	98.30%	98.80%	94.80%
LID TP loading reduction	98.10%	98.60%	98.80%	98.70%	98.60%	83.10%

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	Multi-family housing	Small-scale single-family housing	Restaurant	Office	Large-scale single family housing	Commercial
CDS TSS loading reduction	15.70%	19.90%	22.00%	24.00%	19.90%	16.90%
CDS Tcu loading reduction	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CDS TZn loading reduction	22.70%	22.40%	22.90%	23.10%	22.40%	25.10%
CDS TP loading reduction	30.60%	41.50%	40.70%	45.90%	41.50%	20.30%
EDB TSS loading reduction	68.10%	73.70%	79.00%	81.10%	73.70%	71.70%
EDB Tcu loading reduction	61.90%	55.70%	66.20%	63.00%	55.70%	66.80%
EDB TZn loading reduction	59.70%	59.60%	60.40%	61.90%	59.60%	66.60%
EDB TP loading reduction	61.90%	69.70%	69.10%	72.90%	69.70%	54.50%
Swale TSS loading reduction	68.80%	71.10%	73.10%	73.90%	71.10%	69.40%
Swale Tcu loading reduction	72.50%	68.50%	78.20%	73.30%	68.50%	75.80%
Swale TZn loading reduction	78.40%	78.10%	84.30%	78.80%	78.10%	80.70%
Swale TP loading reduction	66.30%	70.70%	67.20%	76.20%	70.70%	55.00%
Filter strip TSS loading reduction	69.90%	75.40%	80.60%	82.60%	75.40%	72.30%
Filter strip Tcu loading reduction	74.40%	69.10%	78.20%	75.40%	69.10%	78.70%
Filter strip TZn loading reduction	78.30%	77.90%	78.40%	78.70%	77.90%	80.90%
Filter strip TP loading reduction	48.40%	53.10%	63.70%	59.80%	53.10%	34.60%
LID TSS loading reduction	99.40%	99.30%	99.50%	99.40%	99.30%	89.00%
LID Tcu loading reduction	98.10%	96.70%	98.00%	96.20%	96.70%	90.60%
LID TZn loading reduction	99.10%	98.80%	98.90%	98.30%	98.80%	94.80%
LID TP loading reduction	98.10%	98.60%	98.80%	98.70%	98.60%	83.10%

Pollution Reduction: Suspended Solids

Pollutant Load Reductions in Six Typical Development Scenarios

	Multi-family housing	Small-scale single-family housing	Restaurant	Office	Large-scale single family housing	Commercial
CDS TSS loading reduction	15.70%	19.90%	22.00%	24.00%	19.90%	16.90%
CDS Tcu loading reduction	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CDS TZn loading reduction	22.70%	22.40%	22.90%	23.10%	22.40%	25.10%
CDS TP loading reduction	30.60%	41.50%	40.70%	45.90%	41.50%	20.30%
EDB TSS loading reduction	68.10%	73.70%	79.00%	81.10%	73.70%	71.70%
EDB Tcu loading reduction	61.90%	55.70%	66.20%	63.00%	55.70%	66.80%
EDB TZn loading reduction	59.70%	59.60%	60.40%	61.90%	59.60%	66.60%
EDB TP loading reduction	61.90%	69.70%	69.10%	72.90%	69.70%	54.50%
Swale TSS loading reduction	68.80%	71.10%	73.10%	73.90%	71.10%	69.40%
Swale Tcu loading reduction	72.50%	68.50%	78.20%	73.30%	68.50%	75.80%
Swale TZn loading reduction	78.40%	78.10%	84.30%	78.80%	78.10%	80.70%
Swale TP loading reduction	66.30%	70.70%	67.20%	76.20%	70.70%	55.00%
Filter strip TSS loading reduction	69.90%	75.40%	80.60%	82.60%	75.40%	72.30%
Filter strip Tcu loading reduction	74.40%	69.10%	78.20%	75.40%	69.10%	78.70%
Filter strip TZn loading reduction	78.30%	77.90%	78.40%	78.70%	77.90%	80.90%
Filter strip TP loading reduction	48.40%	53.10%	63.70%	59.80%	53.10%	34.60%
LID TSS loading reduction	99.40%	99.30%	99.50%	99.40%	99.30%	89.00%
LID Tcu loading reduction	98.10%	96.70%	98.00%	96.20%	96.70%	90.60%
LID TZn loading reduction	99.10%	98.80%	98.90%	98.30%	98.80%	94.80%
LID TP loading reduction	98.10%	98.60%	98.80%	98.70%	98.60%	83.10%

Pollution Reduction: Copper

Pollutant Load Reductions in Six Typical Development Scenarios

	Multi-family housing	Small-scale single-family housing	Restaurant	Office	Large-scale single family housing	Commercial
CDS TSS loading reduction	15.70%	19.90%	22.00%	24.00%	19.90%	16.90%
CDS Tcu loading reduction	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CDS TZn loading reduction	22.70%	22.40%	22.90%	23.10%	22.40%	25.10%
CDS TP loading reduction	30.60%	41.50%	40.70%	45.90%	41.50%	20.30%
EDB TSS loading reduction	68.10%	73.70%	79.00%	81.10%	73.70%	71.70%
EDB Tcu loading reduction	61.90%	55.70%	66.20%	63.00%	55.70%	66.80%
EDB TZn loading reduction	59.70%	59.60%	60.40%	61.90%	59.60%	66.60%
EDB TP loading reduction	61.90%	69.70%	69.10%	72.90%	69.70%	54.50%
Swale TSS loading reduction	68.80%	71.10%	73.10%	73.90%	71.10%	69.40%
Swale Tcu loading reduction	72.50%	68.50%	78.20%	73.30%	68.50%	75.80%
Swale TZn loading reduction	78.40%	78.10%	84.30%	78.80%	78.10%	80.70%
Swale TP loading reduction	66.30%	70.70%	67.20%	76.20%	70.70%	55.00%
Filter strip TSS loading reduction	69.90%	75.40%	80.60%	82.60%	75.40%	72.30%
Filter strip Tcu loading reduction	74.40%	69.10%	78.20%	75.40%	69.10%	78.70%
Filter strip TZn loading reduction	78.30%	77.90%	78.40%	78.70%	77.90%	80.90%
Filter strip TP loading reduction	48.40%	53.10%	63.70%	59.80%	53.10%	34.60%
LID TSS loading reduction	99.40%	99.30%	99.50%	99.40%	99.30%	89.00%
LID Tcu loading reduction	98.10%	96.70%	98.00%	96.20%	96.70%	90.60%
LID TZn loading reduction	99.10%	98.80%	98.90%	98.30%	98.80%	94.80%
LID TP loading reduction	98.10%	98.60%	98.80%	98.70%	98.60%	83.10%

Pollution Reduction: Zinc

Pollutant Load Reductions in Six Typical Development Scenarios

	Multi-family housing	Small-scale single-family housing	Restaurant	Office	Large-scale single family housing	Commercial
CDS TSS loading reduction	15.70%	19.90%	22.00%	24.00%	19.90%	16.90%
CDS Tcu loading reduction	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CDS TZn loading reduction	22.70%	22.40%	22.90%	23.10%	22.40%	25.10%
CDS TP loading reduction	30.60%	41.50%	40.70%	45.90%	41.50%	20.30%
EDB TSS loading reduction	68.10%	73.70%	79.00%	81.10%	73.70%	71.70%
EDB Tcu loading reduction	61.90%	55.70%	66.20%	63.00%	55.70%	66.80%
EDB TZn loading reduction	59.70%	59.60%	60.40%	61.90%	59.60%	66.60%
EDB TP loading reduction	61.90%	69.70%	69.10%	72.90%	69.70%	54.50%
Swale TSS loading reduction	68.80%	71.10%	73.10%	73.90%	71.10%	69.40%
Swale Tcu loading reduction	72.50%	68.50%	78.20%	73.30%	68.50%	75.80%
Swale TZn loading reduction	78.40%	78.10%	84.30%	78.80%	78.10%	80.70%
Swale TP loading reduction	66.30%	70.70%	67.20%	76.20%	70.70%	55.00%
Filter strip TSS loading reduction	69.90%	75.40%	80.60%	82.60%	75.40%	72.30%
Filter strip Tcu loading reduction	74.40%	69.10%	78.20%	75.40%	69.10%	78.70%
Filter strip TZn loading reduction	78.30%	77.90%	78.40%	78.70%	77.90%	80.90%
Filter strip TP loading reduction	48.40%	53.10%	63.70%	59.80%	53.10%	34.60%
LID TSS loading reduction	99.40%	99.30%	99.50%	99.40%	99.30%	89.00%
LID Tcu loading reduction	98.10%	96.70%	98.00%	96.20%	96.70%	90.60%
LID TZn loading reduction	99.10%	98.80%	98.90%	98.30%	98.80%	94.80%
LID TP loading reduction	98.10%	98.60%	98.80%	98.70%	98.60%	83.10%

Pollution Reduction: Phosphorus

Pollutant Load Reductions in Six Typical Development Scenarios

	Multi-family housing	Small-scale single-family housing	Restaurant	Office	Large-scale single family housing	Commercial
CDS TSS loading reduction	15.70%	19.90%	22.00%	24.00%	19.90%	16.90%
CDS Tcu loading reduction	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CDS TZn loading reduction	22.70%	22.40%	22.90%	23.10%	22.40%	25.10%
CDS TP loading reduction	30.60%	41.50%	40.70%	45.90%	41.50%	20.30%
EDB TSS loading reduction	68.10%	73.70%	79.00%	81.10%	73.70%	71.70%
EDB Tcu loading reduction	61.90%	55.70%	66.20%	63.00%	55.70%	66.80%
EDB TZn loading reduction	59.70%	59.60%	60.40%	61.90%	59.60%	66.60%
EDB TP loading reduction	61.90%	69.70%	69.10%	72.90%	69.70%	54.50%
Swale TSS loading reduction	68.80%	71.10%	73.10%	73.90%	71.10%	69.40%
Swale Tcu loading reduction	72.50%	68.50%	78.20%	73.30%	68.50%	75.80%
Swale TZn loading reduction	78.40%	78.10%	84.30%	78.80%	78.10%	80.70%
Swale TP loading reduction	66.30%	70.70%	67.20%	76.20%	70.70%	55.00%
Filter strip TSS loading reduction	69.90%	75.40%	80.60%	82.60%	75.40%	72.30%
Filter strip Tcu loading reduction	74.40%	69.10%	78.20%	75.40%	69.10%	78.70%
Filter strip TZn loading reduction	78.30%	77.90%	78.40%	78.70%	77.90%	80.90%
Filter strip TP loading reduction	48.40%	53.10%	63.70%	59.80%	53.10%	34.60%
LID TSS loading reduction	99.40%	99.30%	99.50%	99.40%	99.30%	89.00%
LID Tcu loading reduction	98.10%	96.70%	98.00%	96.20%	96.70%	90.60%
LID TZn loading reduction	99.10%	98.80%	98.90%	98.30%	98.80%	94.80%
LID TP loading reduction	98.10%	98.60%	98.80%	98.70%	98.60%	83.10%

LID Is Cost-Effective for Builders

NAHB

WWW.NAHB.ORG

NATIONAL ASSOCIATION OF HOME BUILDERS

GREEN BUILDING: NOT AS COMPLICATED AS YOU THINK, SAYS NAHB

Normal View

December 13, 2006 - Is it hard to build green? Is it a lot more expensive? Do I have to live in a

Is it hard to build green? Is it a lot more expensive? Do I have to live in a straw-bale cottage or some other strange building to say I'm a green home owner? No, no, and most decidedly no, according to the National Association of Home Builders.

Using the Guidelines, local home building associations are creating regionally appropriate green building programs for interested builders, and that interest is growing rapidly. Twelve state and local associations have launched voluntary green building programs, with another dozen on the way. "The Guidelines include an easy-to-follow checklist to make sure the builder is incorporating all aspects of green building into each project. That makes it easier to build green – and that's the beauty of the voluntary Guidelines," said NAHB President David Pressly, a home builder in Statesville, N.C.

Is it more expensive to build green? Experienced builders say it doesn't have to be. Guidelines-based programs award points for resource efficiency, and if you're using fewer materials, you're saving money, they point out. And some green building ideas – like positioning a home's windows to best take advantage of natural light – don't cost any more than conventional building – and save money for the homeowner.

Nor does green building consist of neighborhoods filled with yurts, underground bunkers or geodesic domes, Pressly noted. "When a house is green but looks like other houses in the neighborhood – and can be replicated by large-scale building companies – then we know green is mainstream. We're seeing that happen right now," he said.

There are more green building products than ever. Easier to use insulation, chemically neutral paints and flooring and natural landscaping products are no longer difficult to find. Most home-improvement stores carry a full line of compact fluorescent bulbs, which use 70 percent less energy, and advances in solar roof panels and shingles, wind turbines, and efficient appliances make green technology less expensive than even a few years ago.

But there are scattered gray clouds on a mostly green horizon, Pressly said. Efforts to mandate green building are the perfect example of good intentions gone awry. "Green building needs to stay voluntary to continue to allow for market innovation and to make sure that the additional money spent to build 'green' goes to building improvements, not excessive certification fees," he said. "NAHB discourages efforts to dictate and legislate what constitutes acceptable green building practices because the building science in this area is still evolving. We don't want to see this dynamic process frozen in place."

In 2007, builders will learn more by attending educational seminars at the International Builders' Show in Orlando, Fla., Feb. 7-10 and the ninth annual NAHB National Green Building Conference in St. Louis March 25-27. Homebuyers don't have to wait that long to learn more: download a free guide at **www.nahb.com/greeninnovation** – or contact your local home builders association to find a green builder near you.

LID Is Cost-Effective for Builders

Guides to Low Impact Development

Ever wish you could simultaneously lower your site infrastructure costs, protect the environment, and increase your project's marketability? Using Low Impact Development (LID) techniques you can.

LID has a variety of benefits to Builders, Municipalities, and the Environment such as:

- The reduction of land clearing and grading costs;
- Balancing the need for growth and environmental protection;
- The protection of local land and water resources.

LID utilizes a system of source controls and small-scale, decentralized treatment practices to help maintain a hydrologically functional landscape. The conservation of open space, the reduction of impervious surfaces, and the use of small-scale storm water controls, such as bioretention, are just a few of the LID practices that can help maintain predevelopment hydrological conditions.

Featured case study

Somerset is an 80-acre development in suburban Maryland consisting of 199 homes on 10,000 square foot lots. During Somerset's creation, the developer used LID practices to reduce its storm water management costs. By using LID, the developer:

- Eliminated the need for storm water ponds by using bioretention techniques saving approximately $300,000;
- Gained 6 additional lots and their associated revenues;
- Reduced finished lot cost by approximately $4,000.

For more information, download copies of the Builder's Guide to Low Impact Development and Municipal Guide to Low Impact Development brochures.

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NAHB RESEARCH CENTER

LID Is Cost-Effective for Builders

What is Low Impact Development (LID)?

Ever wish you could simultaneously lower your site infrastructure costs, protect the environment, and increase your project's marketability? With LID techniques, you can. LID is an ecologically friendly approach to site development and storm water management that aims to mitigate development impacts to land, water, and ... proach emphasizes the integration of ... and planning techniques that conserv... ral systems and hydrologic functions ...

Source: Prince George's County DER

Residentia... Bioretentio...

Somerset D... Prince Geo... MD

LID Benefits

In addition to the practice just n... sense, LID techniques can offer many ... a variety of stakeholders.

Developers

- Reduce land clearing and grading costs
- Potentially reduce infrastructure costs ... curbs, gutters, sidewalks)
- Reduce storm water management cost...
- Potentially reduce impact fees and increase lot yield
- Increase lot and community marketability

Municipalities

- Protect regional flora and fauna
- Balance growth needs with environmental protection
- Reduces municipal infrastructure and utility maintenance costs (streets, curbs, gutters, sidewalks, storm sewer)
- Increase collaborative public/private partnerships

Environment

- Preserve integrity of ecological and biological systems
- Protect site and regional water quality by reducing sediment, nutrient, and toxic loads to water bodies
- Reduce impacts to local terrestrial and aquatic plants and animals
- Preserve trees and natural vegetation

Cover Photo: R. Arendt

Case Study

Kensington Estates is a conventional development on 24 acres consisting of 103 single-family homes in Pierce County, WA. A study was conducted to redesign the site using a new state storm water model and to illustrate the full range of LID practices and technologies available to developers.

Overall, the redesigned LID site could have:

- Resulted in construction cost savings of over 20%;
- Preserved 62% of the site in open space;
- Maintained the project density of 103 lots;
- Reduced the size of storm pond structures and eliminated catchments and piped storm conveyances; and
- Achieved "zero" effective impervious surfaces.

For More Information

- Low Impact Development Center
  http://www.lowimpactdevelopment.org
- Prince George's County, Maryland
  http://www.goprincegeorgescounty.com
- NAHB Research Center Toolbase Services
  http://www.toolbase.org
- U.S. EPA
  http://www.epa.gov/owow/nps/urban.html

NAHB RESEARCH CENTER

*Assumes paving costs of $15/sq. yd.

Printed on recycled paper with soy ink

...er's Guide ...w Impact ...elopment

Would you be interested in saving upwards of $70,000* per mile in street infrastructure costs by eliminating one lane of on-street parking on residential streets?

Did you know that communities designed to maximize open space and preserve mature vegetation are highly marketable and command higher lot prices?

Are you aware that most homeowners perceive Low Impact Development practices, such as bioretention, as favorable since such practices are viewed as additional builder landscaping?

Did you know that by reducing impervious surfaces, disconnecting runoff pathways, and using on-site infiltration techniques, you can reduce or eliminate the need for costly storm water ponds?

LID Is Cost-Effective for Owners

Water Savings in Six Typical Development Scenarios

	Multi-family housing	Small-scale single family housing	Restaurant	Office	Large-scale single family housing	Commercial
Annual post-development water recharged from site with basic treatment BMPs	4.39-7.99[a]	1.88-2.62	0.45-0.65	1.76-2.10	82.0-114	0.80-3.03
Annual post-development water recharged and harvested from site with LID	13.4	3.72	0.95	2.60	162.0	6.37
Annual water saved through LID per site	5.41-9.01	1.10-1.84	0.30-0.50	0.50-0.84	48.0-80.0	3.34-5.57
Value of annual LID water savings per site (untreated water)	$2,050-$3,415	$417-$697	$114-$190	$190-$318	$18,192-$30,320	$1,266-$2,111
Value of annual LID water savings per site (treated water)	$2,846-$4,739	$579-$968	$158-$263	$263-$442	$25,248-$42,080	$1,757-$2,930

[a] Water recharge and harvesting figures given in acre-feet





LID Saves Water

Water Savings in Six Typical Development Scenarios

	Multi-family housing	Small-scale single family housing	Restaurant	Office	Large-scale single family housing	Commercial
Annual post-development water recharged from site with basic treatment BMPs	4.39-7.99[a]	1.88-2.62	0.45-0.65	1.76-2.10	82.0-114	0.80-3.03
Annual post-development water recharged and harvested from site with LID	13.4	3.72	0.95	2.60	162.0	6.37
Annual water saved through LID per site	5.41-9.01	1.10-1.84	0.30-0.50	0.50-0.84	48.0-80.0	3.34-5.57
Value of annual LID water savings per site (untreated water)	$2,050-$3,415	$417-$697	$114-$190	$190-$318	$18,192-$30,320	$1,266-$2,111
Value of annual LID water savings per site (treated water)	$2,846-$4,739	$579-$968	$158-$263	$263-$442	$25,248-$42,080	$1,757-$2,930

[a] Water recharge and harvesting figures given in acre-feet





LID Saves Money

Water Savings in Six Typical Development Scenarios

	Multi-family housing	Small-scale single family housing	Restaurant	Office	Large-scale single family housing	Commercial
Annual post-development water recharged from site with basic treatment BMPs	4.39-7.99[a]	1.88-2.62	0.45-0.65	1.76-2.10	82.0-114	0.80-3.03
Annual post-development water recharged and harvested from site with LID	13.4	3.72	0.95	2.60	162.0	6.37
Annual water saved through LID per site	5.41-9.01	1.10-1.84	0.30-0.50	0.50-0.84	48.0-80.0	3.34-5.57
Value of annual LID water savings per site (untreated water)	$2,050-$3,415	$417-$697	$114-$190	$190-$318	$18,192-$30,320	$1,266-$2,111
Value of annual LID water savings per site (treated water)	$2,846-$4,739	$579-$968	$158-$263	$263-$442	$25,248-$42,080	$1,757-$2,930

[a] Water recharge and harvesting figures given in acre-feet





LID & the MEP Standard

LID approaches best enable permittees to meet the MEP standard because:

- Requiring LID with 3% EIA is practicable in Ventura County;
- LID almost entirely eliminates pollutant loads and stormwater runoff;
- LID conserves water; and
- LID saves builders and owners money.