



County of Los Angeles - Department of Public Works

Building and Safety/Land Development Division

LOW IMPACT DEVELOPMENT REVIEW SHEET

**(2017 Los Angeles County Building Code, Residential Code,
and Green Building Standards Code)**

GENERAL PROJECT INFORMATION

PLAN CHECK: 0 _____ DISTRICT No: 0.00 _____

JOB ADDRESS: 0 _____ CITY: 0.00 _____

APPLICANT: 0 _____ EMAIL: 0 _____

Your application for a permit, together with plans and specifications, has been examined and you are advised that the issuance of a permit is withheld for the reasons hereinafter set forth. The approval of plans and specifications does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in the parenthesis () refer to sections of the 2017 edition of County of Los Angeles Building Code, Appendix J of the LACBC (J), Residential Code (R), Green Building (GB), Table (T), and Building Code Manual (BCM).

INSTRUCTIONS

- Corrections shown below apply to this plan check. See plans and calculations for additional comments.
- In the right hand column, please indicate the sheet number and detail or note number on the plan where the corrections are made. Resubmit PDF copies of corrected plans, calculations, and this plan review list with annotation.
- Incorporate all comments as marked on check set of plans, calculations, and these correction sheets.
- For any required forms mentioned below please see <http://dpw.lacounty.gov/bsd/publications/index.cfm>

LOW IMPACT DEVELOPMENT (LID) Requirements

All development must comply with the County of Los Angeles' Title 12, Chapter 12.84 (LID).

LID standards are intended to distribute stormwater and urban runoff across developed sites to help reduce adverse water quality impacts and replenish groundwater supplies. The County of Los Angeles, LID Manual 2014 is available at the following link: <http://dpw.lacounty.gov/ldd/web/>

Under the County of Los Angeles LID Ordinance, Title 12, Section 12.84.430, designated projects are required to prohibit the discharge of pollutants from property developments. Preventing these pollutants from entering stormwater discharge system will be accomplished by requiring the installation and maintenance of post-construction treatment controls. (Best Management Practices (BMPs))

LID Requirement (Priority and Non-Priority Projects):

Date of Maintenance Agreement:	_____
Proposed Impervious Area:	_____ sq. ft.
Design Storm: (check box)	<input type="checkbox"/> 85th percentile <input type="checkbox"/> 0.75-inch
SWQDv:	_____ ft ³ _____ % to retain onsite
LID Solution: (check box)	<input type="checkbox"/> Infiltration <input type="checkbox"/> Biofiltration

RESIDENTIAL DEVELOPMENTS of 4 units or less:

New development, hillside development, redevelopment, alterations, or additions which alter 50% or more of impervious surfaces, entire site shall meet LID requirements.

Section Response:

- e. Landscaping and landscape irrigation
 - Show a minimum of two 15 gallon trees to be planted and maintained. Trees shall be located near impervious surfaces (10 foot maximum distance). One of the trees may be on the drought-tolerant plant list as required under the County's Green Building Ordinance (http://planning.lacounty.gov/assets/upl/project/green_drought-tolerant-garden.pdf). In Very High Fire Hazard Severity Zones, applicant should verify compliance with Fire Department's requirements.

- Install Smart Irrigation Controllers.

- f. Green Roof
 - Show area of green roof on site plan.
 - Structural calculations for design of green roof will be required at time of building plan submittal.
 - Fire Department approval will be required as part of building plan check.

NON-RESIDENTIAL DEVELOPMENTS (Commercial or Industrial) must comply with LID as follows:

Section Response:

2. The following is a list of new development and redevelopment projects/activities that require compliance with LA County's LID ordinance. (See LID manual for additional information)

- All development projects equal to 1 acre or greater of disturbed area and adding more than 10,000 square feet of impervious surface area
- Residential new or redeveloped projects that creates, adds, or replaces >10,000 square feet of impervious surface area.
- Industrial parks 10,000 square feet or more of surface area.
- Commercial malls 10,000 square feet or more surface area.
- Retail gasoline outlets 5,000 square feet or more of surface area.
- Restaurants (SIC 5812) 5,000 square feet or more of surface area.
- Parking lots 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces.
- Street and road construction of 10,000 square feet or more of impervious surface area.
- Automotive service facilities with 5,000 square feet or more of surface area.
- Projects located in or directly adjacent to, or discharging directly to a Significant Ecological Area (SEA), where the development will discharge storm water runoff that is likely to impact a sensitive biological species or habitat; and Create 2,500 square feet or more of impervious surface area.
- Redevelopment projects identified below*:
 - Land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area.
 - Development which alters less than 50% of impervious surfaces. Only proposed re-development needs to meet NPDES requirements.
 - Development which alters 50% or more of impervious surfaces. Entire site shall meet NPDES requirements.

*Impervious surface replacement, such as the reconstruction of parking lots and roadways which does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Redevelopment does not include the repaving of existing roads to maintain original line and grade.

REQUIREMENTS

- a. New Development and Re-Development Projects must control runoff through infiltration, bioretention, and/or rainfall harvest and use. Project must retain onsite the Stormwater Quality Design Volume (SWQDv) as defined by the greater of the following:
 - The 0.75-inch, 24 hour rain event or
 - The 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map (www.dpw.lacounty.gov/wrd/hydrologygis).
- b. Bioretention and biofiltration systems shall meet the design specifications provided in Appendix E (BIO-1) of LA County's LID manual. (See <http://dpw.lacounty.gov/idd/web/>). Biofiltration systems shall be entirely open-bottom.
- c. When evaluating the potential for onsite retention, each projects must consider the maximum potential for evapotranspiration from green roofs and rainfall harvest and reuse for both indoor and outdoor use.

- d. To demonstrate technical infeasibility, it must be shown that a project site cannot reliably retain 100 percent of the SWQDv onsite. Technical infeasibility may result from the following:
 - i. The infiltration rate of saturated in-situ soils less than 0.3 inch per hour.
 - ii. Seasonal high ground water is within 5 to 10 feet of the surface.
 - iii. Locations within 100 feet of a ground water well used for drinking water.
 - iv. Brownfield development sites where infiltration poses a risk of pollutant mobilization.
 - v. Locations with potential geotechnical hazards.

e. When technical infeasibility has been demonstrated the site must biofiltrate using the following equation for volume required:

$$Bv = 1.5 * [SWQDv - Rv]$$

Where: Bv = Biofiltration volume

SWQDv = Stormwater runoff as defined in 85 A

Rv = Volume reliably retained onsite (amount infiltrated)

*** Show volumes and flow rates on plans as applicable.

Note: For additional alternative compliance measures see Regional Water Quality Control Board Order No. R4-2012-0175 section VI.D.7.c.iii

(http://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/index.shtml)

f. Project sites that outlet to natural drainage systems that are subject to hydromodification shall be in compliance with LA County's LID manual, Section 8. (available at <http://dpw.lacounty.gov/idd/web/>).

g. The plans must show complete construction details, materials, manufacturer, model number, dimensions, location, structures, slopes, construction notes, specifications, cross sections, elevations, GPS x-y coordinates for each BMP, and setbacks from property lines needed to construct proposed LID BMPs. BMPs should be designed as not to adversely impact building foundations, pavement, slope stability, or an adjacent property.

h. Clearly show driveway/access road drainage and provide BMPs for treatment of driveway flows. Provide elevations, cross sections, or slopes as applicable.

i. Submit and obtain approval from Environmental Programs Division, Industrial Waste Unit. An annual operating permit may be required. Environmental Programs Division (EPD), Industrial Waste Unit - 900 S. Fremont, Alhambra, Annex Building, 3rd floor, (626) 458-3517. Please contact EPD for required fees and minimum submittal requirements. Please note: prior to obtaining approval from EPD the location and the design flows for all BMPs must be shown on plans and approved by Building and Safety. (This may apply to non-residential projects that propose proprietary filters, drywells, or hydrodynamic separators)

j. Pre-treatment BMPs are required.

3. Non-Designated Projects.

Section Response:

Non-residential development (Commercial, Industrial) or a residential development consisting of 5 or more residential units:

- o Development which alters less than 50% of impervious surfaces. Only proposed new impervious areas needs to meet LID requirements.
- o Development which alters 50% or more of impervious surfaces. Entire site shall meet LID requirements.

a. Projects must comply with the following: 1) the Delta Stormwater Quality Design Volume ($\Delta SWQDv$), the difference in the volume of runoff between undeveloped (1% impervious surfaces) and post-developed condition using the water quality design storm event shall be infiltrated at the lot level, If $\Delta SWQDv$ cannot be infiltrated due to geotechnical or technical feasibility as indicated in Section 7 of the County's LID Manual; onsite storage or other water conservation requirements must be implemented.

b. Provide calculations for sizing of the proposed BMP's. Calculations must consider $\Delta SWQDv$, percolation rate, and geotechnical considerations.

c. Plans must show complete construction details, materials, manufacturer, model number, dimensions, location, structures, slopes, construction notes, specifications, cross sections, elevations, GPS x and y coordinates for each BMP, and setbacks from property lines needed to construct proposed LID BMPs. BMPs should be designed as not to adversely impact building foundations, pavement, slope stability, or an adjacent property.

d. Hydrology Calculations to determine the increase in volume due to development is required. For smaller sites, the County's Hydrocalc Program may be used for determining Pre- and Post-construction volumes. See Section 6 of County's LID Manual.

- A drain system is required for all infiltration basins. Drain systems shall discharge to an approved location and must be shown on site drainage or grading plans. Calculations for sizing of the infiltration basins are required.

4. For LID compliance, all catch basins and inlets that discharge into an existing or proposed storm drain must be labeled to discourage illegal dumping of pollutants. Stencils are available at your local Building and Safety office.

5. All infiltration basins, dry wells, or planters must comply with the following setbacks

Infiltration Facility Setbacks*	
Setback from	Distance in feet
Property lines & Public Right of Way	5' minimum
Any Foundation	15' or within a 1:1 plane drawn up from the bottom of foundation
Face of any slope	H/2, 5' minimum (H is height of slope)*
Seasonal high ground water	10' minimum depth to invert
Water wells	100' minimum

Required Infiltration Time (due to vector control)	
BMP Type	Duration
Open above ground (includes planting soil or open gravel pit)	48 hours to drain completely
Underground retention	96 hours to drain completely

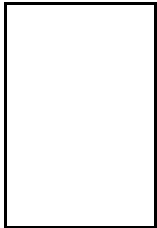
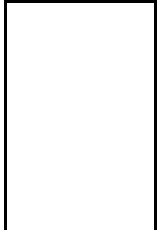
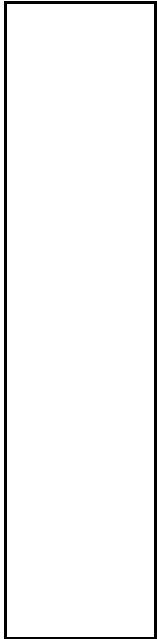
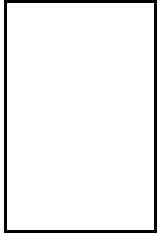
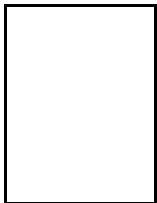
*unless otherwise recommended by a Soils Engineer and approved by Geotechnical and Materials Engineering Division.

Note: Infiltration is not allowed in areas where pollutant mobilization is a documented concern, or where undisturbed soil infiltration rates are less than 0.3 inches per hour, or where infiltration could cause adverse impacts to biological resources.

6. An Infiltration Report by a Soils Engineer and the grading plans must be reviewed and recommended for approval by the Geology and Soils Section prior to approval of an Infiltration/Retention - Low Impact Development (LID) BMP. The Infiltration Report must comply with GMED Geotechnical Memo GS 200.1 and should be presented as its own report. All recommendations and notes as indicated in the soils engineering report and/or GMED review sheets must be incorporated into the grading plans. The GS 200.1 memo can be found at: <http://dpw.lacounty.gov/gmed/permits/docs/policies/GS200.1.pdf>

7. Rainwater harvest and reuse systems that are NOT gravity fed require approval from LA County Public Health, Cross Connection & Water Pollution Control Program. The application and further information is found at http://publichealth.lacounty.gov/eh/EP/cross_con/cross_con_main.htm. In addition, approval from LA County, Building and Safety Plumbing Section is required. Rainwater harvest design and plans must comply with County of Los Angeles, Plumbing Code, Chapter 16 – Non-Potable Rainwater Catchment Systems.

8. Different types of infiltration facilities such as dry wells, unlined sumps, seepage pits, and infiltration galleries are some of the terms used to describe Class V injection wells as defined by the EPA. Register the proposed infiltration facility at the following online registration form: <http://www.epa.gov/uic/forms/underground-injection-wells-registration>.



9. A recorded covenant indicating that the owner of the subject development is aware and agrees to maintain all stormwater BMP features for this project is required. The covenant shall include operation and maintenance guidelines prepared by the project civil engineer/architect. See attached LID Covenant Preparation and Recordation instructions. A draft copy of the covenant including all exhibits must be reviewed prior to recordation.

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10. A Statement of Understanding and/or O&M Guidelines must be provided for Capital Projects.

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ADDITIONAL COMMENTS

Response:

Plan Checker: 0	Email: 0
Phone Number: -	Date: